MEMO

To: K.Blower Date: Feb 29, 1988

c.c: S.McAlpine, S.El-Alfy

From: K.Morton

Subject: Aresenic Marketing Study

In order to assist Dan Zeraldo in his market research assignment, the following information may be of some value.

Shipping Costs

In Nov., 1987, Bob Harry of Trimac (403 470 1410) quoted a cost of $9750 Can per trip, from Yellowknife to Conley, Ga. based on 43000 lb loads. ($.226/lb). Loads would be identical to those shipped in the past.

In Dec., 1987, John Tatchuck of CN (403 421 6627) quoted a cost of $7.37 Can per 100 lbs, from Enterprise to Conley, Ga. based on minimum 140,000 lb load. ($.0737/lb). These refer to bulk shipments in hopper cars with 80 short tons net capacity. Other officials of CN (Ron Harris, Al Shula) have indicated that CN has no intention of shutting down the rail line even though the Pine Point mine will no longer require it.

Cost of building a transfer facility at Enterprise is estimated at $1,000,000 Can and operating costs, including truck loading, shipping to Enterprise and unloading, are $.05/lb.

Costs of packaging in drums have not been estimated but drum costs alone are $55/ea. Depending upon the final flowsheet design, net weight of drummed material could range from 350 lbs to 800 lbs ea.

During one recent costing exercise, we found that it would cost $5600 to ship 16.5 tons of containerized drums from Yellowknife to Rotterdam. Cost from Yellowknife to Edmonton is normally $153/t.

At the same time, the Company making the enquiry, Oxyde Chemicals B.V. was paying US $80/mt to ship from South Africa to Europe.

Producers

Operation	Product grade	Tonnage	Sold to
New Consort E.Transvaal	92 - 95%	2.5 tpd	various in drums
Govt Roaster Kwe Kwe	99.5%	2.7 tpd	various

El Indio Chile	97%	29 tpd	
Salsigne France	99.5%	6 - 7000 tpy	various
Lancefield W.Australia	92 - 95%	.81 tpd	Koppers
Lepanto Phillipines			Koppers
Asarco USA			Koppers
Con NWT			
Boliden Sweden			
Pennaroya France			
IMM Mexico			
St. Joe Chile			

Buyers

Voluntary Purchasing Groups, US

Crystal Chemical Company, US

Osmose, US

FMC, US

Koppers Company Inc, US

Pennwalt Corp., US

Koppers - Hickson Canada Ltd, CAN

Osmose Pentox Inc, CAN

Blythe and Company, US and UK

Oxyde Chemicals B.V. Netherlands

Product Specifications

Arsenic reclaim plant design will be largely determined by requirements of the arsenic trioxide market. Such basic considerations as production capacity and product quality depend upon accurate marketing information to ensure appropriate plant design.

Some questions that should be asked of potential clients include the following.

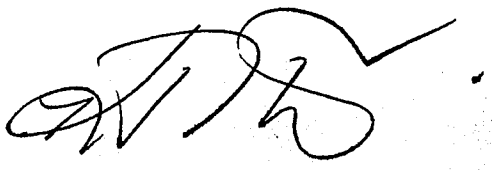
How much product will be required?

What shipping schedule?

What product purity? specific element limits?

How packaged; drums, bulk truck, bulk hopper car?

Desired particle size, colour, density?



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