## A DIAMOND DRILLING REPORT

ON

## THE KEY GROUP OF MINERAL CLAIMS

# N.T.S. SHEET 921/2W 921/3E

LATITUDE: 58° 13' N

LONGITUDE: 121º 00' W

#### OWNED BY

## BETTER RESOURCES LIMITED

PREPARED BY

CLIFFORD C. RENNIE, P.Eng.

VANCOUVER, BRITISH COLUMBIA

SEPTEMBER, 1990

# 520466

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# TABLE OF CONTENTS

Index Map	1
Summary and Conclusions	2
Introduction	3
Location and Access	3
Topography and Climate	3
Location Map	4
History	5
Property Description	6
Mineral Claim Map	7
Geologic Setting	8
Purpose of Program	9
Discussion of the Drill Program	10
Proposed Future Program	10
Cost Statement	11
Author's Statement & Certification	12

# IN POCKETS

Diamond Drill Hole Log 90-1 & 90-2 Diamond Drill Hole Plan & Section - Figure 4 ·. ·

Page



i

#### SUMMARY AND CONCLUSIONS

The Key Group of mineral claims owned 100% by Better Resources Limited covers the westward extension of the Guichon Batholith - Nicola Series contact from the Craigmont Mines Ltd, property. Limestone and impure limestone of the Nicola Series which host the Craigmont copper-iron orebodies dip toward the batholith on the Key Group and could host Craigmont-type orebodies at depth.

- 2 -

Previous mapping, geophysics and drilling has indicated that the favourable contact extends the length of the Key Group claims but has not been tested at depth below 300 m below surface. Since the Craigmont orebodies were steeply dipping within a relatively narrow contact aureole it can be expected that an extensive drilling program may be required to find ore on the Key Group if it exists.

Two BQ diamond drill holes totalling 629.9 m were drilled in between May 30 and June 12, 1990 to explore a cross-section 140 m east of two previous holes that cut Nicola limestone. Holes 90-1 and 90-2 both cut a thick sequence of limestone and limy rocks dipping approximately 45° northwesterly overlain and underlain by Nicola volcaniclastics and neither hole intersected Guichon intrusive, indicating that the contact lies at depth to the north. Limestone in both holes was recrystallized indicating that the holes are within the alteration aureole. Only minor chalcopyrite mineralization was intersected in narrow breccia zones in the limestone.

Further drilling to the north is justified on this section to explore the limestonebatholith contact and to search for ore controlling structures. Once this section is completed, other sections should be drilled to the east at a minimum of 200 m spacing.

## INTRODUCTION

This report contains the results from the two drill hole programs on the Betty claim (2S, 1E) to test the northwest dipping limestone for structure, alteration and mineralization.

- 3 -

Previous reports by J.F. Bristow, P.Eng. have been submitted for assessment work and sections on Location and Access, Topography and Climate, and History have been copied to this report with his permission.

#### LOCATION AND ACCESS

The Key Claim Group is located near the headwaters of Shackelly Creek and lies between the Forestry Lookout on Promontory Hills and Indian Reserve No. 9. The centre of the claim group is approximately 4 kilometres west of the Craigmont Open Pit (Figure 2).

Numerous inter-connecting gravel logging roads provide access to the property. The most direct route is from Lower Nicola (14 km) via the Aberdeen/Stumbles Creek main roads. On property access is also provided by skid roads, cut lines and cattle trails.

#### TOPOGRAPHY AND CLIMATE

Elevations on the property range between 1,025 metres and 1,700 metres. Local topography is moderate, however, a 50 metre deep channel containing Shackelly Creek cuts southwest through the area. In general, south and west facing slopes are sparsely wooded with ponderosa pine while north facing slopes are heavily wooded with spruce, lodgepile pine and alder.

Climate is typical interior Plateau. Most precipitation occurs as snow during the cold winter months. Snow-free exploration work can usually be conducted from mid-April to mid-November.



## HISTORY

The area currently covered by the Gus, Number Four and Fox Claims was in part previously held by Torwest Resources (1962) Ltd. (Marb Claims). Early work consisted of geological mapping and widely spaced ground magnetics followed by limited drilling of the magnetic anomalies associated with the basaltic/andesitic volcanic rock units.

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The area currently covered by the Betty Claim was originally staked in 1957 by Placer Development Ltd. following the discovery of Craigmont Mines. After extensive magnetometer and I.P. surveys, five surface diamond drill holes were completed. Placer relinquished the claims in 1975. Detailed geological mapping and an additional magnetometer survey were completed in 1975 and 1976. The area was restaked as the Betty Claim in 1976 under the modified grid. In 1978, Craigmont Mines Limited optioned the Betty Claim and drilled two surface diamond drill holes totalling 992.7 metres. This option was terminated in May 1981.

In the fall of 1981, under the direction of Better Resources Limited, a magnetometer survey and geological mapping program were conducted on the Gus Claim. This work resulted in the discovery of a skarn zone north of Shackelly Creek. In 1987, three surface diamond drill holes totalling 227.1 metres were drilled to further test the economic potential of this skarn zone.

In 1988, a -72° south hole was drilled on the Betty Claim (2S, 1E) beneath a previous -45° south hole drilled by Craigmont to check the attitude and continuity of the limestone and to search for mineralization closer to the contact. The limestone was intersected but no ore grade mineralization was found.

## PROPERTY DESCRIPTION

The Key Claim Group owned by Better Resources Limited of Vancouver, British Columbia is composed of the following contiguous two-post and modified grid mineral claims as shown in Figure 3.

Claim Na <b>me</b>	Units	Record Date	Record No.	Valid to*
Gus	6	27 Feb 1981	1019	27 Feb 1998
Number Four	9	9 Oct 1981	1177	9 Oct 1998
Fox #1	1	9 Oct 1981	1178	9 Oct 1998
Fox #2	1	9 Oct 1981	1179	9 Oct 1998
Fox #3	1	9 Oct 1981	1180	9 Oct 1998
Betty	12	5 Oct 1976	181	5 Oct 1998
Total	30			

\* Expire dates were verified by checking the Mineral Title System Computer Data at the Vancouver Mining Recorder's Office on September 6, 1990.

- 6 -



#### GEOLOGIC SETTING

The Promontory Hill area is underlain by a complex suite at westerly trending, steeply dipping Upper Triassic Nicola Series rocks. These are predominantly basaltic/andesitic fragmentals and volcanic flows, feldspathic greywacke, hornfels and several relatively persistent calcareous bands.

- 8 -

The Nicola series is intruded to the north by the multi-stage Upper Triassic-Lower Jurassic Guichon batholith with an apparent steeply south-dipping (approx. 70°) contact. Several lenses and apophyses of border phase diorite intrude the Nicola Series south of the contact. Quartz feldspar porphyry of indeterminate age intrudes the Nicola Series south of the main batholith contact and appears to have irregular shape and gradational contacts.

Agglomerates and flow rocks ascribed to Cretaceous Kingsvale age (but possibly Tertiary) form a capping as much as 200+ meters thick over Nicola rocks between the Craigmont Mine site and the top of Promontory Hill and also west of the Betty Claim. Glacial overburden on the north side of Promontory Hill makes locating the boundaries of major rock units difficult.

The Craigmont orebodies approximately 5 km east of the Key Group were 1,000 m long east-west and generally less than 100 m wide and produced 36 million tons at 1.3% copper ore. They were hosted by an actinolite skarn replacement of pure and impure limestone in apparent steeply dipping, easterly-plunging fold structures within the Nicola Series in a contact aureole ranging from close contact to the main Guichon batholith to 200 m away from it. Some of the ore was very high grade chalcopyrite in large lenses, surrounded by lower grade material. An impressive characteristic of the mineralization and alteration was an abrupt upward cut-off against crystalline limestone. This sharp transition can be expected in any further discoveries so lack of ore in any drill hole does not mean that ore cannot be expected nearby in altered rocks. In the immediate area of the 1988 and 1990 drilling on the Betty Claim there are northeast striking, northwest dipping outcrops of limestone and impure limestone with volcanic fragments approximately 200 m south of 90-1 drill hole. This partially recrystallized limy sequence is traceable intermittently for 400 meters southwest and 600 m to the northeast where large outcrops of limestone occur as a dip slope. Further northeast heavy overburden masks the limestone projection, but one drill hole S113 on the Craigmont property to the east, intersected limestone on projection.

While the outcrop and holes 90-1 and 90-2 (Figure 4) indicate a general moderate northwest dip in true section, holes Can 2 and Can 3, 600 meters east, suggest that the limestone could steepen between these holes as Can 3, the southern hole intersected extensive limestone while Can 2 cut very little limestone. The potential for steeply dipping limestone subparalleling the intrusive contact could provide a large zone of alteration favourable for large ore bodies.

Diorite outcrops to the west of holes 90-1 and 90-2 suggest that the batholith may be truncating the limey rocks to the west. However, this body of intrusive may be an apophysis off the main batholith further north. Shortage of intrusive outcrop has required interpreting the main intrusive contact from magnetometer surveys.

#### PURPOSE OF PROGRAM

The drill program was undertaken as part of on-going program to explore the favourable rocks and structures within the aureole of the Guichon batholith to find buried Craigmont-type ore bodies. While this may require some extensive deep drilling, the logistics of the property make drilling cost effective.

#### DISCUSSION OF THE DRILL PROGRAM

Globe Drilling Ltd. of Courtenay, B.C. was contracted to drill the two holes, using a Hydro Core #2 drill with BQ equipment. Crews worked two 12-hour shifts and commuted daily from lodging in Merritt.

- 10 -

Hole collar locations were surveyed by tape and compass from previous hole S115. The drill core is stored in Better's core shed in Merritt, B.C.

Both drill holes cut a sequence of andesitic fragmental before intersecting a limey zone consisting of interbands of limestone and fragmentals that are only generally correlatable from hole to hole. The limestone is generally recrystallized and some epidote skarn was intersected in hole 90-1 near the bottom. Hole 90-2 was continued to 384 m depth, nearly 100 m beyond the last main limestone band as narrow bands of limey rocks persisted and no intrusive was intersected. The volcanic fragmentals generally have a persistent fine biotite alteration.

#### PROPOSED FUTURE PROGRAM

The presence of a persistent limey horizon within the contact aureole of the Guichon batholith is an attractive exploration target for a Craigmont-type orebody. Up to 3,000 meters additional drilling is warranted to search for high grade buried copper orebodies.

One or two more vertical holes should be drilled 100 m apart north of hole 90-2.

A vertical hole should be drilled between Can 2 and Can 3 to establish the structure of the limestone and pursue it to depth.

Two sections should be drilled between Section 2210 W and Section 1800 W.

C.C. Rennie, P.Eng.

## COST STATEMENT

Diamond drilling by Globe Drilling Limited 2,066 ft (629.9 m) at \$23 per foot	\$47,518.00
Supervision and Core Logging by C.C. Rennie, P.Eng. May 28 - June 3 and June 6 - June 13 = 15 days at \$300 per day	4,500.00
Vehicle Rental, Mileage and Tolls	997.00
Sampling and Assaying	90.75
Core Storage	480.00
Report Preparation	300.00
TOTAL	<u>\$54,086.61</u>

Apply \$54,000 to Assessment Work and PAC

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Certified Correct:

<u>Le. C. Sennie</u> C.C. Rennie, P.Eng.

#### **OUALIFICATIONS AND CERTIFICATIONS**

I. Clifford C. Rennie, of 1943 Boulevard Crescent, North Vancouver, B.C., hereby certify:

- I am a graduate in Geological Engineering from the University of 1. British Columbia.
- 2. I am a Professional Engineer registered in the Province of British Columbia since 1955, and am a member of the Canadian Institute of Mining and Metallurgy.
- I have actively practised my profession in mining geology and mineral 3. exploration since 1950.
- This report is based on nine year's mine geology and engineering at 4. Craigmont Mine, personal mapping on Promontory Hill and direct logging of the drill core from 90-1 and 90-2 holes.
- I am a Director and Officer of Better Resources Limited and hold a 5. direct interest in the securities of this company.

DATED at Vancouver, B.C. this 30<sup>th</sup> day of September, 1990.

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Clifford C. Rennie, P.Eng.



