

To: J.F. Oik

To: Murray Haupt

From: P.I. Clarke

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2 pages

Subject:

GRIM INTERIM COMPUTER MODEL

An interim model for the Grum now exists that superceeds the wholly Kerr-Addison/Noranda model previously used.

This interim model basically consists of the following:

1. Original Kerr-Addison surface and underground DDH surveys and Pb, Zn, Ag assays, checked and corrected where necessary.
2. Cyprus Anvil 1980 DDH's (the geological interpretation used in the model is not updated with these. Assays are used to improve grade estimation.)
3. DDH composites compiled in similar manner to Faro and Vangorda models. (Not exactly the same as S.G. values for individual samples are not available with Kerr-Addison data.)
4. Kerr-Addison geological interpretation unchanged.

So essentially there are some extra DDH's to help with the grade estimation, the DDH composites have been put together in a similar manner to other models, and this data has been used to interpolate grades into the original Kerr-Addison geological interpretation of the Grum deposit.

Specific gravities for massive sulphides and quartz sulphides (the two sulphide types distinguished in the geology of the model) have been left unchanged from the Kerr-Addison estimates which are 4.0 and 3.0 respectively.

GEOLOGICAL RESERVE ESTIMATE
Cut-off = 4.0% Pb + Zn Undiluted Grades

	K.A. /Noranda Model	C.A. Interim Model	% Change
Ore (000's MT)	27,650	30,781	+11
% Pb	3.1	3.1	0
% Zn	4.9	4.9	0
Ag g/MT	48	49	+2

ULTIMATE PIT RESERVE ESTIMATE

Cut-Off = 4.0% Pb + Zn Diluted Grades -6%

(Pit Design is Dec. 1979 C.A. version)

	K.A./Noranda Model	C.A. Interim Model	% Change
Waste (000's m ³)	46,081	45,688	-1
Ore (000's MT)	15,583	16,875	+8
% Pb	3.1	3.0	-3
% Zn	5.0	4.9	-2
Ag g/MT	47	47	0

A Yearly Schedule based on the Grum Interim Model and the original AFI production rates would be:

GRUM YEARLY SCHEDULE

Cut-Off = 4.0% Pb + Zn Diluted Grades -6%

12 million cubic meters pre-production

Year	1	2	3	4	5	6	7	8	9	10	Total
Waste (000's m ³)	4010	4010	4010	4010	4010	4010	4010	4010	1608	0	33,688
Ore (000's MT)	1701	1701	1701	1701	1701	1701	1701	1701	1701	1566	16,875
Pb	3.8	3.1	3.0	3.0	3.2	3.2	3.0	2.8	2.6	2.8	3.0
Zn	6.3	5.1	5.0	4.9	5.2	5.0	4.7	4.4	4.2	4.4	4.9
Ag g/MT	59	48	46	45	49	49	46	43	40	44	47

2/mw

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