



K 115I05/06/081
VOL 1 UNC
Atlas Explorations Limited

1967/12/01 1967/12/01

27058



NO. 666
VANCOUVER STATIONERS

Summary report Dec 1/67
115-5-6

012919

KLAZAN PROJECT

HISTORY OF EXPLORATION

Regional geochemistry by Coranex Limited in the southern part of the Dawson Range in 1965 resulted in the discovery (THM in silts) of a mineralized centre on Burgis Creek, a tributary of Big Creek. Soil lines run parallel to the creek yielded anomalies in zinc, copper, and molybdenum. However, prospecting in the area led to only minor galena and sphalerite in some carbonatized rock.

In 1966, Colin Campbell spent several weeks investigating the area. He trenched some of the more interesting anomalies, did some geological mapping with air photos as a base, and discovered some interesting molybdenite mineralization. The following winter he did some thin section work on some selected rock specimens.

In 1967, in conjunction with other follow-up work in the Big Creek area, Campbell did a small amount of additional mapping and prospecting on the Klazan claim group. The map accompanying this summary report is a compilation by the present writer of Campbell's data. The mapping is based on examination of rock float and some poor rock exposures; so numerous changes are anticipated when better information is available.

GEOLOGY

Big Creek and the rock formations to the southwest strike in a northwesterly direction. On the Klazan claim group, which is southwest of Big Creek, a northwesterly-striking band of rhyolites about one mile wide is bounded on the northeast and on the southwest by coarse hornblende syenites. The rhyolitic rock within this band includes tuffaceous pyroclastics and lava flows.

Three parallel streams cross the rhyolite band and flow northeasterly to Big Creek. These include Burgis Creek in the centre of the area of interest; Foster Creek, 3000 feet to the northwest; and Etches Creek, 5000 feet to the southeast.

The area of interest on Burgis Creek occurs along both sides of the valley. On the grassy slopes to the northwest, an outcrop area of pyrite-rich rhyolite forms a brilliant red gossan. The grassy slopes around the gossan zone, especially to the southwest of it, contain abundant rhyolite float mineralized with numerous very thin quartz veinlets.

On the southeast, the valley is bounded by a low, mossy bank that has a few rock outcrops. A stretch of the bank about 1000 feet long has some poor exposures (in the bottom of little rills) of highly altered rock. The altered rhyolite contains abundant pyrite, numerous thin quartz vein-

lets and considerable barite. The disintegrated altered rock also contains quartz-molybdenite veinlets and fine-grained molybdenite along fractures. The rock in the most northeasterly trench of this altered zone is carbonatized and contains minor galena and sphalerite.

The zone of alteration and mineralization is bounded on the southeast by felsite porphyry. The felsite is carbonatized and chloritized. It contains abundant pyrite and minor disseminated sphalerite and galena. In addition, some molybdenite in fractures was reported by Campbell. The felsite porphyry is unsheared and forms small resistant outcrops along the bank in contrast to the easily eroded zone of alteration and mineralization. Consequently it was initially called a "post-ore" stock. However, discovery of molybdenite in fractures within this rock in 1967 changed this interpretation. If the blocky felsite porphyry is a stock then it is probably younger than the intense shearing which has affected the rhyolites on its northeast side.

The mapping done along the northwest side of Etches Creek is based on rock float dug out of the grassy bank. This mapping has revealed a stock of quartz monzonite porphyry which extends along Big Creek for a distance of about 1800 feet and which may be bounded on the west by a prominent fault. It appears to intrude the rhyolitic formation on its eastern contact.

The thin section work done by Campbell reveals several areas of alteration. The alteration is mainly sericite but considerable carbonate alteration also occurs in places along the southeast bank of Burgis Creek. One altered area coincides with the mineralized area on the southeast side of Burgis Creek and also extends over the area of abundant quartz veinlets on the northwest side of Burgis Creek. Along Etches Creek there is considerable sericitization of the rhyolites and quartz monzonite porphyry near the eastern contact of the quartz monzonite stock.

These two areas of alteration could be separate zones, one of which is related to the molybdenite mineralization; or they could both be part of an altered northwesterly-striking shear zone which has affected the northeast part of the rhyolite band.

GEOCHEMISTRY

Soil geochemistry has been somewhat disappointing. The samples taken on exposures or in close proximity to exposures on the mineralized zone are anomalous in molybdenum. However the soil samples from the area immediately to the east are not anomalous. The lack of anomalous molybdenum values to the east of the mineralized area cannot be interpreted as lack of mineralization because most of this area is a topographic low covered by alluvium and permafrost.

The soil samples from the northwest side of Burgis Creek were mostly from grassy slopes. These reveal some slightly anomalous values to the northeast of the area of gossan and quartz stockwork -- directly opposite the area of molybdenite mineralization.

Soil samples taken along the southeast bank of Foster Creek and along

the northwest side of Etches Creek have mostly background molybdenum values. There are, however, a few slightly anomalous values within the rhyolite at the eastern contact of the quartz monzonite stock.

The soil samples were also analyzed for copper (background is <40 ppm). Anomalous copper values are generally coincident with anomalous molybdenum values.

Most of the soil samples were run for total zinc. The results show that the rhyolites have high zinc content whereas the quartz monzonite porphyry and possibly the felsite porphyry have very low zinc values (<60 ppm).

CONCLUSIONS AND RECOMMENDATIONS

The fine-grained nature of the molybdenite mineralization and its occurrence along fractures and within small quartz veinlets, and the presence of a zone of what appears to be intense hydrothermal alteration makes this mineralized area worthy of investigation for a major stockwork molybdenite deposit. Molybdenite is a very soft mineral which abrades easily and is mechanically (?) depleted at the surface of most stockwork molybdenite deposits. Within this unglaciated terrain, frost action has been churning the near surface rocks and debris for thousands of years and it is impressive that even small amounts of fine-grained molybdenite can be found at the surface. Whether or not important amounts have been removed is not known.

A great deal of thought has been given to the method of investigation of this prospect. Only with a drill can one get sufficient information to either "make or break" this prospect and only with drill core can one get adequate information to properly investigate the prospect. With this in mind the writer estimated a budget for 5000 feet of BQ wireline drilling with a minimum footage of 3000 feet.

Under this program the first drill hole would be collared on the relatively competent felsite porphyry along the southeast side of Burgis Creek and it would drill northeasterly under the zone of mineralization for approximately 900 feet. Subsequent drilling would depend on the results of this hole; but any extensions under the valley could be investigated with a hole drilled north from the same drill site. Holes #2 and #3 as plotted on the accompanying map are merely tentative suggestions.

After the first two holes, it might be necessary to move off the competent felsite porphyry and collar in highly broken, altered and weathered rock. In such case considerable casing may be needed and a fairly heavy drill will be required. Because of the fractured nature of the ground, drill mud will be needed with the wireline equipment, and because of the permafrost it will be necessary to have a supply of salt. All this adds up to considerable weight which should be moved by tractor train. The camp and equipment would be taken to the property in March before break-up and the drilling would commence in late May when water is available in the creeks. Men would be moved to the

property by helicopter and supply trips (one every ten days) would be by helicopter.

The drill costs (\$97,000) are rather high for investigation of a prospect which appears to be a weathered stockwork molybdenite deposit with good hydrothermal alteration; but which is so poorly exposed and badly weathered at surface that it is impossible to estimate the merits or the potential of the prospect and it is certainly useless to rely on assays from surface samples. An alternative method of approach would be to try and improve the appearance of the prospect with bulldozer work. Bulldozer stripping down the banks of Burgis Creek, combined with some blasting work might improve the picture. For this reason an alternative "bulldozer budget" is included.

KLAZAN BUDGET

Drill Program

Diamond drilling (5000 feet)	\$65,000*
Mobilization (Vancouver - Carmacks)	6,000**
Mobilization (Carmacks - property)	8,000
Drill rental (over breakup)	1,000
Helicopter costs (supply trips)	5,000
Camp equipment and supplies (for 2-month program)	4,000
Wages (cook, helper, camp set-up)	2,500
Miscellaneous	1,500
Reserve for contingencies	4,000
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	\$97,000

Bulldozer Program

D-8 for one month	\$12,000
Mobilization	3,000
Camp supplies and equipment	2,000
Wages	1,000
Helicopter costs	3,000
Miscellaneous	1,000
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	\$22,000

*or approximately \$55,000 for 3000 feet.

**reduce slightly if both Klazan and Cub Creek drilled.