STORIE GROUP - 1966 REPORT
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- STORIE - TONNAGE CALCULATIONS -

In my haste to complete the Storie report and tonnage calculations recently I didn't attempt to estimate tonnages in apparently smaller bodies which might conceivably be mined by underground horizontal open stope methods. Some of the drill hole intersections indicate somewhat better than average grade in these bodies, but most of them seem to be too small to have much bearing on our present problem. There is one zone, however, which might well have been included in the open pit tonnage calculations, and that is the "F" horizon as indicated in D.H. #10 & 27. Vertical section 52N shows the assumed bottom and walls of the open pit as a faint dash line. Now I suggest that outline be amended by extending the east wall down at 55° to the base of the F horizon in D.H. #10, then follow along the base of the F horizon to 100 ft. west of D.H. #27, and then take the west wall up at 55°, to the base of the E horizon. In the north-south vertical sections 30E & 34E similar extensions should be made to the north walls & bottoms; & S wall taken up at 55° from points 100 ft. south of D.H. 27 & 10 respectively. The plan outline of the base of the pit walls at the bottom of the F horizon is shown in the enclosed small transparent overlay for Map 30-2A.

Tonnage calculations based on the above amended open pit outlines would add some 514,000 tons of 0.194% $MoS_2$ to the total shown on page 6 of the 1966 report. This extra tonnage could be mined by removing 1,163,000 tons of waste below the D & E horizons, for a stripping ratio of 2.26/1. The overall total tonnage mineable by open pit would then become 7,654,000 tons of 0.181% $MoS_2$, and the overall stripping ratio would be reduced slightly to 2.65/1.

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cc: W.H. Callahan

flat-lying "ore zones" sub-parallel to the surface, has been continued. With the additional drilling this year it appears there may be several such sub-parallel and gently-dipping mineralized horizons stacked one above another. The more one projectx and joins these mineralized intersections the more convincing becomes the structure. Although this structure is still not proven, we have lettered the several mineralized horizons or zones alphabetically from the top down. The main horizon is thus named the "D zone", and is the most extensive of the lot.

ORE TONNAGE CALCULATIONS

As was done in 1965 another new plan outline for the horizontal limits of the assumed ore zones has been prepared (map #30-6), and this may be used for examination and study by itself or as an overlay for surface map 30-2A. Ore zones have been assumed to extend 100 ft. beyond drill hole intersections. For the main D (plus E) ore zone the outlines shown are at the base of the assumed open pit walls. An allowable slope of 55° has been assumed for those walls. A conversion factor of 12 cu. ft. per ton has been used to calculate tonnage.

In DH #26 the so-called A & B ore zones show fairly good thicknesses. Calculations were made, assuming a width of 240 ft. of ore at the bottom of the B zone as the diameter of the base of the frustum of a cone-shaped open pit. A total of about 727,000 tons of 0.138% $MoS_2$ were thus estimated in these two zones, but some 4,583,000 tons of waste would also be

involved with 55° pit walls. Such a high stripping ratio (6.2/1) doesn't warrant inclusion of these bodies in presently indicated ore reserves.

The main zone has again been divided into several blocks to simplify tonnage and grade calculations, but these blocks don't correspond to those in the 1965 report in most cases. All pertinent assay averages and ore thickness data are shown on the overlay adjacent to each drill hole, and contours show the ore thickness for the D zone (combined with the underlying E zone where its inclusion improves the tonnage-grade picture). The following table of ore tonnage calculations shows the average thickness and width used to calculate the area at the south and north end of each block. One may readily check these figures for each block by comparing them with the overlay map or by perusal of the east-west vertical sections. In general the figures used are on the conservative side, an example being that the estimated grade in blocks 6 & 7 has been arbitrarily reduced to 0.30% vs the 0.59% $MoS_2$ average in DH #3 because it so happened that the core recovery in that particular intersection was low and the core assays may therefore be somewhat in doubt (although the correct value could even be higher rather than lower). In fact the estimated average grade for each block is probably the most questionable of all these figures at this stage because of the small number of

holes available. I believe the overall total tonnage and grade estimates are reasonable or conservative within the area explored. This belief is based partly on the fact that several small mineralized intersections encountered in drilling have not been considered in these estimates, but some considerable tonnage might be recovered from those areas during open pit mining and stripping. The average grade for the 7.14 M tons recoverable from the main open pit would be increased to 0.194% $MoS_2$ if the figure 0.59% were used in blocks 6 & 7.

experience of others seems to be that sludge assays for Mo generally run higher than do the equivalent core assays, and that situation appears to apply also to this property.

ORE STRUCTURE

With the exception of surface exposures of mineralized granite and quartz feldspar porphyry in the vicinity of 40N-30E, most of our information regarding mineralized zones has come from the vertical diamond drill holes located approximately at the corners of the 400 ft. grid system. East-west and north-south vertical sections were then the best method of presenting the results. Possibly the more or less horizontal projections we have made on these sections to join mineralized zones (or rock types and alteration) have some validity, but we are not at all certain of that structure. The border marks bounding each change of assay, rock type or alteration, are of course firstly marked on the drill holes on these sections as short horizontal lines. Then since there is so very little surface outcrop or marked changes in most surface exposures, one may be excused for attempting to project these boundaries from one drill hole to the next, and so on. If the pattern appears to fit, the assumption is then readily made that the structure is probably the series of more or less horizontal layers of mineralized zones depicted in our sections in 1964 and 1965. We have continued that assumption this year and have extended the zones in the same manner to new holes.

However, it is quite possible that an entirely

different structure than that depicted in our vertical sections will eventually be proven. It has been noted that much of the molybdenite occurs on thin fractures or in thin veinlets with more or less quartz and sometimes pyrite. Furthermore, most of these fractures or veinlets make an angle of about 25° to the drill core axis, indicating that they dip about 65° from the horizontal. During traverses along the well exposed granite outcrops on the south side of the ridge ½ to 1 mile west of the original Storie surface showings, a major fracture or joint system was noted trending about 75°/65°N. The same attitude was noted on B. Wiseman's Daphne Mo claims and D. Huntsman's Eloise Mo claims about four miles to the south. In all three places at least some quartz and molybdenite are present on those fractures. I wonder if it may eve-ntually be proven that the mineralized zones more closely follow that 75°/65°N attitude, and might show up best in a series of north-south vertical sections.

More closely-spaced drilling or other exposures will be required to prove the structure. In the meantime tonnage calculations based on near-horizontal zones may serve to give some indication of the potential of the property, and may in fact be reasonably close to that potential even if the structure should turn out to be almost at right angles to the horizontal.

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