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File 6-7-406

To B. Arsenault c.c. R. Visagie
 From R. Murarka D. Gregoire
 Date May 4, 1984 J. Maissan
 Subject Conditioning By Size-Executive Summary

Purpose:

This project was undertaken to investigate the effect of separately conditioning coarse and fine particle fractions of flotation feed on lead, silver and zinc metallurgy. The tests were designed based on previous work at C.S.I.R.O., Australia. (1)

Significant Results:

At a rougher grade of 25% for both lead and zinc (common in the plant), following recoveries were obtained:

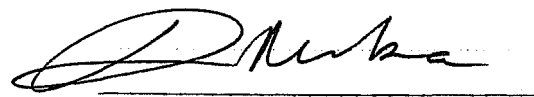
	2BCD ORE				2EF ORE			
	LEAD CIRCUIT			ZINC CIRCUIT ZINC RECOVERY %	LEAD CIRCUIT			ZINC CIRCUIT ZINC RECOVERY %
	LEAD RECOVERY %	SILVER RECOVERY %	ZINC FLOATING WITH LEAD %		LEAD RECOVERY %	SILVER RECOVERY %	ZINC FLOATING WITH LEAD %	
Conditioning By Size	90	75	18	82	94	68	14	84
Standard	92	66	20	76	94	72	17	84

Conclusions:

There is a strong evidence that conditioning by size is beneficial in both lead and zinc circuits for 2BCD ore to improve silver and zinc recoveries respectively. A similar conclusion, however, cannot be drawn for 2EF ore.

Recommendations:

It is felt that conditioning-by-size-metallurgy of 2EF ore (predominant in the ore body) may be poor due to unrefined particle separation and conditioning technique. Although it is unclear what refinement may be necessary, there is evidence that cycloning (instead of screening) and steps to reduce reagent loss may be helpful and should be attempted.



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 Metallurgist

(1) Trahar, W.J., 1976. "The selective flotation of galena from sphalerite with special reference to the effect of particle size" Int. J. Miner. Process., 3, p.151-166