

## MEMORANDUM

TO: D. W. Philip ..... FROM: D. J. Hanson .....

SUBJECT: PREDICTED VS. MINED ORE ..... DATE: February 5, 1974 .....

JANUARY - DECEMBER 1973 .....

1) Predicted:

An estimate was made of the tonnage and grade expected in the rock volume mined during 1973. This was derived from the January 1, 1973 tonnage and grade model.

2) Mined:

An estimate was made of the tonnage and grade actually mined during 1973. This figure includes material milled (from the metallurgical balance for year-to-date December 31, 1973) and material stockpiled (from truck-counted tonnages and assumed reasonable grades).

3) Results:

	<u>Tonnage</u>	<u>Pb</u>	<u>Zn</u>	<u>Pb + Zn</u>	<u>Pb/Zn</u>
a) Predicted	3,191,609	4.0	6.4	10.4	.62
b) Mined					
Milled	2,899,145	4.9	6.4	11.3	.77
L.G. Yellow	596,997	2.7	4.5	7.2	.60
L.G. Red	85,792	3.4	5.8	9.2	.59
H.G.S.P.	-5,314	4.7	6.3	11.0	.75
Total	3,576,620	4.5	6.1	10.6	.74

4) Discussion of Results:

a) During 1973 we experienced a net gain of 12% in tonnage mined vs. tonnage predicted. Significant gains were made in the following pit locations:

<u>Bench</u>	<u>Location</u>	<u>Tons</u>
3870	North Contact	27,701
	South Contact	174,123
3830	North Contact	48,053
	South Contact	55,214
	Pyrite Zone	<u>19,787</u>
	Total	324,878

The available blasthole data indicates that the pyrite waste zone on 3830 is not as extensive as shown on the bench plans.

b) As observed in previous years, the lead grade was underestimated and the zinc grade overestimated in 1973.

c) The actual Pb/Zn ratio for 1973 of 0.74 is in line with P. M. Pettigrew's projection that predicted ratios  $< 0.7$  are unreliable for the ore removed during broad mining of the present sub-zones.

5) Predicted Grade Corrections:

For pit planning and developed ore estimates we are now using a cut-off in grade of 7.5% zinc per tonnage block. Using this value and a Pb/Zn ratio of 0.7, the predicted figures for 1973 are:

	<u>Tonnage</u>	<u>Pb</u>	<u>Zn</u>	<u>Pb + Zn</u>	<u>Pb/Zn</u>
Predicted	3,191,609	4.3	6.1	10.4	0.7

*D. J. Hanson*

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DJE/mm