REA GOLD:
Also known as: Hilton
Minfile number: 082M-091
Map number: 015; Lat. 51.13oN Long. 119.81oW

Published drill indicated reserves: 120,000 tonnes of ore.

18.2	gt	Au
141.2	gt	Ag
0.85	%	Cu
4.11	%	Zn
3.67	%	Pb

Location: The Rea Gold property is located west of Samatosum mountain and is accessible via logging road from Squaam Bay.

Host Rock: The deposit description is from Hoy and Goutier (1986). The deposit includes two thin, laterraly continuous lenses that lie stratifically above a highly altered sequence of dominantly mafic and minor felsic tuffs. Stratigraphically above these lenses is a thin mafic tuff sequence and a thicker sequence of argillite, siltstone, and grits (EBFf). The succession is inverted; hence, the "footwall alteration zone" or "stockwork feeder zone" now forms the hangingwall of the lenses.

Rock Units: The oldest unit within the deposit area comprises predominantly mafic tuff (unit 1) that lie at the structural top of the succession. This tuff unit includes ash, crystal, and lapilli tuffs with variable amounts of disseminated pyrite. They are stongly foliated, producing green phyllites and schists; more massive "greenstone " units may be derived from mafic flows. There is thin chert bands and a noticeable increase in sericite content toward the contact with unit 2. In general, this contact is gradational and reflects, in parts, an increase in alteration in the stratigraphic footwall of the deposit.

Unit 2 is the footwall alteration or stockwork feeder zone of the sulphide lenses. It is very extensive in the hangingwall of the more northely of the two lenses, but is only a few metres thick in the hangingwall of RG8, the southern lens. It includes extensively altered mafic tuffs, otherwise similar to those of unit 1, chert layers, and thin more felsic (dacite ?) ash tuff layers. These units now appear as pale tan to pale green siliceous phyllites and schists interbedded with pure to sericitic chert. Alteration increase dramatically toward the contact with the sulphide lenses. It includes:
a) silicification through introduction of silica in the form of quartz veins, and of thin to relatively thick chert layers, discontinuous chert lamellae, and fragmental chert;
b) pyrite, which is disseminated, in veins, and in discontinuous

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Faults parallel to schistosity are common but only the largest are shown on the map. The most prominent fault strikes northwest, juxtaposing unit 5 against unit 6. The displacement on the fault is probably not large as there does not appear to be much loss of stratigraphy across it; the fault cuts locally up into unit 5 leaving a normal stratigraphic contact between units 5 and 6.

Mineralization: The sulphides, within this volcanogenic sulphide-barite bearing deposit, are contained in two main lenses. The more southern, the RGB lens, appears to be at a slightly higher stratigraphic level than the L100 lens. It has a less extensive footwall alteration zone, and is "capped" by massive barite. Description of these sulphide lenses are based on visual examination of drill core and mapping of trenches.

The RGB lens is well exposed in two trenches. It has a relatively sharp contact with altered "footwall" rocks of unit 2 and grades stratigraphically up into massive barite of unit 4. However it is in sharp contact with tuffaceous muds or mafic tuffs of unit 5 at its fringes. The barite "cap" consists of grey to white, massive or faintly banded barite with variable amounts of disseminated sulphides. The sulphide content of the barite generally decreases away from the underlying massive sulphide.

The L100 lens has a surface strike length of approximatively 50 metres and a down dip projection of at least 120 metres (Fig.). A thick zone of intense silica alteration stratigraphically below the lens is abruptly overlain by mafic tuffs of unit 5a. It does not have a barite "cap".

Sulphide mineralogy in both lenses includes pyrite, arsenopyrite, sphalerite, galena, chalcopyrite, and tetrahedrite-tennantite (White, 1985). Sulphides are fine-grained and massive, crudely laminated or brecciated. Gold occurs mainly in the massive sulphides but is also found in barite, in footwall stockwork, and in fault gouge (I.Pirie, pers. comm., 1985). Silver is associated with both barite and massive sulphides, while zinc, lead, and copper occur primarily in massive sulphides.

Sample description: The sample was collected from the massive sulphide zone occuring on surface and is composed of extremely fine-grained sulphide ore containing essentially pyrite, arsenopyrite, and sphalerite, with only minor galena. Vein samples containing coarser galena was also analysed.

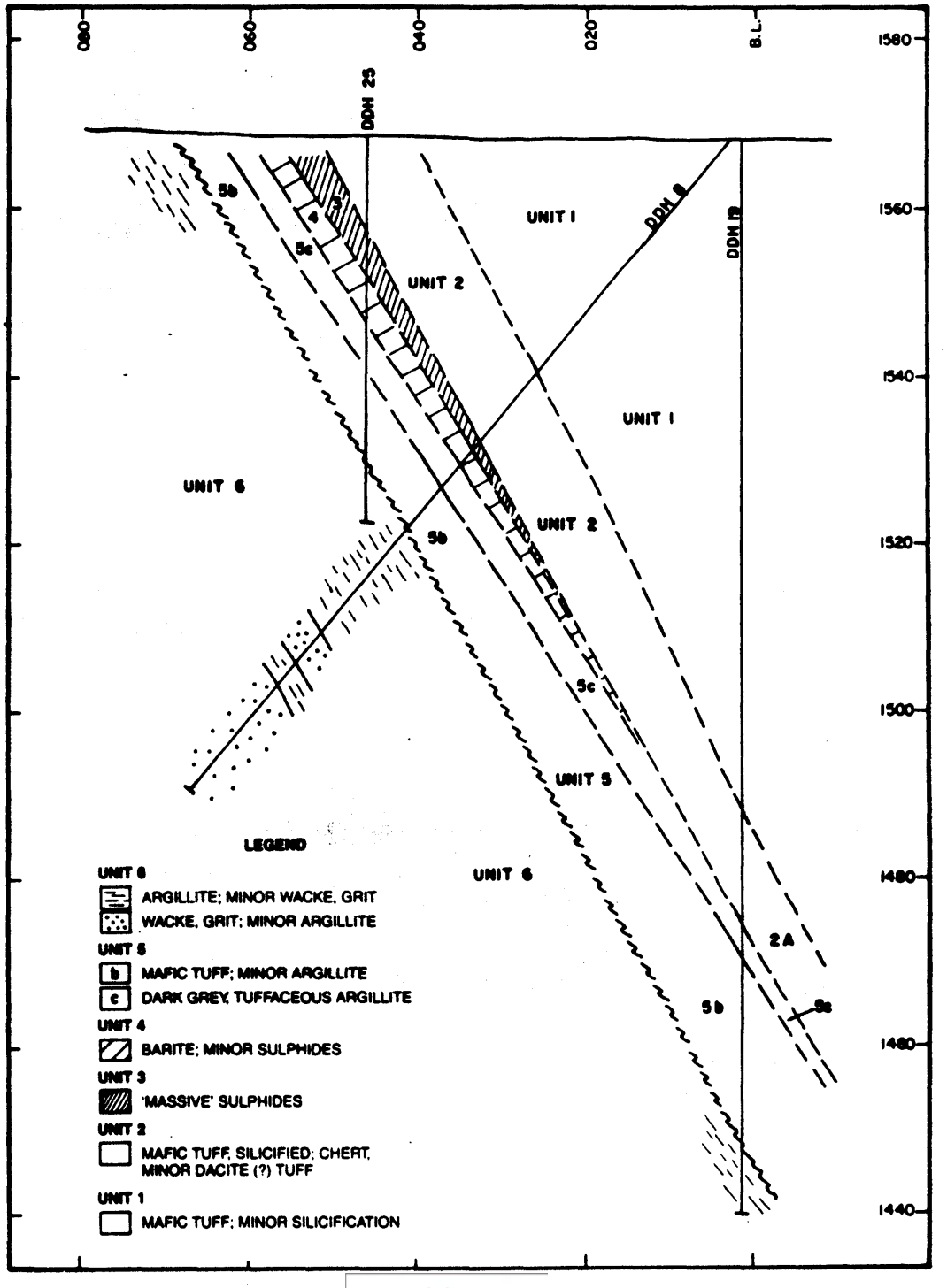
References: HOY,T.,and GOUTIER,F. 1986.

stringers) increases from 1 to 2 per cent in unit 1 to commonly 10 to 20 per cent near the stratigraphic top of unit 2; and c) sericite which becomes ubiquitous within unit 2. White (1985) noted both local soda enrichment (as massive albite and paragonite) and carbonization (as dolomite, iron-rich magnesite, and calcite).
Stratigraphically overlying the sulphide or sulphide-barite lenses is a thin sequence of predominantly mafic tuffs (unit 5) that grades up into argillites. These tuffs are pale grey to brown-weathering thin-bedded chlorite phyllites. Silicified zones occur only locally and pyrite content is generally low. A dark grey tuffaceous "argillite" (unit 5c) with high Ba content (I.Pirie, pers. comm., 1985) occurs in the intermediate footwall of the RG8 lens, at the stratigraphic base of unit 5. Unit 5 is generally in fault contact with unit 6, but in some drill intersections it grades through an interval of interbedded green phyllite and argillite (Fig.).

A sequence of metaclastic rocks (unit 6) at the structural base of the succession are the yougest rocks in the deposit area. They comprises grey laminated argillite, siltstone, wacke, and local pebble comglomerate with both volcanic and sedimentary clasts. Bedding and grades beds are well preserved. Thin mafic ash tuff layers occur in the basal part of unit 6.

Stucture: The deposit and host rocks are within a northwest-trending, northeast-dipping homoclinal succession that has been structurally inverted. A pronounced mineral schistosity largely masks primary bedding except in structural footwall rocks where well-bedded and commomly graded metaclastic rocks occur. The observed bedding is sub-parallel to the schistosity (Fig.) indicating tight to isoclinal folding. Changes in the vergence of the bedding-schistosity intersections and the many small, roootless isoclinal folds indicate, however, that the succession is folded. Folding is assymetrical in style and individual folds are confined to specific units since repetition of the major lithologic subdivisions is not apparent. ~~~~ Within unit 2, cleavage-bedding intersections indicate a synformal axis located to the northeast.

Relationships between the massive sulphide, barite, and alteration zone indicate the deposit is inverted; this suggests that the observed schistosity and associated folds are second generation structures superimposed on a previously inverted panel. Within more competent structural footwall rocks (unit 6), these folds are relatively open and the location of fold hinges can be defined. The most prominent is an overturned antiform located immediatly to the southwest ~~at~~ at 100 + 50 - 060; ~~~~ A late southeast-trending crenulation cleavage, associated with minor open folds, is superimposed on the earlier schistosity.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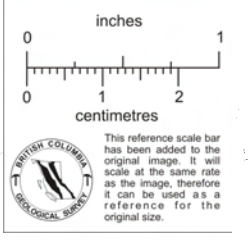
LEGEND
UNIT 6
ARGILLITE; MINOR WACKE, GRIT
WACKE, GRIT; MINOR ARGILLITE
UNIT 5
b MAFIC TUFF; MINOR ARGILLITE
c DARK GREY, TUFFACEOUS ARGILLITE
UNIT 4
BARITE; MINOR SULPHIDES
UNIT 3
'MASSIVE' SULPHIDES
UNIT 2
MAFIC TUFF, SILICIFIED; CHERT, MINOR DACITE (?) TUFF
UNIT 1
MAFIC TUFF; MINOR SILICIFICATION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