

## MINER MOUNTAIN TERRAIN STUDY

### Introduction and Purpose

On February 9, 2010, J. Paul Stevenson, CEO of SeGo Resources Inc. (SeGo) retained Dr. Selina Tribe, PGeo of Carta Exploration Ltd to complete a terrain study for the Miner Mountain property near Princeton BC.

SeGo identified mineralized colluvium at the Regal zone that is hypothesized in the NI 43-101 Technical Report to have slid downslope from the Granby zone (Figure 1). However, geochemical results from the Regal and Granby zones do not compare. The terrain study was commissioned to determine the likely source area for Regal zone materials.

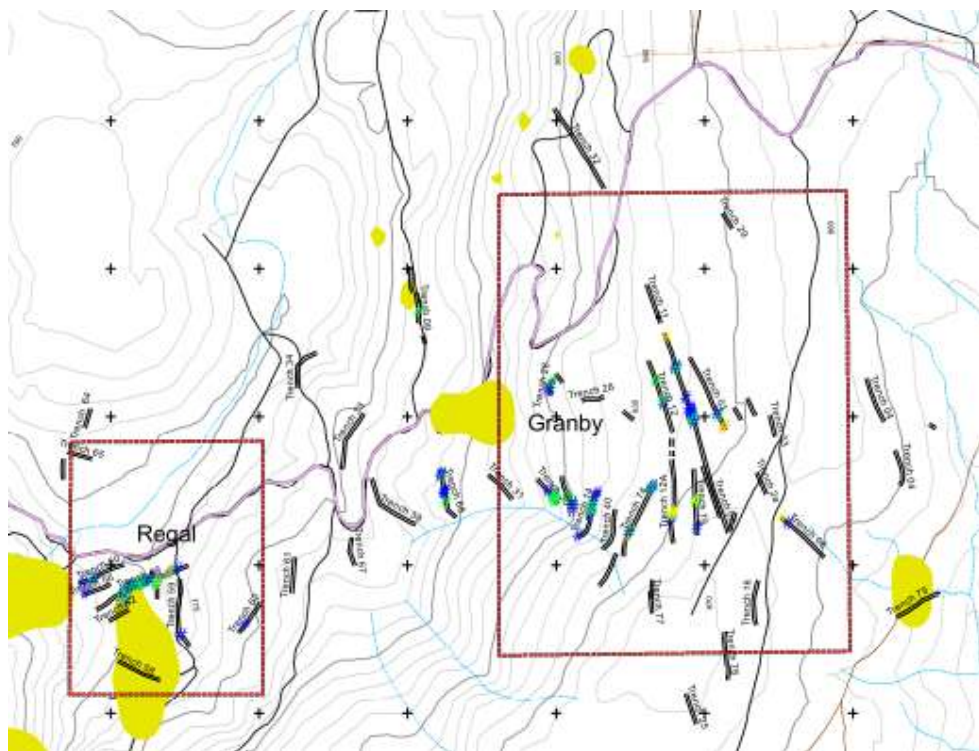


Figure 1. Detail of the Miner Mountain property Au anomaly map showing the Regal zone situated downslope of the heavily trenced Granby zone. North is to the top. Tick marks are 250 m apart.

### Scope

The scope of Miner Mountain Terrain Study includes:

1. Level 1 Terrain Study (desk study) of drainage, terrain deposits, landforms and areas of human activity, especially as they relate to mineral exploration;
2. Mapping the extent of headscarp and run-out zones for any landslides on the property or nearby; and
3. Identification of the likely source area for Regal zone colluvium, within the limits of study materials.

## **Information Sources**

Orthophoto maps of Miner Mountain Property, including Cu, Au and Ag anomaly maps, and two binders of field notes were provided by Sego. Colour diapositives were provided by Eagle Mapping.

## **Deliverables**

- A) Annotated 1:5,000-scale terrain map with features of interest;
- B) Written summary of findings; and
- C) Project close-out interview.

## **Techniques and Methodology**

A mirror stereoscope and light table were used to interpret terrain features on diapositives with a nominal scale of 1:40,000. Diapositives 15BCC04038 #35 and #36 were selected for further study. Terrain features were hand transferred onto a mylar overlay of the 1:5,000-scale orthophoto map provided by Sego. The resulting 1:5,000-scale terrain map and legend is shown in Figures 2 to 6.

## **Description of Findings**

### ***Level 1 Terrain Study***

A Level 1 Terrain Study (desk study) of the area was completed to identify streams (perennial and ephemeral) and water bodies; lineaments; landforms and overburden deposits, including landslide debris; and anthropogenic features such as trenches and pits.

Miner Mountain is situated immediately east of Princeton BC. The property is the southwestern extension of an upland plateau currently used as range land by local ranchers and farmers. Gravel roads and trails provide access over Miner Mountain. A gas pipeline traverses the southern end of the property.

Streams and gullies draining Miner Mountain plateau are ephemeral (blue lines). Deer Valley Creek is the ephemeral creek flowing south-southwesterly through the main landslide mass to join Summers Creek near the Regal zone. Summers Creek flows southward along the southwest base of Miner Mountain to its confluence with Similkameen River. Similkameen River valley defines the southern extent of Miner Mountain.

Rock outcrops are visible on the uplands (**U**) of Miner Mountain and along its steeper western and southern slopes. The study area is sparsely vegetated. Lineaments, rock outcrops and other terrain features are relatively easy to identify.

Overburden soils on the top of Miner Mountain (**U**) are interpreted to consist of a veneer (< 2 m thick) of dense (consolidated) unsorted glacial till overlain by a veneer of loose (unconsolidated) glaciofluvial sands and gravels. Numerous meltwater channels (blue lines) are incised on the Miner Mountain upland.

Two short eskers (blue barbed lines) are interpreted to exist on the northern Miner Mountain upland within a field of sand dunes (**E**). This area may have been a local meltwater divide during deglaciation. This interpretation has implications for determining the source area of any moraine or meltwater materials that were sampled on the uplands.

Steep slopes (**R #1, R #2, R**) of Miner Mountain consist of rock with a veneer of colluvium that resulted from sloughing and raveling of loose rock and soil. Colluvium is material that moved downslope under the influence of gravity; thus its source is located upslope.

The hummocky, ridged blanket (> 2 m thick) of material in the bowl-shaped flat at the base of the steep slopes of Miner Mountain represents the mass of colluvium that moved downslope from the main landslide on Miner Mountain (**Cb #1, Cb #2**).

Along Deer Valley Creek, landslide colluvium was reworked by flowing water resulting in a veneer of fluvial sand and gravel (**Fv**).

Numerous trenches (red bars) are evidence of past mineral exploration. Some small pits (red circles) were also identified: they may be exploration pits or areas of outcrop.

Although not specifically identified in this desk study, clay-rich sediments may have contributed to initiation of the main landslide. The North Thompson River valley contained glacial lakes during late Quaternary time that left patchy deposits of fine-grained, erodible or poorly draining silts and clays in Quaternary bedrock depressions. Furthermore, Tertiary and early Pleistocene deposits of clay in bedrock depressions have contributed to large rock landslides along Thompson River and Fraser rivers (for example, Drynoch landslide and slides near Black Canyon), and may be present in the Miner Mountain landslide.

### ***Landslide Features***

The main landslide is located in the northwestern study area forming the re-entrant along the northwestern edge of Miner Mountain. This landslide is also located along the regional trend of the Boundary Fault. The main landslide exhibits many features typical of landslides in the region:

- Arcuate, multiphase headscarp;
- Hummocky colluvium situated downslope of the headscarp;
- Stream headwaters situated at the margins of the headscarp;
- Beheaded stream in the area of landslide debris;
- Disrupted drainage and ephemeral streams at the foot of the landslide; and
- Antislope scarps and lineaments indicating displacement within the landslide mass and near the crest of the landslide.

The landslide is interpreted to be a large rotational rock slump involving bedrock and overlying sediments (**Cb #1**) that detached from a complex headscarp (**R#1**). The rotational slump led to secondary sloughing and rockfall (**Cb #2**) along the steep headscarp in the southern area (**R #2**).

A discrete portion of the upland area (**T**) experienced localized subsidence during or following the main landslide event as evidenced by a suite of subtle nested scarps and lineaments. Extra caution is required if trenching in this area (**T**) due to fault discontinuities identified in the bedrock and the past record of proximal landslide instability.

During the main landslide event, a mass of broken rock and overlying material detached from the main headscarp (**R #1 and R #2**), moved downslope and spread out forming the debris zone (**Cb #1**). The debris (**Cb #1**) was moulded by meltwater and post-glacial streams, suggesting that the main landslide failed in late Quaternary time. The slide mass (**Cb #1**)

appears to have diverted Summers Creek to the west. Flow lines (green) suggest the interpreted downslope movement of slide material from the source area.

Secondary failures occurred as a result of steep slopes formed during the main landslide. The secondary failures are interpreted to be sloughing, rock fall or a shallow rock slide sourced from the steep slope labelled **R #2**. Material from headscarp **R #2** accumulated in a downslope talus apron of rocky debris (**Cb #2**). This colluvium appears to have formed after the main rotational slide, possibly due to removal of material buttressing the toe of the slope, or from weathering of the new steep headscarp. Drilling by Segó in the Regal zone shows the rocky colluvium to be underlain by glacial till. Flow lines (green) suggest the interpreted downslope movement of slide material in **Cb #2** from its source.

### **Conclusions and Recommendations**

Regal zone colluvial material appears to have its source in the steep slopes labeled **R #2**. The source area is more likely to be from the southern portion of this headscarp. Regal zone colluvium shows signs of reworking by glacial meltwater and modern streams.

It is recommended that new trenches be cut in the upper slopes of the southern part of the **R #2** headscarp. Access for machinery likely would be from the upland above the Regal zone. Further work supporting trenching efforts above the Regal zone may include examination of 1:15,000-scale air photographs, which are significantly larger scale than the diapositives used in this study. A larger-scale air photo interpretation may also allow the refinement of landslide flow paths.

Old trenches identified on the terrain map that are located upslope and slightly southeast (in plan view) of the Regal zone should be examined for similarities to the anomalous Regal zone samples already identified by Segó.

Extra caution is required if trenching along the crest of steep slopes and headscarps identified in this study. The proximity to past bedrock landslides suggests that subtle, unmapped discontinuities may exist along the edge of the upland, and especially in the polygon labeled **T**.

The interpretation of a glacial meltwater divide on the northern upland in the vicinity of polygon **E** has implications for source area determinations of any moraine or meltwater materials that may be sampled in this area.

### **Closure**

This report accompanies the 1:5,000-scale terrain map. Thank you for the opportunity to work on this interesting property. Please contact me if you require further information.

Sincerely,

Selina Tribe, PhD, PGeo  
APEGBC License #24487  
Carta Exploration Ltd



Figure 2. Overview of the 1:5,000-scale terrain map. Figures 3 to 5 show close-ups views of the terrain map. Legend is shown in Figure 6. North is to the top.



Figure 3. Detail of northern part of terrain map. North is to the top.



Figure 4. Detail of central part of terrain map. North is to the top.



Figure 5. Detail of southern part of terrain map. North is to the top.

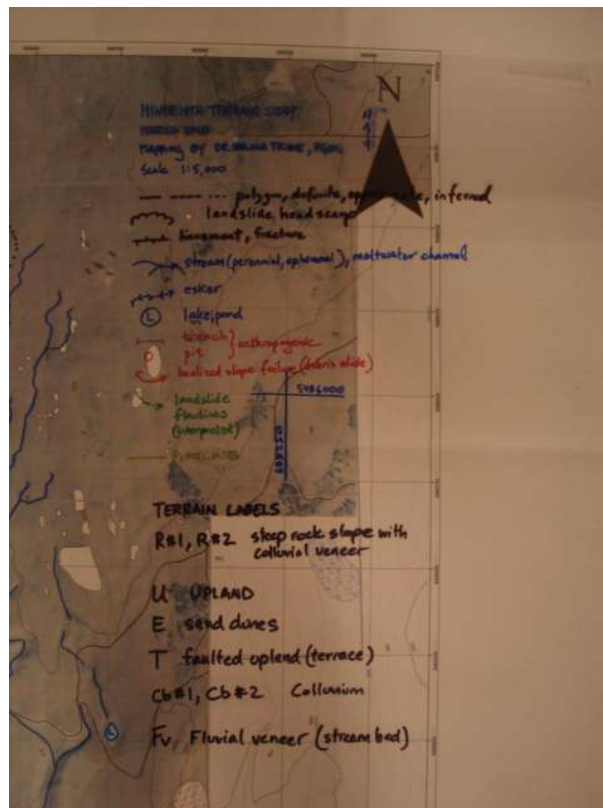


Figure 6. Terrain map legend.