

File Victory
NTS.

824243

MINNOVA INC.

DATE: May 25, 1990
TO: Ian Pirie.
COPIES TO: Alex Davidson.
FROM: Dave Heberlein, Tiro Clarke.
SUBJECT: FINAL EVALUATION OF THE VICTORY PROPERTY

Introduction:

In 1989 an exploration program was carried out on the Victory property to test the interpreted northwestern continuation of the Samatosum stratigraphy for mineralization. Most of the work was focused on the southwest corner of the Victory grid, where a Max-Min survey in 1988 identified numerous, short strike length conductors. In an early phase of drilling, a fence of holes was drilled (DDH's V-2 to V-4) to test these features and to obtain stratigraphic information. The conductors were explained by the presence of graphitic sediments and no mineralization was encountered. Stratigraphy in the southwest part of the Victory property was found to be quite different from that in the mine area, leading to the conclusion that the mine stratigraphy lay to the southwest, possibly on the Cana claims.

To test this supposition, several trenches were dug across the property in an attempt to uncover recognizable Sam stratigraphy. Where exposed, the bedrock consisted of thinly bedded calcareous mafic tuffs, argillites and limestones; a sequence similar to that present well into the Sam hanging wall, close to the Tshinikin contact.

Four additional drill holes (V-5 to V-8) were drilled in a second phase of diamond drilling later in the year to test geophysical targets to the south and north of the trench area. No mineralization was encountered and all the conductors were explained as graphitic argillite units.

This exploration program eliminated the Victory 1 claim as a potentially mineralized area. All existing targets were tested and written off. No new targets were generated.

1990 Exploration:

This spring, a small exploration program has been undertaken to evaluate the potential of the New Volcano 1-2 claims. The objective of the work was to quickly identify any mineral potential on the property or write it off as a target area prior to the annual option payment at the beginning of June. If results proved to be negative the option would be terminated.

Program:

The program consisted of mapping and soil sampling over a 20.7km grid that was cut at the end of 1989 (Fig. 1).

Geology:

The New Volcano grid is underlain by a sequence of interbedded sedimentary and mafic rocks of Schiarizza and Preto's Unit EBG. The stratigraphy has been divided into three mappable packages.

Unit 1 (Fig. 2) at the structural bottom on the sequence (west) consists of a poorly exposed package of intercalated limestones, dolostones, cherts, and argillites with chlorite schists towards the top. Both the carbonate and argillite members are quite siliceous and exhibit locally intense silica flooding (pervasive and stockwork quartz). Bedding ranges from 2cm (cherts) to a few tens of centimetres (carbonates). Apparent thickness of Unit 1 is estimated to be approximately 1300m, with the bottom possibly truncated by the Haggard Creek Fault. The contact between Unit 1 and overlying Unit 2 is not exposed, and may be stratigraphic.

Unit 2 consists of chlorite and chlorite-sericite schists with interbedded argillite horizons. The schists are light to

dark green, fine grained, and often weakly calcareous; the protolith is thought to be mafic tuff. Within the schists contain a prominent graphitic phyllite marker unit (approximately 10m in thickness). Total apparent thickness of Unit 2 is approximately 460m.

Unit 3 is a sedimentary package consisting of argillite, limestone, dolostone, and mafic wacke. Lateral and vertical facies changes probably exist between units as many show limited lateral extents. At the base of the unit is an argillite horizon with a thickness of probably less than 10m. Between L1+00S and L3+00S this argillite is overlain by a massive, highly siliceous grey rock that superficially resembles quartzite. This rock is extensively brecciated (in places by multiple events) and healed by pervasive silica. On its east margin the degree of silicification decreases, revealing a highly brecciated and quartz stockworked dolostone. This breccia has been identified intermittently over a strike length of 1000m and appears to be epigenetic in origin.

From L3+00S to L3+00N the argillite and breccia are overlain by a limestone and dolostone unit up to 70m thick. The carbonates are generally light grey to light brown and are locally crystalline. Light brown oolitic limestone was seen in one outcrop. The argillite-quartzite-carbonate package appears to terminate between L3+00S and L4+00S. South of these units is a poorly exposed dark green chloritic wacke which may have been derived from mafic volcanics. The rock has a granular appearance and is often propylitically altered. Thickness of this unit may be as much as 175m. The total thickness of Unit 3 is also approximately 175m.

Unit 4 is characterized by dark green chlorite schists, commonly with relict lapilli. TiO_2 content of these schists is highly anomalous, often greater than 3.00%. Thickness of this unit ranges from approximately 450m at the south end of the grid

to less than 100m at the north end. One thin argillite unit occurs in the schist package.

Above Unit 4 lies a 40-50m thick sequence of argillites, carbonates, and minor chlorite schists. This package is overlain by Unit 5 which consists predominantly of massive basalts and lapilli tuffs. Again, TiO_2 values are often greater than 3.00% in these mafic rocks.

Structure:

On the New Volcano grid the units strike consistently to the northwest and dip moderately (35 to 40°) to the northeast. Truncation of units 1 and 2 to the south indicate the possibility of a cross-cutting structure, possibly a low angle fault. A low angle structure has been observed in outcrop near the south end of the grid.

Soil Geochemistry:

Preliminary results show that there is a good contrast As (values to 43ppm), Ag (to 2.1ppm) and Hg anomaly (to 135ppb) down slope from the silicified breccia zone in Unit 3. A similar contrast As anomaly overlies the high TiO_2 mafics in Unit 4. Base metals show little contrast in these areas, however some of the data is not back yet.

Conclusions and Recommendations:

The presence of the highly silicified breccia zone is an interesting development. This zone appears to be a structurally controlled zone of intense polyphase brecciation (hydrobrecciation) that has been over printed and completely healed by later silica flooding. Potassium feldspar alteration of fragments in the breccia has been tentatively identified in several samples. This occurs as rims on fragments and as fine grained groundmass replacement. Sulphides are very sparse in the breccia. Traces of disseminated chalcopyrite, pyrite and possible sphalerite have been noted. A bright green vitreous mineral has

also been seen with chalcopyrite crystals. This is tentatively identified as diopside.

We think that this zone represents a potentially significant exploration target for gold. Our reasons are as follows:

1. It is a late structure lying at the margin of a known Tertiary basin; a classic epithermal setting.

2. This zone has many attributes of an epithermal system. These include:

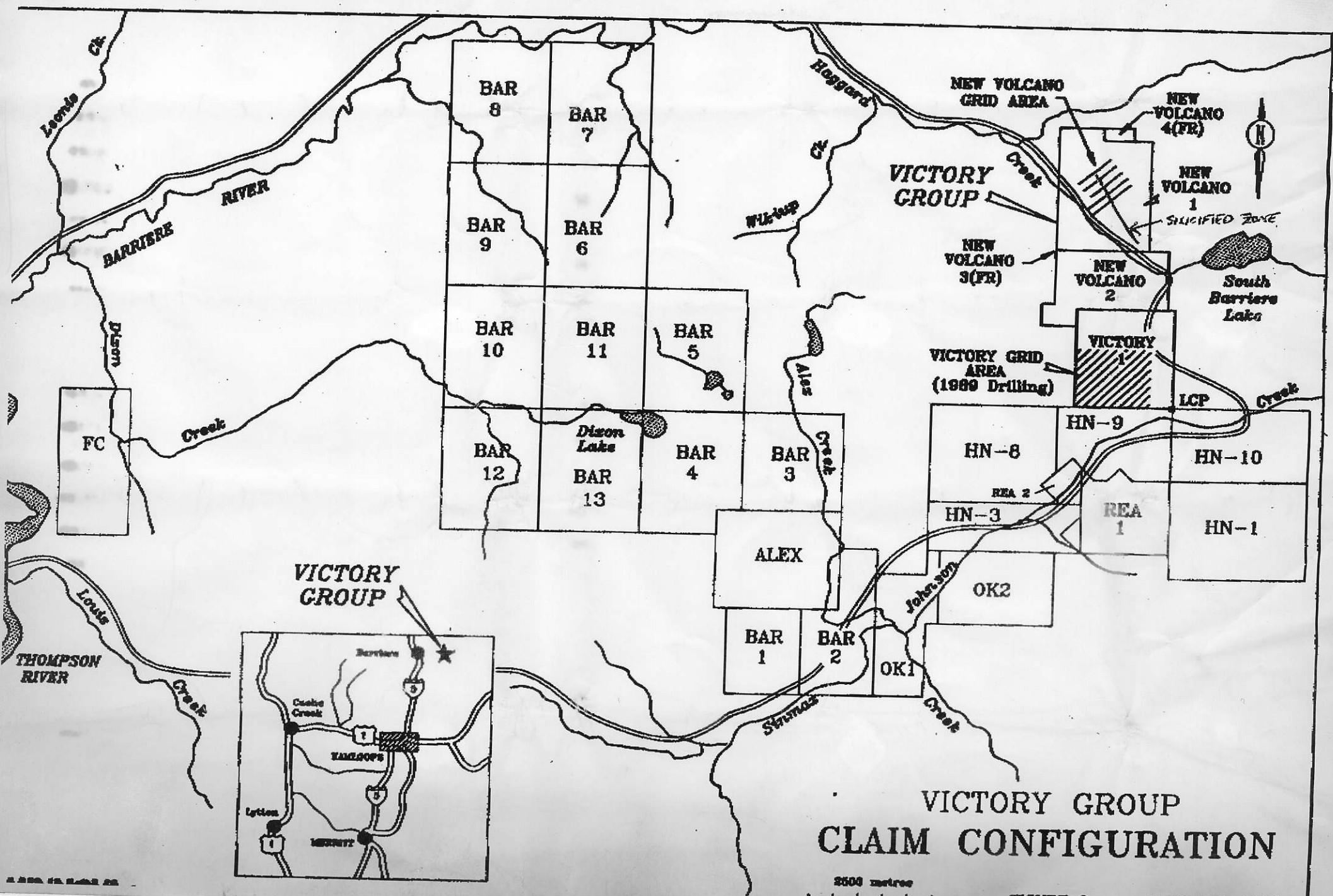
- polyphase brecciation
- propylitization of the adjacent mafics
- silicification and perhaps K-feldspar alteration of the breccia and surrounding dolostones.
- As-Ag-Hg soil signature.

3. The zone is persistent along strike for over 1km.

In light of this new and potentially significant zone of alteration, it is recommended that the Victory Option be continued to allow for a proper evaluation of this target. It would be dangerous to terminate the option at this time.

Dave Heberlein

Project Geologist.



VICTORY GROUP CLAIM CONFIGURATION

FIGURE 2 FEBRUARY 1990

TOTAL P.02

NEW VOLCANO GEOLOGY MAP

0 500m



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LEGEND

- 1.7 Mafic Phyllite
- 1.8 Mafic Derived Sediment
- 6.3 Argillite
- 6.8 Limestone

