

FALCONBRIDGE NICKEL MINES LIMITED

INTER OFFICE MEMORANDUM

MEMO TO: L.J. Connell

FROM: W.R. Hatch

DATE: June 14, 1979

SUBJECT: Evaluation of As₂O₃ Products from
Struthers Wells Crystallization TestsPROJECT No. 201-0-790614

JO#2484

KEYWORDS: Giant Yellowknife

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The following is a summary of the evaluation carried out on the samples of As₂O₃ which were produced in crystallization tests at Struthers Wells. The chemical and physical properties measured are given in the following table.

Sample No.	Date	%H ₂ O	Bulk Density (g/cc)		%As ₂ O ₃	%Sb ₂ O ₃	%Fe
			Wet	Dry			
79-353	5-31-79	5.5	1.85	1.95	99.5+	0.11	0.012
-354	6-1-79	4.5	1.78	2.03	99.5+	0.09	0.010
-355	6-2-79	6.8	1.76	2.05	99.3+	0.11	0.012

Dry Screen Analysis

Sample No.	Percentage			
	-48	-100	-200	-325
79-353	-	1.5	8.7	89.8
-354	0.7	3.8	8.9	86.6
-355	-	6.0	14.4	79.6

Spectrographic qualitative analysis indicated only traces of Si, Mg and Ca as follows:

Si	0.003 - 0.03%
Mg	0.0003 - 0.003%
Ca	0.0001 - 0.001%

The products are of excellent quality as far as chemical composition is concerned. It is of interest to note the higher Sb_2O_3 level and one wonders whether this is due to a higher Sb_2O_3 content in the dust or to higher solubility in the leach. You may have some thoughts on this.

The material is fine and meets size specification. There appears to be a slight increase in particle size on successive days.

A sample has been sent to Jennike and Johanson for product handling evaluation. We froze samples containing 4.5 and 6.8% moisture and found that the crystals formed a fairly solid cake. There was a difference in hardness between the two moisture levels and further tests at 2-3% moisture may be warranted.

WRH/lbm

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