

**GEOLOGICAL REPORT  
FOR THE  
COPPER BELLE PROPERTY**

**NICOLA MINING DIVISION  
BRITISH COLUMBIA  
NTS 92 I 02 W**

**LATITUDE 50° 07' 18" N  
LONGITUDE 120° 50' 11" W  
UTM 10 (NAD 83)  
North 5554400 East 654662**

**OWNER ANDREW SOSTAD  
For  
ELAN DEVELOPMENT INC  
BY: ROBERT WEICKER**

**MAY 29, 2007**

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## **SUMMARY**

The Copper Belle property is located near Merritt, British Columbia and covers two historic mineral showings (copper and iron) and several soil geochemical anomalies based on previous companies activities in the late 1990's.

The property is centered 3.3 air-kilometers west of the town of Merritt (population 7,600). Merritt is located 190 air-kilometers north-east of Vancouver, with easy access via the Coquihalla Highway. Merritt is a transportation hub, where three highways converge - 5, 5A, and 8, and the service centre for the ranch country of the Nicola Valley, and provides an excellent base for exploration activities.

The Copper Belle Property lies on the south side of the Nicola River covering moderately steep slopes varying from 600 to +900 meters. The northeastern portion of the property covers flat, agricultural land of the Nicola Valley.

The Copper Belle property consists of one claim group, number 534165, known as the acquired on March 19, 2006, comprising a total of 186.5 ha, in good standing till March 19, 2008. The property is owned 100% by Andrew Sostad. The northwestern portions of the Copper Belle claim overly the Lower Nicola Mameet Indian Reservation and should be considered as not valid for exploration activities.

The Copper Belle property is underlain by Upper Triassic Nicola Group rocks which locally consist of massive and porphyritic andesitic and basaltic flows, minor volcanoclastics, sediments and granitic to gabbroic intrusive rocks.

The Copper Belle property covers two principal historic workings, the Copper Belle prospect and the Anaconda prospect, that has been staked and prospected many times in the past, dating back to 1880's. The Copper Belle mineral occurrence strikes east-west and dips shallowly to the south, comprised of quartz and calcite with specular hematite, chalcopryrite and copper carbonates. Mineralized outcrops occur as discontinuous lenses 7 to 60 centimeters wide and 1 to 9 metres long. The deposit has been developed by 4 adits, shallow inclined shafts and open cuts which expose 0.3 to 1.5 metre wide fracture zones striking from 330 degrees to 080 degrees with shallow to moderate dips. It is reported that between 1908 and 1913, a number of small hand sorted shipments, including 47 tons averaging 7.19% copper in 1913.

The old Anaconda prospect comprises a shallow pit and tow caved adits. According to Wells (1998) the pit has steeply dipping, fracture controlled zone of specular hematite in Nicola volcanics. There is very little information on these workings and no work has been reported since 1915.

The best mineralization at the Anaconda showing is at or near the intersection of major crosscutting structures in mafic host rocks. A 1.5 m chip at a pit-trench at 0+20 S, 18+50 E returned 1.02 grams per tonne. Another showing at 1970 N 787 E returned 5828 parts per million (ppm) copper and 5.6 grams per tonne silver. This sample coincides with a copper soil anomaly. A sample at 1110 N 465 E returned 339 ppm copper and anomalous silver, and is extensively covered with overburden.

The historic mineralized showings, the Copper Belle and Anaconda prospect, represent structurally controlled quartz-carbonate vein systems, comprising narrow veins, stockwork veining, and breccia zones, hosted in intermediate to mafic volcanics, probably associated with felsic intrusive units. To date, scattered mineralized showings of chalcopyrite and specular iron have been observed with significant values of copper and gold, and to a lesser extent silver.

A Phase 1 budget to confirm the previous significant mineralization is recommended, consisting of a site visit, limited sampling and geological mapping, at a cost of \$5,100. Based on positive confirmation of the significant mineralization, a Phase 2 program of approximately \$12,500 is proposed including detailed review and compilation of the assessment data and the BC Annual reports, geological mapping, rock and soil sampling and limited trenching. The estimated cost for Phase 1 and Phase 2 programs is approximately \$18,400.

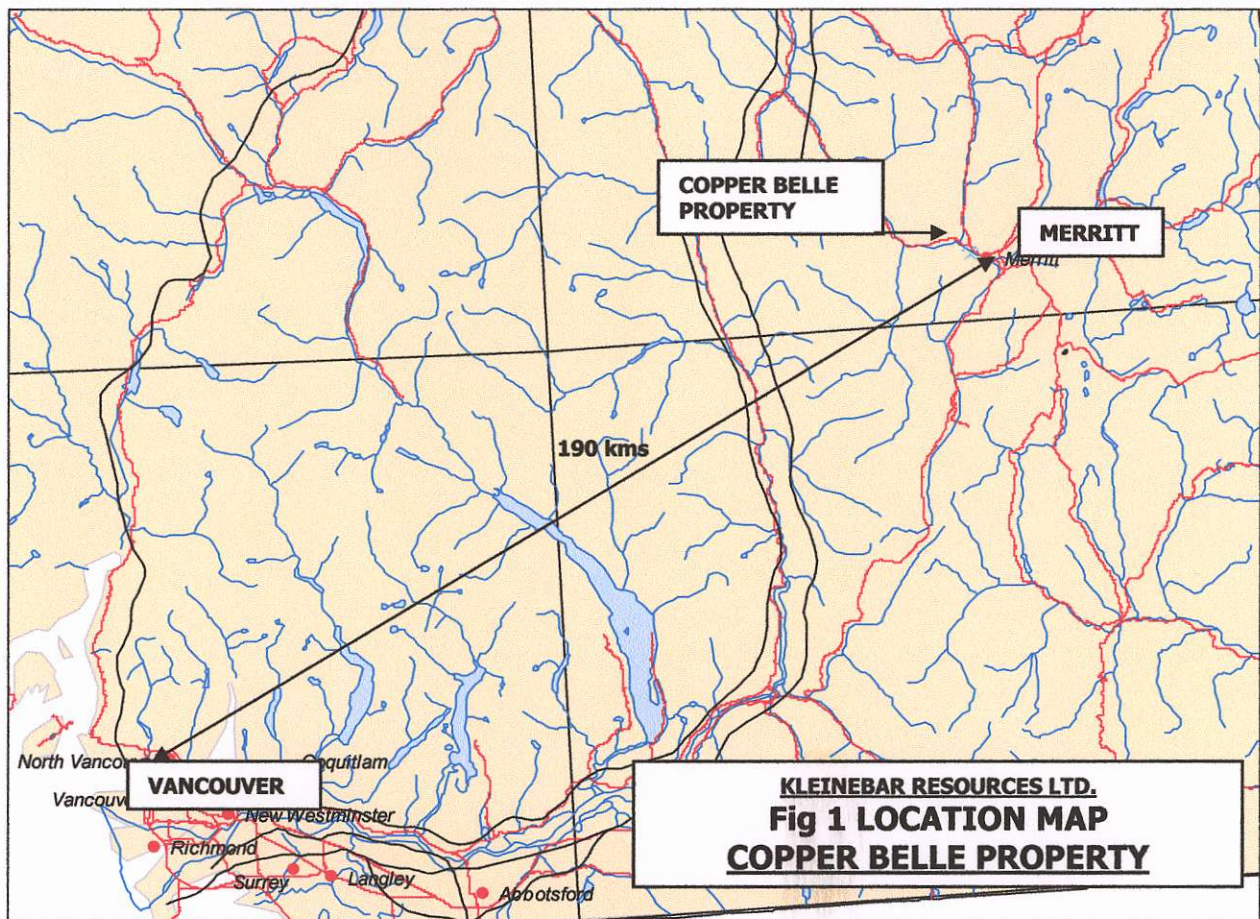
Based on positive results of the above programs, a diamond drill program comprising 2,000 ft, would be recommended at an estimated cost of \$270,000. The costs of this program will be refined based on the operating costs of the Phase 1 and Phase 2 programs.

## INTRODUCTION

### i) LOCATION, ACCESS and TOPOGRAPHY

The Copper Belle property is located near the town of Merritt on the flanks of the Nicola River valley. The property is in NTS sheet NTS 092 I/2W and centered at latitude  $50^{\circ} 07' 18''$  N, and longitude  $120^{\circ} 50' 11''$  W, in UTM 10 (NAD 83), North 5554400 East 654662.

The Copper Belle property covers the Copper Belle prospect and the Anaconda prospect. The most significant mineral occurrence is the Copper Belle prospect, which is located 3.3 air-kilometers west-north-west of the town of Merritt. Merritt is located 190 air-kilometers north-east of Vancouver, with easy access via the Coquihalla Highway, an excellent toll route to Merritt and Kamloops, with the toll booth located near the summit of the Coquihalla Pass. An alternate approach to Kamloops via Princeton and Merritt is Highway 5A, the route that predates the Coquihalla, which opened in 1986. Merritt is a transportation hub, where three highways converge - 5, 5A, and 8.

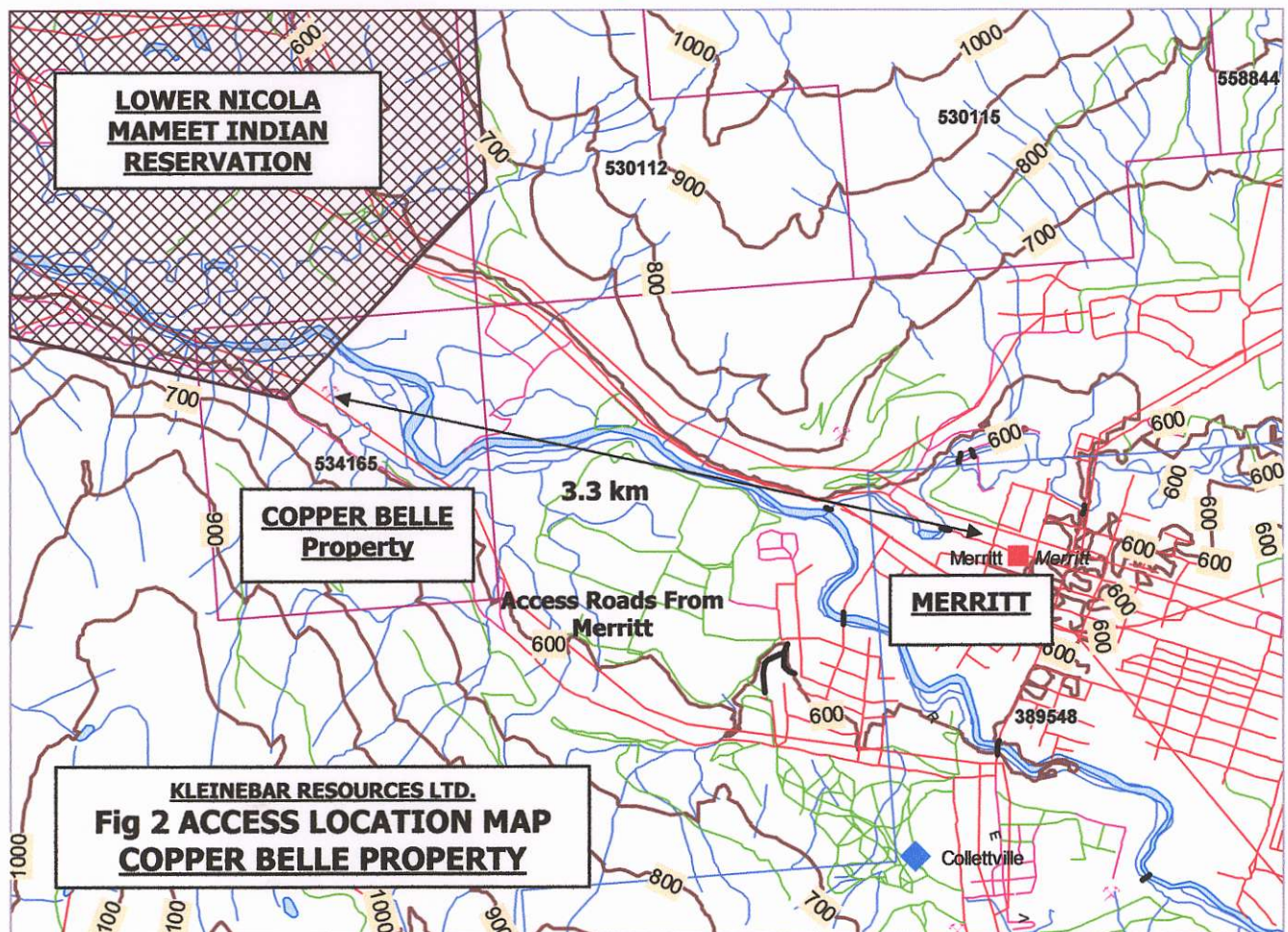


The Nicola Valley was initially discovered by pioneers searching for a route between the Coast and the Interior, the valley was used as a brigade trail by the 1850s. What they discovered here was a vast expanse of grasslands where livestock could roam. The ensuing

settlements, originally called Forksdale and Diamond Vale (now Merritt), originated at the meeting of the Nicola and Coldwater rivers, with ranchers, loggers, prospectors, merchants, and businessmen all making a living.

With the completion of the railway in 1885, the coal interest was heightened, and numerous coal mines were active on the hills surrounding the booming townsite. Merritt was renamed in 1906 in honour of railway promoter William Hamilton Merritt. Today, the Nicola Valley incorporates the communities of Merritt, Quilchena, Douglas Lake, Aspen Grove, Spences Bridge, and Logan Lake.

The Copper Belle property is located 10 kilometres southeast of the former producing Craigmont Copper mine. The Craigmont mine was the largest producing base metal in the Merritt area. It was discovered in 1961 and between 1957 and 1982 produced 29.3 million tonnes grading 1.4% copper from surface and underground operations. A small magnetite recovery operation continues to process the Craigmont tailings, for coal washing purposes.



Accommodations and services while working the property can be arranged in the town of Merritt with access by good gravel roads for 6-7 km to several portions of the property (Fig

2). The growing city of Merritt (population 7,600) is located at the hub of the Coquihalla Highway system, in easy reach of Vancouver, Kamloops and the Okanogan. Merritt is the service centre for the ranch country of the Nicola Valley, and provides an excellent base for exploration activities.

The Copper Belle Property lies on the south side of the Nicola River covering moderately steep slopes varying from 600 to +900 meters. The northeastern portion of the property covers flat, agricultural land of the Nicola Valley. Portions of these lands are irrigated, and used for agricultural purposes, but increasing uses are for residential and commercial purposes.

The south and southwestern portions of the property is hilly, covering upland plateau terrain, although slopes are often precipitous in the drainages, heavily wooded with lodgepole pines, fir and spruce and much undergrowth. Moose, mule deer, bears, and grouse are the main wildlife species found here, while small numbers of elk and mountain goats find refuge in the timber-clad slopes of the region. According to Lorimer, (1961) rock outcrops comprises 30% of this area.

The climate in the Merritt area is generally dry with hot summers and moderately cold winters with light snow cover at lower elevations.

## ii) CLAIM OWNERSHIP and STATUS

The Copper Belle property consists of one claim group, number 534165, known as the "Copper Belle, acquired on March 19, 2006, comprising a total of 186.5 ha (Fig 4). The property is currently in good standing till March 19, 2008. The property is owned 100% by Andrew Sostad. No recent work is assumed to have been completed, as Sostad has made "Payment Instead of Work" in 2007 to keep the claim in good standing.

The scope of this report does not cover in detail, land use restrictions or native land claims in the area of the Copper Belle property. The northwestern portions of the Copper Belle claim overly the Lower Nicola Mameet Indian Reservation (Fig 3), and should be considered as not valid for exploration activities.

## **HISTORY and PREVIOUS WORK**

The current Copper Belle property covers an area that has been staked and prospected many times in the past, dating back to 1880's. Early work on the Copper Belle prospect (Fig 3) comprises several short adits and a number of rock cuts over a 300 metre strike length. Wells





Assessment Report: 00357 – Operator: Canford Exploration, By M.K. Lorimer, 1961, included a magnetometer geophysical survey over a portion of the old Mint Group of Claims. The survey indicated two anomalous areas.

Assessment Report: 00402 – Operator: Canford Exploration, By S. Kelly, 1961, included a geophysical survey and soil geochemistry, on the old Mint Group of Claims. The geophysics was conducted by Geophysical Exploration Ltd., using a spontaneous polarization (SP) technique, and the geochemistry investigation was made with the rubeanic acid method, a qualitative field chemical technique for detecting the presence of copper in soils.

Assessment Report: 00736 – Operator: Merritt Copper Syndicate, By D. Hing, 1965, included a magnetics geophysical survey with Geomag Theodolite Magnetic Component Vectoring System. The survey was located on the old Bell, Bill and Keith group of claims, located approximately five kilometers west of Merritt, B. C. The survey consisted thirteen east/west lines and two north/south base lines.

Assessment Report: 09088 – Operator: Harlin Resources Ltd., by P. Plicks, 1980; included a partial geochemical survey on the property. 6,700 metres of flag line grid, 67 samples collected (mostly soil, however where applicable, rock chips were collected). General geological mapping of the area was carried out, along with limited hand trenching in areas of shallow overburden. The total cost of the program was approximately Cdn \$10,000 (1980 \$).

Assessment Report: 25403 – Operator: Estey Agencies Ltd., by R. Wells, 1998; included a geochemical survey of 301 soil samples, and 11 rock samples, and 9,0 kilometer of line cutting. General geological mapping of the area was carried out.

Assessment Report: 25880 – Operator: Estey Agencies Ltd. & Conlon Copper Corp, by R. Wells, 1999; included geological mapping, 8.7 kilometers of flagging and a limited geochemistry comprising 48 rock samples.

## **REGIONAL GEOLOGY**

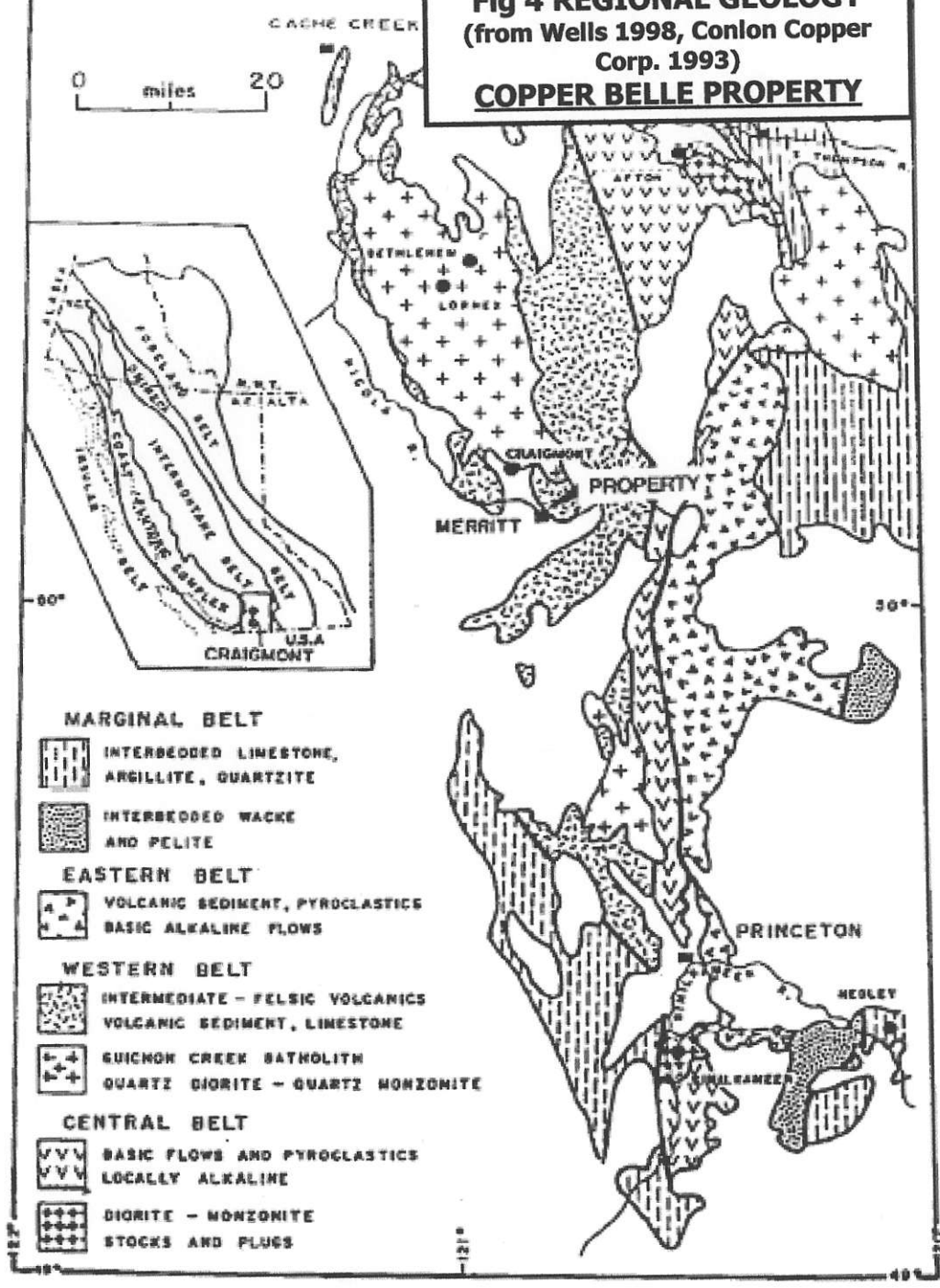
The claims are underlain by volcanic flows and tuffs and minor sediments of the Nicola Series of Triassic age. Based on the assessment report by Plicks (1980):

“Where exposed, these are relatively thin bedded, in the order of a few feet to a few tens of feet in thickness. The tuffs are moderately coarse, frequently brown, to reddish, and only a few feet thick. The flows are generally andesitic, often exhibit broken flow tops with considerable calcification, and some strong amygdaloidal. The amgdules are often much elongated, especially near the flow bases, and consist mostly of silica with some calcite on

occasion. Copper mineralization in the area is found disseminated in the flows and occupying fine fractures.”

According to Wells (1998), major Tertiary structures on the Copper Belle property include the notably the Guichon Creek Fault and Clapperton-Coldwater Faults intersect west of Merritt and are extensional features.

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**Fig 4 REGIONAL GEOLOGY**  
 (from Wells 1998, Conlon Copper Corp. 1993)  
**COPPER BELLE PROPERTY**



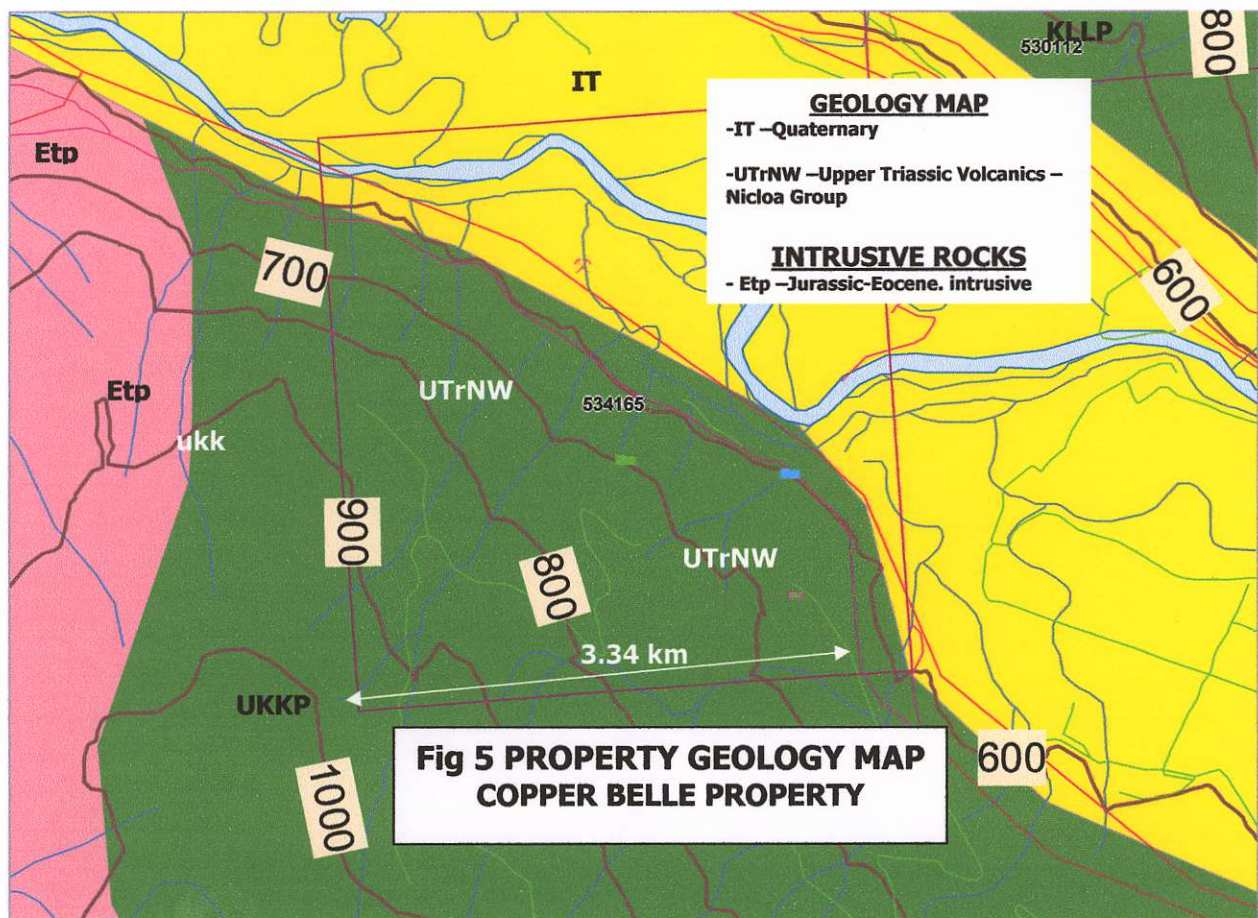
AFTER G.W.MORRISON 1980

## PROPERTY GEOLOGY

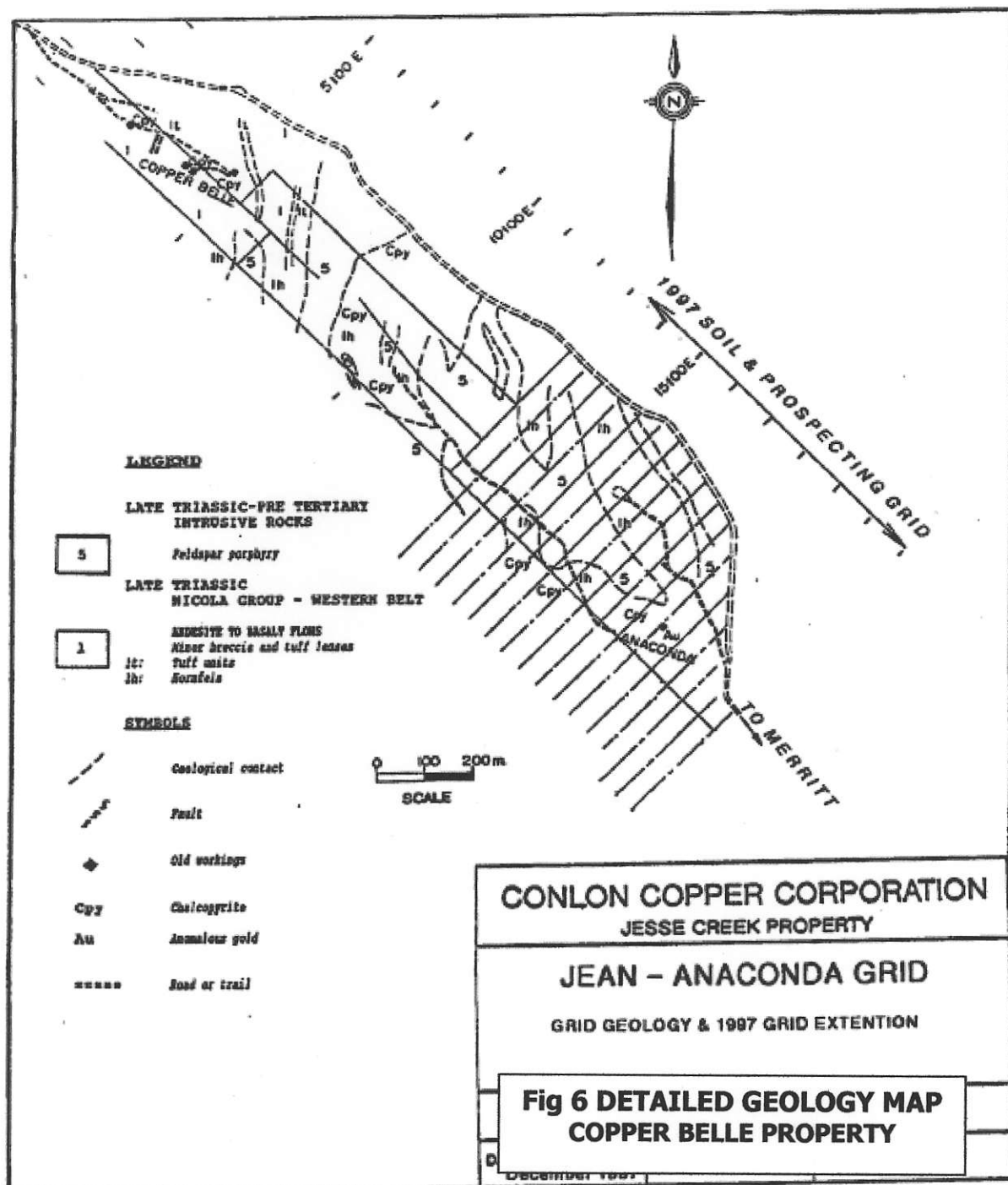
Based on Plicks (1980) the rocks underlying the current Copper Belle property comprise two principal groups.

"The Nicola Group of Upper Triassic age (UTrNW) chiefly consists of volcanic greenstones which are mainly andesitic with minor basaltic flows. The andesite is porphyritic in places."

The Coast Intrusives of Jurassic (Eocene) (Etp) age is possibly a member of the Iron Mask batholiths comprising granite, granodiorite, syenite, monzonite and gabbro. The intrusive rocks are located 300-500 meters west of the western boundary of the property (Fig 5).



Detailed mapping by Conlon Copper Corp., (Reference 25880, R. Wells, 1999) in the area of the historic showings (Fig 6) indicate volcanics of the Nicola Group comprising andesite to basalt flows, with minor breccia and tuff lenses, and intrusive rocks, comprising feldspar porphyry. The age of the intrusive rocks is indicated as Late Triassic-Pore Tertiary, which is believed to correlate with more recent mapping by the B.C. government indicating an Eocene age.



## MINERALIZATION

Structurally controlled quartz-carbonate vein systems, comprising narrow veins, stockwork veining, and breccia zones, are hosted in intermediate to mafic volcanics, probably associated with felsic intrusive units.

Based on the MINFILE report the Copper Belle mineral occurrence strikes nearly east and dips 20 degrees south. It consists of quartz and calcite with specular hematite, chalcocypite

and copper carbonates. Mineralized outcrops occur as discontinuous lenses 7 to 60 centimeters wide and 1 to 9 metres long. The deposit has been developed by 4 adits, shallow inclined shafts and open cuts which expose 0.3 to 1.5 metre wide fracture zones striking from 330 degrees to 080 degrees with shallow to moderate dips. One fracture which strikes 055 degrees and dips 25 degrees north contains rutile-bearing quartz with chalcopyrite, hematite and calcite, is 45 centimeters wide and is exposed for a length of 3 metres. Wells (1998) reports that between 1908 and 1913. A number of small hand sorted shipments, including 47 tons averaging 7.19% copper. Wells (1999) also indicates, "Shallow dipping veins and replacements of massive specular hematite, carbonate and blebby chalcopyrite yield narrow widths (?) of 1% to 6 % copper and anomalous silver", in an altered feldspar porphyry sill. Hematite is more abundant at the Copper Belle showing.

Based on the MINFILE report, the Anaconda showing is located in the Upper Triassic Nicola Group comprised of andesitic, locally porphyritic flows, minor basaltic flows, volcanoclastics, interbedded sediments and Jurassic (?) granitic intrusions.

Mineralization is evident in highly silicified and chloritized andesite. Workings expose specular hematite in quartz-calcite veins. Minor chalcopyrite is also evident.

Wells (1999) indicates that the best mineralization at the Anaconda showing is at or near the intersection of major crosscutting structures in mafic host rocks. A 1.5 m chip at a pit-trench at 0+20 S, 18+50 E returned 1.02 grams per tonne.

Another showing at 1970 N 787 E (fig 6) returned 5828 ppm copper and 5.6 grams per tonne silver. This sample coincides with a copper soil anomaly. A sample at 1110 N 465 E returned 339 ppm copper and anomalous silver, and is extensively covered with overburden.

## **RECOMMENDATIONS**

The historic mineralized showings, the Copper Belle and Anaconda prospect, represent structurally controlled quartz-carbonate vein systems, comprising narrow veins, stockwork veining, and breccia zones, hosted in intermediate to mafic volcanics, probably associated with felsic intrusive units. To date, scattered mineralized showings of chalcopyrite and specular iron have been observed with significant values of copper and gold, and to a lesser extent silver. Wells (1999) indicates that trenching in the old Anaconda workings established a west trending fracture zone with specular hematite replacements, with anomalous copper and gold values (up to 1 g/t) over a poorly exposed zones.

The mineralized zones are partially defined and to the best of the author's knowledge have not been drilled tested on the Copper Belle property.

## RECOMMENDATIONS & BUDGET

A Phase 1 budget to confirm the previous significant mineralization is recommended, consisting of a site visit, limited sampling and geological mapping, at a cost of \$5,100.

Based on positive confirmation of the significant mineralization, a Phase 2 program of approximately \$12,500 is proposed including detailed review and compilation of the assessment data and the BC Annual reports (EMPR AR 1900-900; \*1915-230; 1961-42,115; 1962-132; 1966-167) should be completed. The data should be compiled into digital data base such as Map Info to correlate all the data.

Based on a brief review of the assessment reports, on the Copper Belle property, the author agrees with Wells (1999), on the recommendation of three areas that warrant further exploration:

a) Further trenching and sampling is recommended on the Anaconda showing, focused on the area of the caved and covered old pits, where specular hematite float has been observed.

b) Geological mapping , sampling and trenching is recommended north of a showing at 1980 N, 775 E (Fig 6), where previous sampling returned 5828 ppm copper and 5.6 grams per tonne silver. This sample coincides with a copper soil anomaly.

c) a sample at 1110 N 465 E returned 339 ppm copper and anomalous silver, and is extensively covered with overburden. Additional soil sampling is recommended, and if possible a limited trenching program

## BUDGET

### Budget – Phase I

Geological Mapping–Geologist & helper @ \$800/day	\$	3,200
Rock Sampling including assays @ \$30/sample x 50 samples	\$	1,500
Transportation, Food and Lodging @ \$300/day x 4 days	\$	1,200
<b>Total Cost Phase 1:</b>	<b>\$</b>	<b>5,900</b>

### Budget – Phase II

Compilation and data Input –Geologist and Geotech @\$800/day x 4 days	\$	3,200
Limited Trenching	\$	3,000
Transportation, Food and Lodging x 7 days	\$	2,100
Soil, Rock Sampling including assays @ \$30/sample x 100 samples	\$	3,000
Data Analysis, Report and Maps	\$	1,200
<b>Total Cost Phase II:</b>	<b>\$</b>	<b>12,500</b>

**Budget – Phase III**

VLF-EM & MAG 3days @ \$500 per day	\$ 1,500
Geological Mapping Geologist & Helper \$800.day x 4 days	\$ 3,200
Additional Trenching and Sampling	\$ 6,000
Mobilization and demobilization	\$ 2,000
Reports, Assays, etc.	\$ 4,000
Transportation, Food and Lodging \$300 day X 4 days	\$ 800
Geological supervision.	\$ 3,500
Contingency	\$ 5,000
<b>Total Cost Phase III</b>	<b>\$26,000</b>

**Budget – Phase IV**

Diamond Drilling 2000 feet @\$120/ft all-in costs, geology, assays	\$ 240,000
Mobilization and Demobilization	\$ 5,000
Contingency	\$ 25,000
<b>Total Cost Phase IV</b>	<b>\$ 270,000</b>



## **REFERENCES**

- B.C. Ministry of Energy, Mines, and Petroleum Resources, MAPLACE website, and MINFILE Record Summary
- D. Hing, 1965, Assessment Report: 00736
- S. Kelly, 1961, Assessment Report: 00402
- M.K. Lorimer, 1961, Assessment Report: 00357
- P. Plicks, Assessment Report: 09088
- R. Wells, 1998, Assessment Report: 25403
- R. Wells, Assessment Report: 25880