

October 7, 1964

Mr. Mel Brown,
Mining Inspector,
YELLOWKNIFE, N. W. T.

Dear Mel,

I am enclosing the results of three roaster stack sampling tests which were taken this year. I am sorry that these were not submitted earlier, and can only blame myself for not making sure that they got in.

Yours sincerely,

GIANT YELLOWKNIFE MINES LIMITED

D. R. De Laporte, P. Eng.
Mine Manager

DRD:vw

Encls.

DRD)
To WAC): RJMcL
From E. O. Foster
Subject Roaster Stack Sampling Results

Date October 30, 1964

Ref. _____

Sampling Date:

October 28th, 1964

Gas Temperature

205° F

Gas Velocity

9.95 ft./sec.

Total Gas Volume

25,870 c.f.m.

57253

Dust Loss

843 lb./day

Dust Analysis

65.50% As.

Arsenic to Atmosphere

552 lb./day

Arsenic in Roaster Feed

46,620 lb.

Arsenic in Calcine & Cottrell Dust

5,420 lb.

Arsenic to Baghouse Collector

41,200 lb.

Stack Loss (per cent of arsenic to collector)

1.34 per cent

Baghouse Collection Efficiency

98.66 per cent

To DRD: RJMcL

Date July 28, 1964

From E. O. Foster

Ref. _____

Subject Roaster Stack Sampling Results

Sampling Date:	<u>9-6-64</u>	<u>22-6-64</u>	<u>23-7-64</u>
Gas Temperature	205° F	195° F	203° F
Gas Velocity	10.49 ft./sec	11.02 ft./sec.	11.10 ft./sec.
Total Gas Volume	27,275 c.f.m.	28,644 c.f.m.	28,859 c.f.m.
Dust Loss	779 lb./day	797 lb./day	723 lb./day
Dust Analysis	51.90% As	58.60% As	69.10% As
Arsenic to Atmosphere	404 lb./day	467 lb./day	499 lb./day
Arsenic in Roaster Feed	40,140 lb.	42,140 lb.	40,860 lb.
Arsenic in Calcine & Cottrell Dust	<u>4,900 lb.</u>	<u>4,478 lb.</u>	<u>4,361 lb.</u>
Arsenic to Baghouse Collector	<u>35,240 lb.</u>	<u>37,662 lb.</u>	<u>36,499 lb.</u>
Stack Loss (per cent of arsenic to collector)	1.14 per cent	1.24 per cent	1.37 per cent
Baghouse Collection Efficiency	98.86 per cent	98.76 per cent	98.63 per cent

To D. R. DeSjeste

Date June 26th, 1964

From E. D. Fisher

Ref. _____

Subject Stack Sampling Test - June 22, 1964 (2 h 55 min filtration)

Gas Temperature 194.4°F
Gas Velocity 11.02 ft/sec.
Gas Volume $28,644 \text{ c.f.m.}$
Dust Concentration 0.00877 gm/ft^3
Calculated Dust Loss 797 lb/24 hr.
Analysis $58.6 \% \text{ As}$
 $= 467 \text{ lb As per day.}$

Arsenic in Roaster Feed:

$189.82 \text{ tons @ } 11.10 \% \text{ As} = 42,140 \text{ lb}$

Arsenic in Roaster Calcine

$148.22 \text{ tons @ } 1.10 \% \text{ As} = 3,060 \text{ lb}$

Arsenic in Ashell Dust

$13.30 \text{ tons @ } 5.33 \% \text{ As} = 1,418 \text{ lb}$

4,478

4,478 lb

Arsenic to Baghouse Collector

$37,662 \text{ lb}$

Stack Loss

467 lb

$= 1.24 \text{ per cent.}$

Baghouse Collection Efficiency 98.76 per cent