

NOTES FOR DECEMBER 8, 1983, MEETING ON GRUM PLANNING HELD IN FAROPRESENT:

Exploration	- Vancouver	G. Jilson, L. Pigage
Exploration	- Calgary	R. Buckley, I. Hall
Geology	- Faro	R. Tolbert
Engineering	- Faro	R. Lopaschuk, R. Hogan

GRUM MINE MODEL

1. Current Status
 - (a) Faro (Geology and Engineering) have the revised Kerr-Addison NORCOMP computer model.
 - (b) Any numbers or runs using this model are 2 years old.
 - (c) Peter Clarke's cross-sectional model for GRUM is at a very initial stage of development.
 - it is very crude
 - it is not worth time and money to develop it further.
 - (d) Exploration (Geology) - Vancouver is presently revising the GRUM geological data base.
 - roughly $\frac{1}{2}$ completed
 - will start geological interpretation of cross-sections shortly into 1984.

2. Mine Model - General Specifications
 - (a) Engineering does not know of any commercially available underground feasibility computer programs that provide reasonable answers.
 - (b) Priorities in data for planning economic feasibility of a deposit are:

1) Tonnage	↓ decreasing
2) Grade	↓ importance
3) Recovery	

 - Initially greatest emphasis should be on improving the accuracy of the tonnage numbers.
 - An error of + 5% or less is desirable.

3. Mine Model - GRUM specifications.

- (a) Engineering needs a complete set of bench plans for the entire deposit area.
- for desired control, bench plans are to be constructed from the closest feasibly spaced cross and long sections.
- (b) Desired date for a ready-to-run, block-coded GRUM mine model is January 1, 1985.
- this deadline is compatible with scheduling outlined in the previous report on Vangorda Plateau development.
 - It assumes mining at GRUM is to start immediately after Faro is exhausted.
- (c) 6000 blocks (Faro-Zone 3 mine model) is close to being the ultimate number of ore blocks that can be reasonably handled by an externally run MINTECH program.
- rumors are that MINTECH has a microcomputer version available for approximately \$50,000.
 - with a microcomputer version the number of blocks could be increased beyond 6000 if a steady power source was assured.
- (d) Time required for FARO-ZONE 3 MODEL was as follows:
- 13 cross-sections, 13 long sections, 30 bench plans
 - geological interpretation 10 man-months
 - digitizing, block coding, bench plans 12 man-months
- (e) GRUM MINE MODEL has a minimum of:
- 20 cross sections spaced every 200 feet
 - 12 long sections spaced every 200 feet
- (f) For expediency it is possible to prepare an initial block-coded model extending only to a depth of 600 feet
- this restricts the initial model to the open pit potential.
- (g) The present geological model (FARO-ZONE 3) gives tonnes of ore.

Engineering indicates that the most useful number to them is cubic metres of ore (volume).

GRUM METALLURGY

- (1) Engineering (Faro) does not have in its files any Kerr-Addison reports on metallurgical testing.

- (2) Ore types may not have been adequately tested for metallurgy.
 - One composite sample was prepared for each ore types.
 - Separate horizons or areas within the deposit were blended to create this composite sample.

- (3) Possible metallurgical problems which may need to be addressed:
 - (a) Ba content - assay files have no Ba analyses for any ore intersections.
 - these have not been done - are they important?
 - (b) Ca content - does carbonate affect metallurgical response? Is it important to systematically note the presence of carbonate in the ore intersections?