

Lavalin

Facsimile Request (Telecopied)

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881117	23152	31	000000	0604	13541		

201 HATCH

Addressed to: Mr. Martin Fax No. 403-273-2980

Company: Contract for purchase of Mine

City: Quebec Province or State: Quebec Country: Canada

Number of Pages: 6 Price: -

(including Cover)

Instructions/Notes:

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 about the company is in the R.P.C. do it

Thank you for your request  
 Ben

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FAXED to RPC Nov 17/88

Memo to : R. Guildes

From : R. Hatch

Date : Nov. 15, 1988

Subject : Wassy -  $As_2O_3$  Agglomeration ProgramIntroduction

The pilot plant operated at RPC has produced substantial quantities of high grade  $As_2O_3$ . The material has generally been in the 2-5 micron size range and presents a dust problem in bulk transporting. Composting and granulating tests have been carried out at Ferns-Field. Although this process has not been ruled out, results to date have not been encouraging.

We are interested in an alternate, simpler and less costly method of agglomerating without sacrificing product purity and would like to test the concept of agglomerating the fine particles using dissolved/recrystallized  $As_2O_3$  as the binder. I have laid out the following test program for your consideration and would appreciate (1) your comments (2) your capabilities w/rt equipment and (3) the projected costs to complete the work and briefly report the test results.

## Test Program

Basically we would like to add water or saturated  $As_2O_3$  solution to the fine product, mix well and then dry the mix with agitation to produce crystalline agglomerates. At this initial stage we would like to test the concept.

To ensure that we do have arsenic in solution we would like to prepare an additive solution of known  $As_2O_3$  concentration in the range of 18 to 40 g/l which should be attainable by dissolving the  $As_2O_3$  in water between  $22^{\circ}C$  and  $60^{\circ}C$ . The test procedure is suggested as follows, but could be scaled up or down depending on the size and type of equipment available for the testwork.

## Procedures

1. Transfer 500 g of  $As_2O_3$  pilot plant product to a mixer. Add 25 g of saturated solution (18 g/l  $As_2O_3$ ) to the dry  $As_2O_3$  and mix thoroughly, ensuring uniform distribution of the solution. A small paddle mixer or a rotating ceramic drum with a few ceramic balls may be suitable.
2. Dry the mix at a maximum temperature of  $150^{\circ}C$  agitating during the drying procedure. Visual periodic

observation of the product should indicate the degree of agitation required during the initial and final stages. Reduce the moisture to about 2.0 %.

3. Determine the product size distribution and estimate the relative strength of the agglomerated material.

Repeat the above procedure using 500 g  $As_2O_3$  but adding 50, and 75 g saturated (12 g/l) solution.

Repeat the above tests using 500 g  $As_2O_3$  but adding 25, 50 and 75 g of 40 g/l  $As_2O_3$ .

We anticipate that these tests will give us an indication of the variability of this approach and will indicate the incentive for additional tests, particularly to select equipment and produce product of a granular free-flowing nature.

I look forward to your response.

Yours truly,  
W.B. Hatcher

EVALUATION OF TECHNOLOGY FOR  
CONTROL OF ARSENIC EMISSIONS  
AT THE CAMPBELL RED LAKE GOLD SMELTER

by

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U.S. ENVIRONMENTAL PROTECTION AGENCY  
CINCINNATI, OHIO 45268

TABLE 5. GAS STREAM MEASUREMENTS AND  
TRACE ELEMENTS DISTRIBUTION

	<u>ESP Inlet</u>	<u>ESP Outlet</u>	<u>Baghouse Inlet</u>	<u>Baghouse Outlet</u>
Temperature				
°C	380	327	116	113
°F	716	621	240	236
Velocity				
m/sec	21.3	21.9	16.5	16.9
ft/sec	70.0	71.9	54.0	55.3
Crain Loading				
grams/dscm	35.2	1.01	11.40	0.00094
grains/dscf	15.4	0.442	4.98	0.00041
Flow Rate				
dscm/hr	3899	3888	16,779	19,817
dscf/hr	137,680	137,314	592,526	699,833
Trace Elements (total)				
As-Kg/hr	179	152*	105*	0.20
-lb/hr	393	334	232	0.44
Pb-Kg/hr	0.14	0.05	-	0.015
-lb/hr	0.32	0.11	-	0.034
Sb-Kg/hr	2.1	0.40	-	0.011
lb/hr	<del>4.6</del>	<del>0.88</del>	-	0.025
Sa-Kg/hr	0.0045	0.0017	-	0.0004
-lb/hr	0.010	0.0037	-	0.0009
Gas Analysis				
%O <sub>2</sub>	11.3	13.9	19.0	19.5
%SO <sub>2</sub>	8.2	5.9	1.4	1.4
%H <sub>2</sub> O	22.8	21.8	5.5	5.6
%CO <sub>2</sub>	0.3	1.8	0.8	0.0
ppm SO <sub>3</sub>	336	791	187	<2
lb/hr S	1232	300	739	804

\* Not measured simultaneously.

avg 80%