

January 12, 1972.

Mr. M. L. Brown,
Mining Inspector,
P. O. Box 1500,
YELLOWKNIFE, N. W. T.

Dear Mr. Brown:

Re: Stack Filtration Tests - 1971

I wish to report on stack filtration tests completed during 1971. You will note from copies of the tests attached that we experienced a drop in efficiency commencing in June. We feel difficulties in collection have now been overcome.

Initially the problem developed because of high Sb in the ore which caused fouling of collection rods in the Cottrell plant with a resultant increase of dust load to the Baghouse. This led to a relatively rapid deterioration of bags. To restore efficiency, five out of eight sections in the Baghouse had to be completely revamped, and considerable work done on the Cottrell plant. Some improvement was obtained by October 1st and by the November 3rd test, efficiency was approaching normal levels.

Due to weather conditions we have not been able to conduct another test subsequent to November 3rd to determine what the efficiency is with all eight sections of the Baghouse in operation. Analyses of Baghouse dust indicate that the Cottrell section is functioning well, and capacity of the Baghouse is no longer being exceeded. The Sb content is also back to manageable levels. Maintenance on all sections of the collection system is continuing.

Yours very truly,

GIANT YELLOWKNIFE MINES LIMITED.

1/8
D. J. Emery,
Mine Manager.

DJE*mo's
Att'd.

c.c. Mr. S. Homulos
Mr. J. W. Grainge
Mr. J. M. Mortimer

Blind Xerox Copies: A.K.C., H.E.P.

To D.J. Emery; H.E. Pawson; A.K. Campbell; File

Date November 15, 1971

From M.E. Lane

Ref.

Subject ROASTER STACK FILTRATION TEST

Sampling Date:

November 3, 1971

Gas Temperature:

163°F

Gas Velocity :

14.42 ft./sec.

Gas Volume :

53,988 c.f.m.

Weight of Arsenic Lost to Atmosphere: 1233 lbs./day

Arsenic in Roaster Feed:

30520 lbs.

Arsenic in Calcine :

3220 lbs.

Arsenic in Cottrell Dust:

27300 lbs.

Arsenic to Baghouse :

26740 lbs.

Baghouse Collection Efficiency:

95.39%

Total Dust Collection Efficiency:

95.48%

MEL/mw

M.E. Lane

Mill Engineer

*Note: Only 7 of the 8 sections were in operation at the time of this test.
#8 was down for overhaul.
all previous tests were for an 8 compartment baghouse.*

To H. E. Pawson, D. J. Emery, A. K. Campbell.
From M. E. Lane.
Subject ROASTER STACK FILTRATION TEST.

Date October 14, 1971.

Ref.

Sampling Date :	October 8, 1971.
Gas Temperature :	170 ⁰ F.
Gas Velocity :	15.93 ft. /sec.
Gas Volume :	59,642 c. f. m.
Weight of Arsenic lost to Atmosphere:	1,459 lbs. /day.
Arsenic in Roaster Feed :	25,840 lbs.
Arsenic in Roaster Calcine:	3,440 lbs.
Arsenic in Cottrell Dust :	400 lbs.
Arsenic to Baghouse :	22,000 lbs.
Baghouse Collection Efficiency:	93.37%
Total Collection Efficiency:	93.49%

M. E. Lane,
Mill Engineer.

MEL*mo's

To H. E. Pawson, D. J. Emery, A. K. Campbell.
From M. E. Lane.
Subject ROASTER STACK FILTRATION TEST.

Date..... October 8, 1971.
Ref.....

Sampling Date : October 1, 1971.

Gas Temperature: 191° F.

Gas Velocity : 15.19 ft./sec.

Gas Volume : 56,871 c. f. m.

Weight of Arsenic lost to Atmosphere: 1,960 lbs./day.

Arsenic in Roaster Feed : 31,210 lbs.

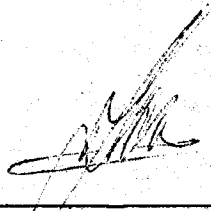
Arsenic in Roaster Calcine: 2,300 lbs.

Arsenic in Cottrell Dust : 820 lbs.

Arsenic to Baghouse : 28,090 lbs.

Baghouse Collection Efficiency: 93.02%

Total Collection Efficiency: 93.22%



M. E. Lane,
Mill Engineer.

MEL*mo's

To H. E. Pawson, D. J. Emery, A. K. Campbell.

Date October 8, 1971.

From M. E. Lane.

Ref.

Subject ROASTER STACK FILTRATION TEST.

Sampling Date : October 1, 1971.

Gas Temperature: 191° F.

Gas Velocity : 15.19 ft. /sec.

Gas Volume : 56,871 c. f. m.

Weight of Arsenic lost to Atmosphere: 1,960 lbs. /day.

Arsenic in Roaster Feed : 31,210 lbs.

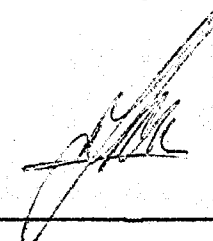
Arsenic in Roaster Calcine: 2,300 lbs.

Arsenic in Cottrell Dust : 320 lbs.

Arsenic to Baghouse : 28,090 lbs.

Baghouse Collection Efficiency: 93.02%

Total Collection Efficiency: 93.22%



M. E. Lane,
Mill Engineer.

MEL*mo's

To D.J. Emery; H.E. Pawson; A.K. Campbell; File

Date September 22, 1971

From M.E. Lane

Ref.

Subject ROASTER STACK FILTRATION TESTS

SAMPLING DATE: September 8, 1971

GAS TEMPERATURE: 186°F.

GAS VELOCITY: 15.75 ft/sec.

GAS VOLUME: 58,968 c.f.m.

WEIGHT OF ARSENIC LOST TO ATMOSPHERE: 2448 lbs./day

ARSENIC IN ROASTER FEED: 30960 lbs.

ARSENIC IN ROASTER CALCINE: 2240 lbs.

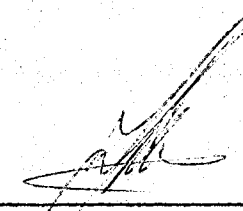
ARSENIC IN COTTRELL DUST: 760 lbs.

ARSENIC TO BAGHOUSE: 27960 lbs.

BAGHOUSE COLLECTION EFFICIENCY: 91.24%

TOTAL DUST COLLECTION EFFICIENCY: 91.48%

MEL/mw


M.E. Lane
Mill Engineer

To D.J. Emery; H.E. Pawson; A.K. Campbell; File Date August 20, 1971
From M.E. Lane Ref.
Subject ROASTER STACK FILTRATION TESTS

SAMPLING DATE: August 9, 1971

GAS TEMPERATURE: 180°F
GAS VELOCITY: 14.96 ft/sec.
GAS VOLUME: 56,010 c.f.m.

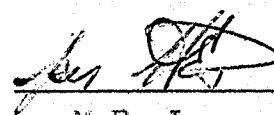
WEIGHT OF ARSENIC LOST TO ATMOSPHERE: 2594 lbs/day

ARSENIC IN ROASTER FEED	31540 lbs.
ARSENIC IN ROASTER CALCINE	2040 lbs.
ARSENIC IN COTTRELL DUST	1000 lbs.
ARSENIC TO BAGHOUSE	28500 lbs.

BAGHOUSE COLLECTION EFFICIENCY = 90.90%

TOTAL DUST COLLECTION EFFICIENCY = 91.21%

MEL/mw


M.E. Lane
Mill Engineer

To D. J. Emery, H. E. Pawson.

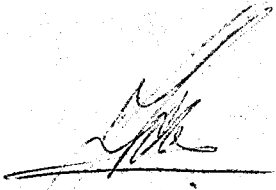
Date August 4, 1971.

From M. E. Lane.

Ref.

Subject STACK FILTRATION TESTS CARRIED OUT IN JULY.

Sampling Date:	July 9th	July 23rd
Gas Temperature:	183 ⁰ F	187 ⁰ F
Gas Velocity:	13.34 Ft. /Sec.	12.69 Ft. /Sec.
Gas Volume:	49,945 c. f. m.	47,511 c. f. m.
Weight of Arsenic:)		
Lost to Atmosphere:)	2,145 Lbs. /Day	2,462 Lbs. /Day
Arsenic in Roaster Feed:	31,380 Lbs.	32,320 Lbs.
Arsenic in Calcine:	1,980 Lbs.	1,900 Lbs.
Arsenic in Cottrell Dust:	640 Lbs.	680 Lbs.
Arsenic to Baghouse:	28,760 Lbs.	29,740 Lbs.
Baghouse Collection Efficiency:	92.54%	91.72%
Total Dust Collection Efficiency:	92.70%	91.91%


M. E. Lane,
Mill Engineer.

MEL*mo's

To D.J. Emery; H.E. Pawson; File
From M.E. Lane
Subject Roaster Stack Filtration Tests

Date June 21, 1971
Ref.

Sampling Date: June 17, 1971

Gas Temperature: 196°F.
Gas Velocity: 14.73 ft/sec.
Gas Volume: 55,149 c.f.m.

Dust Loss: 2256 lbs/24 hrs.
Dust Analysis: 50.00% Arsenic
Arsenic to Atmosphere: 1128 lbs/24 hrs.

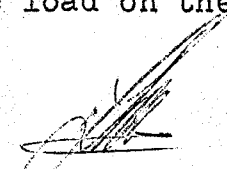
Arsenic in Roaster Feed: 28700 lbs.
Arsenic in Calcine: 2860 lbs.
Arsenic in Cottrell Dust: 580 lbs.
Arsenic to Baghouse: 25160 lbs.

Baghouse Collection Efficiency: 95.52%

Total Dust Collection Efficiency: 95.62%

Comment: Recent changes to the grinding circuit (to improve flotation) appear to have caused an increase in dust losses, and recent reductions in Cottrell efficiency have put an excessive load on the baghouse.

MEL/mw


M.E. Lane
Mill Engineer

To D. R. DeLaporte. c.c. A.K.C., H.E.P.

Date December 2, 1971.

From D. J. Emery.

Ref.

Subject COTTRELL AND BAGHOUSE LOSSES.

Attached is a copy of a memo issued by H. E. Pawson re the dust loss problem. Bob McRobert did a very good job and losses have now been substantially reduced as indicated by the table attached.

Five sections in the Baghouse have been completely overhauled this year -- three were done in the last two months. Two units of the Cottrell have also been overhauled (rappers, solenoids, rectifiers, some rods) and these are presently in service giving good results. The other two units will be gone over in 1972. Running of three units does not now appear required although we are keeping this option open.

We now feel to be on top of the problem and, barring any great slugs of Sb, intend to stay that way.

DJE*mo's
Att'd.

MEMORANDUM

To All Concerned; cc. A.K. Campbell

Date September 28, 1971

From Mill Superintendent

Ref.

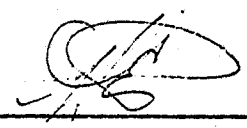
Subject Temporary Assignment - R. McRobert

Commencing October 4, 1971, Bob McRobert will be in complete charge of the Cottrell and Baghouse operations reporting directly to me.

This assignment is to re-train Cottrell Operators and Helpers and to get the Cottrell and Baghouse in first class mechanical shape.

During the course of this assignment, he is relieved of all other duties.

HEP/mw


H.E. Pawson
Mill Superintendent

Copy to DJE