

GRUM JOINT VENTURE Y.T.WEIGHTED AVERAGE CALCULATIONS OF DIAMOND DRILL HOLE ASSAYSCALCULATED IN D.D. LOGS, PLOTTED ON D.D. HOLE SECTIONSAND MINERAL RESERVE SECTIONS

From July 1974 to July 1976, all diamond drill hole assays were grouped into six categories of combined Pb+Zn values, i.e. 0-2, 2-4, 4-6, 6-8, 8-10 and 10% plus Pb+Zn. From July 1976 to October 1976, the 10% plus category was further defined into 10-12, 12-15 and 15% plus combined Pb+Zn (see 22.2m-29.5m in accompanying sketch).

The calculations of weighted averages and various combinations of grade are shown on the D.D. logs. Almost all these combinations are plotted on the D.D. hole sections.

Starting with the highest grade possible over a minimum (mining) width of 10 feet (or three metres), adjoining samples in the drill hole intersections are composited to give a weighted average which falls within the above mentioned categories, over a maximum combined thickness. This procedure is repeated for all categories. Whenever a minimum true width of 10 feet cannot be achieved by combining given sample intersections, then the necessary width is gained by adding the required amount from the highest grade adjoining sample (see 44.6-47.6m on sketch). The main criteria is to obtain the highest grade over a maximum length.

The weighted average grades plotted on the assay and mineral reserve sections also show internal intervals of higher and lower categories. Assay wall values are shown to the nearest 1% Pb+Zn.

Drill hole sections show Pb, Zn and Ag assays separately. Mineral reserve sections show the combined Pb+Zn values on the drill hole, but separate Pb, Zn and Ag grades on "ore" blocks.

The mineralized zones are outlined by joining the sulphide zone based on structural control, geological rock boundaries, and mineral composition. The mineral reserves are then calculated, segment by segment from adjoining D.D. hole weighted averages within the zone. Thickness of each segment is gained by averaging the measured widths along the segment. The dip length is also a measured quantity.

No adjustment has been made for the fact that the cross sections used in computing mineral reserves are not necessarily true cross sections. This discrepancy should be adequately compensated by the use of horizontal distances between sections instead of plunge distances between sections. In ignoring the fact that some additional tonnage results from undulations, both in plan and in longitudinal section, a small factor of safety is built in.

From this date onward, unless further advised, categories 12-15% and 15% plus combined Pb+Zn, will be discontinued in both weighted average calculations and plotting. A 12%+ category will replace the above.



Fred Chow

27th October 1976

FC:1mp

GRUM JOINT VENTURE

SCHEDULE FOR COMPLETION OF MINERAL RESERVE ESTIMATES 1976-1977

	NOV	DEC	JAN	FEB	MAR	APR	MAY
Plotting projections of deviated drill holes on plans and sections. (42 MD)	—	—					
Plotting projections of deviated drill holes on longitudinal sections (25 MD)		—					
Plotting drill hole geology on cross-sections (45 MD)			—	—	—		
Plotting drill hole geology on longitudinal sections (25 MD)						—	—
Grouping and plotting assays on cross-sections (90 MD)	—	—	—	—			
Transferring assays to longitudinal sections (30 MD)						—	—
Outline structural geology on cross-sections (30 MD)						—	—
Outline structural geology on longitudinal sections (20 MD)							—
Plot sulphide zones on cross sections (54 MD)	—	—	—	—			
Outline sulphide zones on longitudinal sections (33 MD)				—	—		
Outline ore zones on cross-sections (42 MD)				—	—		
Outline ore zones on longitudinal sections (21 MD)							—
Ore reserve calculations on cross-sections (45 MD)					—	—	
* Ore reserve calculations on longitudinal sections (15 MD)							—
Horizontal geological plans for 1100m, 1200m, 1250m elev. (15 MD)							—

Assume 4 men working 7 hours per day, 5 days per week.

PERSONNEL COLOR CODE

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|-------------------|---|---|
| ORE RESERVE GROUP | { | FRED CHOW — — — — — red — |
| | | PHIL HAILLOT — — — — — blue — |
| | | JOHN LUND (reserve) — — yellow — |
| GEOLOGY GROUP | { | JIM PAXTON — — — — — orange — |
| | | ALEX PO — — — — — green — |
| | | TATS TAKEDA (reserve) — purple — |

x quick check only!