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ON THE BEAVER CLAIMS FORT STEELE MINING DIVISION

ASSESSMENT REPORT

Latitude: 49° 30'N Longitude: 116° 4'W

GEOLOGICAL BRANCH ASSESSMENT REPORT



R.T. BANTING, P.ENG. August 16, 1989 Revised Jon 10, 1990

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1.0 INTRODUCTION - SUMMARY

The Beaver and LDM 14 claims are located approximately 20km from Cranbrook, B.C. in the Purcell mountain range west of Perry Creek. This area was the scene of an intense gold rush near the turn of the century; having been the most prolific placer gold producers in the East Kootenay Region.

In 1988, the owners conducted a prospecting program over the claim group. The results were promising enough to justify an enhanced program for 1989 recommending heavy mineral stream sampling, soil geochemistry and geophysical survey of VLF, and Mag. The major focus for 1988 was the search for felsic composition intrusives, believed to be the host for the gold mineralization.

The exploration programs by a major company on ground adjacent to the Beaver claims discovered a large, structurally - controlled hydrothermal deposit containing low grade copper and minor gold mineralization.

The information collected to date supports the hypothesis that a large magnetic intrusion is indicated beneath the Grassy and Baldy Ridge of mountains. The potential occurrence of a subcropping intrusion is best illustrated by the magnitude of predominant NE trending faults, the collection of aeromagnetic anomalies, the presence of syenite float and the concentration of anomalous gold from heavy mineral sampling in the surrounding drainages.

1.1 Location and Access

The Beaver Claims, are located approximately 20 kilometers due west of Cranbrook, British Columbia. It centers on latitude 49 degrees 30'N and longitude 116 degrees 4'W (See Figure 1).

Access is easily gained by traveling north from Cranbrook on highway #95 A for 15km to Wycliffe. One then turns south and travels southwesterly along the Perry creek access road to the northeast boundary of the property about 11km past Old Town, a distance of about 20km. The total distance from Cranbrook is approximately 35km. Four-wheel drive is recommended.

1.2 Physiography

The property is situated west of the Rocky Mountain trench within the Moyie Range of the Purcell Mountains. The highest elevation in the area is Grassy Mountain at 2491m. Elevations vary between 1220m and 2130m.

Precipitation is high (80-180cm) compared to other surrounding areas, while snow is considered moderate. Mean temperature compares to Kimberley norm at 17 deg. C in July and -8 deg. C in January.

The ravines are well timbered with spruce, larch, lodgepole pine, alpine fir, white pine and thick underbrush. The upper elevations exhibit much less forest cover.

The property is drained on the east by Glasgow, Walsh & Manchester Creeks. They in turn, drain into the northeasterly trending valley of Perry Creek. Perry Creek originates from a number of small high elevation lakes on the Grassy Mountain range as well as the Mt. Baldy-Biggatini range.



1.3 History

The Perry Creek drainage was the scene of an intense gold rush near the turn of the century, having been the most prolific placer gold producers in the East Kootenay Region. Prospectors of the past explored by driving adits, sinking shafts and digging numerous hand trenches.

In Perry Creek, the Running Wolf mine on France Creek has over 1000 feet of adits in a host formation called "miner's porphyry". The Homestake of Liverpool Creek boasts a 560 foot tunnel and a 60 foot shaft. On Rome Creek, thirteen opencuts tested a two foot to 25 foot vein over 1500 feet in length. The Montezuma tunnel at the base of the Perry Creek Falls was driven in over 2000 feet to investigate the old channel.

Old records are scanty, but two bulk samples are on record: The Yellow Metal Group of south Perry Creek yielded .4 oz/ton Au from a one ton sample and a 3 ton sample from Homestake gave .3 oz/ton Au. The Shakespeare group reported up to .75 oz/ton Au. The Excess, Rory, Red Mt., O'More, and Evil Genius claims all reported around .5 oz/ton. In 1973 a 1375 ton bulk sample from quartz Hill ran .26 oz/ton gold, .2 oz/ton silver. Several of the veins carried gold and although no major deposit was discovered, several small shipments are reported.

Recent exploration has witnessed extensive geochemical, geophysical, geological and drilling programs by other mining companies such as Gallant Gold Mines (Hughes Lange) Amstar Ventures, Imperial Metals, Cominco, goldpac, Delta Resources and Chapleau Resources.

Immediately south of the property, several placer operations have worked the Moyie River to present day. Two such operations namely Kokanee Placer and Queenstake Resources are successfully producing gold in paying quantities.

In 1987, Chapleau Resources Ltd., holding 12,000 hectares east of the Beaver claims conducted a first year exploration program on the entire Purcell Camp. The work program comprising of prospecting, geochemical sampling, trenching and geological survey unveiled the strong potential for low grade gold deposits as well as sediment hosted massive sulphide mineralization.

1.40 Claim Information

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The Beaver and LDM 14 properties are comprised of 5 mineral claims of 34 units. The property is divided into two blocks, in relation to groups.

The claims are owned equally by L. Morgan, C. Kennedy and R.T. Banting all of Cranbrook, B.C.

CLAIM STATUS

TABLE 1.3 BEAVER GROUP

<u>Claim Name</u>	<u>Rec. #</u>	Recorded Date	Expiry Date	<u>Units</u>
Beaver	2909	May 22/87	May 22/90	12
Beaver 1	2917	June 8/87	June 8/90	2
Beaver 2	2974	Aug. 10/87	Aug. 10/90	8
LDM 3	2918	June 8/87	June 8/90	4

LDM GROUP

<u>Claim Name</u>	<u>Rec. #</u>	Recorded Date	Expiry Date	<u>Units</u>
LDM 14	2919	June 8/87	June 8/90	8



2.00 GEOLOGY

2.10 Regional Geology

The work by Cairns, Rice (1941), Leech (1958), Hoy (1984), and Hoy and Diakow (1982) has developed a good understanding of the geology and structure of the region. The area is within the Purcell Anticlinorium, a geological subprovince which lies between the Rocky Mountain Thrust and Fold Belt to the east and the Kootenay Arc to the west.

In the core of the Purcell Anticlinorium, the Purcell Supergroup includes up to 11 kilometers of dominantly fine-grained clastic and carbonate rocks. The anticlinorium is cut by a number of late, regional, NE-trending faults. These faults appear to follow the loci of older structures that had been active intermittently, and locally modified the type, distribution and thickness of late Proterozoic and Paleozoic rocks. These changes indicate that, at least locally, these structures were active during deposition of Purcell strata.

The lower exposures of Purcell rocks in the area are dominantly thick basinal turbidites of the Aldridge Formation. These are progressively overlain by shallow water quartzites and siltstones of the Creston Formation and siltstones and carbonates of the Kitchener Formation. Voluminous intrusions of basic sills are associated primarily with the Aldridge Formation but are known to extend into the Kitchener Formation.

Cretaceous granodiorite and quartz monzoinite intrusives cut through these rocks and appear to have produced economic mineralization in at least one instance - The Bull river Cu-Ag-Au deposit. Syenite composition dikes of Cretaceous or Tertiary age are associated with at least one major (Cranbrook) fault.

The geologic formations of the Purcell property and vicinity are broken into a series of fault blocks by north-striking predominantly west-dipping normal and reverse faults and easterly-striking transcurrent faults.

Detailed interpretation of structure is hindered by the character and thickness of some of the litho-stratigraphic units. For example the Middle Aldridge Formation is lithologically quite uniform over a thickness of almost 2500 meters. Furthermore glacial drift cover is locally very extensive and recessive-weathering structural breaks (that might host gold mineralization) are mostly not exposed. (Fig. **3** - Regional Geology).

2.20 Geology of the Beaver & LDM Properties

The Beaver & LDM properties are underlain by rocks of the Aldridge, Creston and Kitchener Formations. Diorite composition sills are present in the Aldridge Formation, and diorite dikes, some of which are magnetic, cut all three formations. Cretaceous quartz monzonite and granodiorite stocks occur just off the property to both east and west. Some of these known intrusions are magnetic and have a strong signature on regional aeromagnetic maps. Similar anomalies present on the properties to the east and west may represent buried intrusions. Syenite composition dikes were discovered with the Bar Deposit in 1988 by Chapleau Resources.

Structure in the Perry Creek drainage is dominated by NNE-trending faults, most of which are steeply west-dipping normal faults; some are of reverse movement. Transverse or east-striking faults are rare with the Cranbrook Fault in the east being the best example. The tributary drainages of Perry Creek display a strong WNW alignment and may reflect a system of cross faults.



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3.00 EXPLORATION PROGRAM 1988-1989

3.1 Prospecting

Initial prospecting began in the fall of 1988 and progressed part-time through to the end of the summer 1989.

To date 31 mandays of prospecting have been completed on the Beaver.

Past, and present work in the Perry Creek drainage has high-lighted the intersections of the predominant NE structure with the EW structure. G.S.C. mapping indicates two major NE faults in the Perry Creek drainage. G.S.C. mapping does not indicate any EW trending faults.

Perry Creek itself is a NE running drainage with EW running tributaries. This fact allows for the speculation that there are quite possibly hidden EW structure in the Perry drainage.

Research into past work showed that Walsh Creek on the west side of Perry, and Wuhun on the east were both recognized as viable target areas. Heavy sampling by Gallant, Cominco, and Chapleau resources has indicated high values in Au, As, Pb & Cu from both drainages.

Photo interpretation of the Beaver and adjoining areas showed some stark indications of lineal EW structure. Where these lineals intersected NE structure was where initial prospecting was conducted. Even though logging and logging access has opened Perry Creek quite substantially over the last four years, overburden still remains the major problem concerning effective prospecting. Many hours are spent chasing float, in most cases this becomes a futile process. Past experience has shown that this procedure in some cases will lead to viable trenching targets or actual sulphide zones in place. Experience has also proven that following alteration float, chlorite breccia, epidote, magnetite, and hematite breccias sometimes culminate with success.

One of the first things noticed was the fact that silica rich parallel shear zones exist west of the Dublin fault. Two such zones have been definitional to run through Beaver, 1 & 2. Where exposed these zones show very little if any alteration; they are tight well healed structures. On the NE corner of Beaver the quartz veins one to two meters in width develop massive primary sheet like hematite. On Beaver 1 and the adjoining Gallant ground a silica rich altered zone with parallel quartz veins .5 to 1 meter is also hematite rich: this zone has been explored in the past by numerous hand trenches. On Beaver 2, a quartz breccia zone 6 meters in width exists, also explored with a number of large hand trenches. Very small amounts of hematite were recognized in this zone. No major zones were found in place on L.D.M. 3, although numerous pieces of quartz breccia float were seen. Some contained hematite, while others contained chlorite with minor amounts, and grains of pyrite. Where substantial bedrock is exposed on the western boundary of L.D.M. #3 it is mainly green argillite of the middle Creston formation.

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A number of small quartz veins de-void of any mineralization were seen trending in a NE direction. Of interest was the presence of quartz veins, most containing chlorite ranging in size from 1cm to 20cm trending between 77° to 140°. This fact would tend to enhance the theory of EW hidden structure: 1cm to 6cm zones of pure quartz free hematite were commonly seen trending to the NE.

L.D.M. 14's eastern most claim unit exists over the intersection of Baldy fault 1 to 2: the significance of this is that the Baldy fault has coarse Au occurrences along a 10km known strike. The most impressive Au mineralized zones exist on the adjoining Weaver property. The alteration patterns around the postulated intersection are easily recognized as Limonitic weathering, abundant quartz debris with Limonite pyrite and hematite, and massive chlorite alteration. Of all areas prospected this has the most impressive alteration "hallo".

Observation made to date, are as follows:

a) Beaver, 1 & 2 are mainly covered in overburden road cuts indicating depths in excess of 10 meters in many areas. Pyrite rich quartz float was seen in a number of areas - unfortunately it existed in single pieces. Hematite breccia was also seen in single pieces. Most diorite float seen had a well traveled look. Diorite was found to outcrop along the SE boundary of Beaver 3 in two locations.

The contact between diorite and carbonate rich rocks of the Kitchener formation develop narrow zones of asbestos with small quartz veins with random galena (small crystals) and chalcopyrite. The Diorite seems to be paralleling the Dublin Fault and its even grained texture indicates it to be a dyke. In some locations the diorite itself is highly altered. This alteration takes the form of epidote with hematite veins and limonitic punky zones with phyllite country rock boundaries. One good float train of diorite could be seen trending in an EW direction. Float of silicified country rock with fine grains of pyrite was also seen in this area.

b) L.D.M. 3 & 14 as mentioned previously contained small quartz veins trending in a EW direction. Two strong photo lineations need further work as their projected intersection with the two shears parallel to the Dublin fault are covered with overburden.

L.D.M. 14 has the most observable alteration zone; this is at the projected intersection of the two Baldy faults. Also quite an abundance of diorite float which was magnetic was seen below the ridge on the Perry Creek side. Hematite and chlorite breccia float is also quite common in this area.

4.00 COST OF 1988-89 PROGRAM

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Beaver Group

Prospecting	-	1 man 1	14	days	6	\$125	\$1,750.00
• •		Engineer 3	10	days	6	\$200	\$2,000.00
		Vehicle :	18	days	6	\$ 50	\$ 900.00

LDM 14

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Engineer's Repor	7 days @ \$ 50	\$ 350.00 <u>\$ 400.00</u>
		\$6,275.00

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5.00 CONCLUSIONS

a) In most cases overburden does not permit observation of the projected intersections of the NE structures with the photo interpreted EW linears. A feasible alternative would be to use mag, and VLF to determine the location of the EW structure. Follow-up geochemistry would substantiate trenching targets.

b) The area in which the diorite dykes exist is also a viable target. Their alteration alone indicates they exist in an area that has been continuely re-worked. This is in sharp contrast to most of the NE structures observed. Most NE structures as previously mentioned were well healed and lacking in mineralization. This would again require geophysic and geochemistry for the target enhancement.

c) The intersection of the 2 Baldy faults on L.D.M. 14 is the priority target. The faults can both be observed prior to their postulated intersection. The alteration zone allows for a finite grid for both geophysics and geochemistry. The one drawback is lack of access; subsequent trenching would have to be accomplished by hand work.

6.00 STATEMENT OF QUALIFICATIONS

I, ROBERT T. BANTING, certify that:

- I am a consulting Mining engineer, of R.T. Banting Engineering Ltd., with offices at 901 Industrial Road #2, Cranbrook, B.C., VIC 4C9
- 2. I am a graduate of Michigan Technological University with a degree in Mining Engineering (B.Sc.) 1972.
- 3. I have practiced my profession of engineering in British Columbia, Manitoba, Ontario and Quebec for a total of fifteen years. As a consultant, I have been engaged in exploration and engineering activities of four years.
- 4. I am a member in good standing of the Association of Professional Engineers of British Columbia.

Date

Cary 16/89

Robert T. Banting P.Eng. 07 ROBERT GAMPHERS BATISH GINE

	SEND	
HELIKIAN (Protero	ozoic)	
HK – Kitchener		
HC ₂ – Creston – Mi	ddle	
HC _I - Creston - Lo	wer	
Geological Boundary		-
Fault (GSC)	~~~~	
Potential Fracture Zone (Photo Lineation)	~~~~	•
Claim Boundary	4	•
Prospecting Traverse		-
Road	********	=
Prospe	cting Map	
Figure : 4	Revised:	
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