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Gentlemen:

SUMMARY - CURRENT GEOLOGICAL COMPILATIONS

PRELIMINARY:

The following notes supplement the writer's current geological compilations; the latter being represented by means of the accompanying Figs. 1 and 2, and drawings M69-1, M69-2, and M69-3. The map set embodies the principal results of the 1965-67 geological, geochemical, and geophysical investigations; it also includes the more essential details of the North and South zone trench and drill exploration, as well as the writer's plotted interpretations of field work accomplished by Manex Mining Ltd. personnel during the 1968 field season. Maps, reports and other data pertaining to the 1968 exploration were kindly provided by Mr. M. Beley. Mr. Beley supplemented these with verbal descriptions and interpretations; Mr. R. Yorke-Hardy provided similar assistance with respect to certain mapping and sampling accomplished by him. The writer thankfully acknowledges the foregoing assistance.

The following outline supplements the writer's recent 'Interim Geological Report M69-1', March 5, 1969. The topographic detail on drawings M69-1, -2, has been derived from enlargement of published 1:50,000 detail; consequently, this topography is sparser and less accurate than that which would result from direct photogrammetric methods; but is considered adequate for the purposes of this report.

LITHOLOGY:

The air photo detail suggests that the main granitic (quartz-feldspar porphyry) stock is considerably wider than was indicated by geological mapping.

1965-66

A gabbro-to-diorite stock was disclosed during the 1968 investigations of the 'quartz-silver' vein zone. This lies approximately 1,000 feet eastward of the upper (E) end of the main granitic stock. From very local evidence, the westerly contact of the main dioritic body and an outlying sill (?) trend northwesterly. The currently-delimited (S.W.-N.E.) width of the main body is about 1,500 feet; its gross extent and shape have not yet been delineated. The surrounding rocks comprise gray and brownish-purple (B.Price) hornfels, with the intrusive-hornfels contact being gradational over some 2 - 3 feet. As the intrusive contains visible disseminations (Price) of chalcopyrite, pyrite, pyrrhotite, (and magnetite ?) the writer suggests that it be fully delineated - possibly via magnetometer surveying. Following this an I.P. survey - fully covering the gabbro-diorite stock, the gabbro-porphphy stock interval, and the general quartz-silver vein zone, may be implemented.

#### AIR PHOTO INTERPRETATIONS:

The main porphyry stock, alaskite offshoot, and quartz breccia areas show up fairly well by reason of the pale colour and relatively high reflectivity of these rock types. Other rock units, which are generally darker coloured and less reflective, are not readily delineated.

The writer's drawing M69-2 essentially comprises plots of linear features which are reasonably apparent on examination of stereo-pairs of 1 in. = 1/2 mile air photos. These linears may, or may not represent fractures; also, if they do, they do not distinguish between primary (pre-mineral) and secondary (post-mineral) fractures. Classification of the various fractures (?) must be done on the ground; some of these have been more or less substantiated as a result of exploration accomplished to date.

The main granite porphyry stock, at presently-exposed horizons, was apparently intruded with only minor fracturing of local wall rocks; the air photos do not provide any marked evidence of a radial-concentric fracture pattern, such as is frequently associated with this type of intrusion. Surface observations suggest an initial 'plastic' deformation, with later fracturing of essentially peripheral sections of the stock. The local mineralization correlates with this system of post-intrusive (competent-type) fractures.

In respect of the partly-delineated gabbro-diorite body (stock), concentric lineations to the northeast of the

present exposures may represent either wall-rock fracturing or buckling.

The quartz-breccia (North) body - which may, or may not represent the crackled roof section of an underlying granitic intrusive (cupola), is roughly bisected by the indicated N.E.-trending "creek fault", and contacted on its southeasterly 'corner' by the N.N.E. linear through the South alaskite body. A vague system of curved E-trending linears (fractures ?) lying to the E.N.E. of the breccia could represent roof-fracturing related to an E.N.E. - plunging stock, or pipe. In any case, the indicated 'fracture' intersections up-stream of the known breccia zone deserve some investigation - initially, at least, by geophysical methods.

Current interpretation of the set of South zone cross-sections accompanying the writer's March, 1968 report suggests that the principal N-trending shear-vein warps from steep westerly to steep easterly dips on its S-N course, and that at least one branch or keel of the alaskite body dips steeply, to moderately eastward. From this, and also by the apparent trend of the northwesterly 'tail' of the main stock, a northerly and <sup>perhaps</sup> significant coalescence of alaskite, porphyry, and breccia at depth may be postulated. }

The several other areas in which apparently-significant intersections of more-or-less substantiated faults and/or 'linears' occur should be investigated - initially, at least, by geological-geochemical investigations.

#### GEOCHEMICAL SURVEYS:

The 1967 silt-sample reconnaissance and 1968 soil-sample traverse of the respective up-stream creek section and area northeast of the quartz-breccia zone provide preliminary indications of a (Mo)-Cu-Zn bedrock source under, and/or to the south of the general creek channel. The 1968 soils were not, for reasons unknown to the writer, analyzed for Mo S2; as the Mo S2 content may be locally significant, the corresponding determinations should be ordered if the samples are still available. Also, additional silt soil-sampling of a larger area is recommended - with the main coverage directed to the area southeast, and east of the creek course, and generally between elevations 2800 - 4000 feet.

The 1967 reconnaissance silt, and soil-sample traverses provided general evidence of mineralization over

the large triangular area which is approximately delimited (Dwg. M69-1) by the 'Merkley' showings, the 'Quartz-Vein' zone, and 'Cu-Zn' zone - respectively south and east of the main granitic stock. Detailed soil-sampling of this area is suggested - particularly, over the tentatively established extent of the diorite-gabbro stock. Probably the more efficient way of accomplishing this, considering the indicated drainage patterns, would be by contour traversing; however, it may be done more quickly and economically via the same grid as would be used for I.P.-magnetometer surveys (ref. section Lithology) of the general area.

#### GEOPHYSICAL SURVEYS:

The I.P. survey (Huntec, 1966) of the North zone outlined two relatively small areas of anomalous chargeability. The more northerly branch of the general anomaly trends easterly, and is 'open' in this (up-stream) direction. The present extent of the survey covers only a small strike segment of the indicated 'gully fault' and associated fracture panel. In the writer's opinion a northeasterly extension of the I.P. survey would provide the most effective exploration, on the basis of resulting chargeability and/or resistivity data, of the more heavily over-burdened (geochemically-impermeable) areas of the general fracture panel. The suggested extent of the grid, if permitted by general access conditions, would be between 8+00E (over-lap) and 32+00E with 400' cross-line spacing, and 800 N and 800S. The 7.5 KW I.P. equipment is particularly specified. A standard potential electrode spacing of 200' (and 2X electrode separation) would suffice for the preliminary coverage; subsequent detailing, if indicated, may be accomplished via intermediate grid-lines and smaller potential electrode spacings.

As noted previously (sect. Air Photo Interpretations), the North and South zones may be geologically continuous. To test this possibility the writer recommends that the interval be covered by a supplementary I.P. survey - featuring a comprehensive range of electrode separations - spacings. It is tentatively suggested that the main 00 E/W line be used as base-line, and that the survey extend from 800 S - 2000 S, and between 8+00 W - 8+00 E, with possible modifications to fit and/or over-lap other I.P. grids.

Recommendations pertaining to magnetometer - I.P. surveying of the easterly (diorite stock, etc.) prospect zone have been made under section 'Lithology'.

Respectfully submitted,

  
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