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INTERIM SUMMARY GEOLOGIC REPORT
MT. HASKIN, B. C.

Ralph Westerveld
U.S. Smelting & Refining
629 - 470 Granville
Vancouver.

Summary

Detailed geologic mapping completed during July, 1965 on the main showings of the Mt. Haskin, B. C., property of Fort Reliance Minerals Ltd., revealed that the widest zones of lead-zinc-silver mineralization are directly related to a preferred lithologic horizon in proximity to two conjugate master fault zones, particularly where drag fold structures are well developed.

Drilling and additional trenching is recommended to test the mineralized shoots within the drag folds along both faults.

Introduction

During July 16 - 19, 1965 the author and Mr. Ralph Westerfeld, geologist for United States Smelting, Refining and Mining Company, carried out detailed geological mapping of the main showings of the Mt. Haskin lead-zinc-silver property of Fort Reliance Minerals, Ltd., located about 20 miles east of Cassiar, B. C. Completion of the mapping was hampered by bad weather, but it is anticipated that Mr. Westerfeld will be able to provide additional data during his planned stay at the property during the latter half of August.

Recommendations contained in this brief summary report are intended only to advise Fort Reliance of the structural ore controls indicated by the current mapping; these suggest additional targets for the 1965 drilling program.

No recommendations are made herein to the deployment of the prospecting field parties. Unless a participating geological project leader were to be assigned to direct the teams' efforts, it is the author's opinion that very little improvement can be made at this stage in the 1965 prospecting program in the Mt. Haskin district.

Lithologic Controls

The widest zones of lead-zinc-silver mineralization occur as replacements of an impure basal member of the Cambrian (?) limestone. This favorable horizon, ranging from 2 to 20 feet thick, comprises an interbedded series of thin layers of gray limestone and tan argillaceous limestone which has been metamorphosed rather pervasively to a diopside skarn.

Considerable thickening of this favorable horizon is indicated in the troughs of drag-fold synclines; sulfide mineralization is correspondingly wider in these areas. All of the 1965 exploration efforts should be concentrated in testing this favorable horizon.

Sparse sulfide mineralization occurs in the older cherty argillites

along northeasterly trending shatter zones in proximity to the master faults. No exploration in these zones appears warranted during the 1965 program.

Faulting and Associated Drag Folding

The most promising zones of sulfide mineralization now appear to be localized within a few hundred feet of the two near-vertical master fault zones. These zones, striking northwesterly and northeasterly, intersect near the so-called 'main' showing near the top of Mt. Haskin. The northwesterly fault bounds the favorable limestone outlier on the north; the northeasterly fault roughly bisects the limestone block. Drag folding of the limestone is well displayed within 100 feet of these master faults.

Along the northwesterly fault the dragging, and in places overturning, of the limestone indicates that the southern block was down thrown relatively. An examination of the base of the limestone beneath the cliffs to the west revealed that good grade lead-zinc mineralization some 10-15 feet thick continues down along the limestone-fault contact and wraps back to the south at the base of the limestone block for a distance of at least 100 feet from the master fault. The sulfide zone continues uninterrupted southward along the base of the entire limestone block on the western cliffs; however, widths diminish to the 2 to 5 foot range.

Movement along the northeasterly fault zone was apparently rotational,

rather than normal. Interpretation of drag folds indicates that near the 'main' showings the west side was down thrown, while in the area of the steep south-facing gulch the east side was down dragged. Outcrops of massive sulfides along the gulch on the steep southern slopes range from 5 feet true width near the top to probably over 30 feet within the drag folded synclinal trough of basal limestone some 200 feet below the top of the gulch. The northeasterly continuation of this mineralized zone is suggested by the presence of several narrow silver-bearing (1.5 oz.) manganese stained zones in the overlying gray limestone at the top of the south-gulch area.

Conclusion

The evident preferential association of massive lead-zinc-silver mineralization with the impure basal member of limestone and with the more favorable structural environment of drag folding adjacent to the two master fault zones provides definite targets for the 1965 drilling program.

Recommendations

Exploration during 1965 should insure that the favorable limestone horizon is tested in each of the three drag fold structures.

Originally the consensus was that all of the drilling would in-

itially be focused on testing the mineralized zones at the northern end of the limestone outlier. It is my understanding that it is still intended that the first two holes will test the drag fold mineralization along the western side of the northeasterly fault beneath the 'main' showing.

Results of the recent detailed mapping point up the advisability of drilling to test (1) the eastward extension of the mineralization exposed on the western cliffs at the base of the limestone block, and (2) the northeasterly projection of the mineralization controlled by the drag fold structure exposed on the eastern side of the steep south-facing gulch.

In order to test target (1) above, it is recommended that a vertical drill hole be collared approximately 150 feet south of the northwesterly fault zone. In area (2) an inclined drill hole should be collared in limestone east of the projected trace of the northeasterly fault at a point far enough back from the southern steep slopes to minimize losses of drill water from near surface facture zones.

It is further recommended that at least one trench be blasted across the wide zone of massive sulfide mineralization exposed in the steep south gulch approximately 200 feet vertically below the top of the ridge.

James S. Dodge

James S. Dodge, P. Engr.(B.C. & Colo.)
Consulting Mining Geologist
Aspen, Colorado
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