4907

93 J/1W

GEOLOGICAL REPORT

on the

GISCOME PROPERTY

CENTRAL B.C. EXPLORATION CO., LTD.

March, 1974

by John G. Payne, PhD.
President,
Geologist

#1 Preliminary Geological map

GEOLOGICAL REPORT on the GISCOME PROPERTY,
CENTRAL B.C. EXPLORATION CO., LTD.

March 13, 1974.

John G. Payne

Introduction

On February 11 and 12, 1974, I made a surface map of the property based on pre-1971 drill logs and outcrop maps. Drill core data was projected to surface based on a uniform attitude of rock contacts and bedding planes as follows: strike - east-west (090°), dip - 70°S.

On February 19 to 21, Jack Gerlitzki and I visited the Giscome property to examine drill cores and to orient me with the property. Several samples of drill core were taken for petrographic study to determine the nature of the ore host and surrounding skarn. Six assay samples were taken; these sections of core had been split previously, but no assay results had been recorded.

Comments on Pre-1971 drill logs

In many previous drill logs rocks were inaccurately named. The following example is given:

Hole No. & Footage		Drill Logs 1969 (?)	1970 (Chisolm)	1974 (Payne)
69-4	257-290	altered argillite (some olivine)	dolomitic argillite or chert	gneiss, much alteration to epidote skarn
69-5	40-42	lt.grey andesite	limestone	limestone
69-5	119-124	lt. andesite, some olivine and feldspar	dolomite	epidote skarn

Also, some sections of core containing abundant sphalerite and galena were not assayed. Because of these factors, geological interpretation based on old logs is unreliable.

1974 Relogging

I relogged the holes and Jack Gerlitzki assisted me and was very helpful in orienting me with respect to the various rock types. Holes were relogged rapidly because of the small amount of time available and the desirability to examine as much core as possible. The following holes were relogged:

68-2, -3, -4, -12(J12)

69-1(part), -2, -3, -4(part), -5, -6, -7, -8, -10, -11, -12.

Relogs are filed with original logs. Holes drilled in 1966 and 1967 were not logged; as many as possible of the 1966 holes should be relogged this summer, and the longer 1967 holes should also be examined.

For continuity in logging and mapping, it is important to classify rocks into a few types, rather than just to describe them. Rocks were classified according to the following legend:

Map symbol	Description of Rock Type
1	Argillite, grey to black, commonly weakly bedded
1c	cherty argillite, well banded, lt.-dk. grey
1g	graphitic argillite, commonly strongly contorted
1q	argillite with interbedded fine to coarse grained quartzite
2	Gneiss, med. grained, quartz, plagioclase, biotite
2v	gneiss with veins of skarn (mainly epidote), with chloritic alteration of biotite around veins
2s	skarn with remnants of gneiss (gradational from 2v to 42
3	Crystalline limestone, white to grey, medium grained, commonly contains scattered inclusions of argillite less than 1 inch across
3s	skarny limestone
4	Skarn, variable, mainly epidote, garnet, locally tremolite in altered argillite
41	alteration product of argillite
42	alteration product of gneiss
43	alteration product of limestone
5	Volcanic rocks
5a	andesite flow and minor tuff
5b	dacite flow
6	Serpentine

(continued on page 3)

7	Dacite Dikes, massive, white to green grey	
	7a	very fine grained, resembles 5b, white, commonly appears strongly altered
	7b	fine quartz-feldspar porphyry, light grey
	7c	coarse quartz-feldspar porphyry, green grey

Other rock types can be added to the legend if they are observed, and further subdivisions of the major units can be made if it appears to be geologically significant.

From the 1974 relogs and older data where relogging was not done, a surface compilation and a generalized cross section were made, with drill hole data projected to surface based on an east-west strike and a dip of 70°S for Units 1 to 5. (Figure 1).

Geology

The generalized geology of the entire property is shown in previous reports; no further comments are made here because snow cover prevented surface examination.

In the region of the relogged drill holes, a series of originally flat-lying sedimentary and volcanic rocks was tilted and metamorphosed. The rocks strike about east-west and dip variably to the south, averaging about 70°. From north to south the sequence is

North
- Gneiss (Unit 2) with minor interbeds of limestone towards the south
- Limestone (Unit 3)
- Argillite (Unit 1), cherty near the top, and with local limy and quartzitic interbeds
- Andesite and lesser dacite (Unit 5), intruded(?) by a concordant body of serpentine near its center

Later skarn was formed mainly along the gneiss-limestone contact, and extending well into both rock types. Contacts between skarn and limestone generally are sharp, while those between skarn and gneiss generally are gradational with veins of skarn in gneiss and wispy remnants of gneiss in skarn. The most abundant type of skarn is epidote skarn consisting of epidote with lesser quartz, calcite, and chlorite. It is common as veins and massive zones in gneiss. Veins in gneiss have alteration halos, with gneiss altered progressively as below:

unaltered gneiss: med. green-brown, fresh biotite

weak alteration: lt. green, biotite altered to chlorite

strong alteration: lt. to med. green, containing chlorite and radiating clots of actinolite needles

skarn vein: bright green, epidote with minor calcite and quartz, locally abundant sphalerite and galena

Veins of epidote skarn commonly cut massive epidote skarn; in such regions, the veins contain more abundant sulfides than does the massive skarn, suggesting that 1) the sulfides are associated with the final stage of skarn development, or 2) the skarn veins represent remobilized material from an original uniform skarn.

Garnetite skarn containing garnet with lesser epidote, quartz, and calcite forms massive bodies and cores of some large skarn veins. Garnet is commonly coarse grained and well crystallized, with other minerals interstitial to garnet.

Tremolite skarn is uncommon and is restricted to argillite. Tremolite forms elongate radiating laths, and where abundant gives the rock a white color.

Sulfides

Sulfides are mainly restricted to skarn. Sphalerite and galena are most abundant, chalcopyrite and pyrite are scattered, and pyrrhotite is rare. Pyrargyrite has been noted in one drill hole. Galena and sphalerite form massive bands in skarn up to a few inches across. Where sulfides are less abundant they commonly are intimately intergrown with silicates, generally interstitial to epidote. Chalcopyrite is most abundant in garnetite skarn. Pyrite is common in veins in skarn and in argillite; in the latter it is commonly smeared along slickensided surfaces.

Carbonate-Chlorite Breccia

In drill holes 68-12 (424'-487') and 69-4 (376'-378') skarn is strongly brecciated in a matrix of several ages of calcite and brown chlorite. Fragments of banded calcite in a chlorite matrix probably represent a broken up limestone bed. The matrix of the breccia contains abundant sphalerite and galena. The breccia may have formed during the final stage of activity which produced the skarn.

Sulfide Distribution

The main zone of sulfides occurs in the skarn in hole 68-12. The zone becomes narrower to the east. Except for the carbonate-chlorite breccia in the west, the zone consists of high-grade bands of sphalerite and galena up to a few inches wide surrounded by skarn with disseminated sulfides. Between these zones are commonly areas of skarn with only sparse sulfides. Bands of high-grade sphalerite and galena extend at least 600 feet east of hole 68-12 in hole 69-6, but their abundance is insufficient in this region to give an assay of over 1% Pb or Zn over a width of more than a foot. The main assay zones are shown below:

Hole	Footage	Width	True Width	Pb%	Zn%	Ag(oz/t)	Cu%
68-12	337-347	10	3.5	4.6	7.3	7.9	n.a.
	347-357	10	3.5	0.5	2.0	1.0	n.a.
	367-387	20	7	1.7	3.0	2.0	n.a.
	436-446	10	3.5	2.3	2.6	1.1	0.01
	460-474.5	14.5	5	1.8	1.7	0.4	tr
	488-494	6	2	4.6	4.6	1.8	0.06
69-4	235-242	7	4.5	2.2	1.1	0.3	n.a.
	284-307	23	15	2.6	1.5	0.2	n.a.
69-5	187-193	5	3.5	10.2	10.5	2.5	0.06
	(several other high grade zones less than 2 feet wide)						
66-7	278-286	8	5	3 samples taken, no assays received			
69-6	several narrow high grade zones						

Dacite Dikes

Three types of massive porphyry dikes cut foliated rocks and skarn. They differ mainly in grain size of matrix and phenocrysts as shown in the legend. No crosscutting relations between different types of dikes was seen. Fine grained dikes (7a and 7b) appear altered and contain abundant pyrite, both disseminated and in fractures.

Faults

Numerous faults were seen in the drill cores in all rock types. Previous studies have shown several major faults on surface; some of these are shown in Figure 1. Of particular importance is a possible fault between hole 68-12 to the east, containing abundant skarn, carbonate-chlorite breccia, and sulfides; and hole 69-12 to the west, containing mainly fresh gneiss with minor skarn.

Model

The most common mode of occurrence of skarn is at or near the contact of an acidic to intermediate intrusive body and pure or impure limestone. Skarns are commonly zoned, with a central (higher temperature) zone containing minerals such as garnet and wollastonite, and an outer (lower temperature) zone containing minerals such as epidote, hedenbergite, actinolite, and magnetite. Chalcopyrite is the most common ore sulfide, and generally is most abundant in the core of the skarn.

At Giscome, no intrusive body has been recognized which might be the parent for the skarn-forming fluids. Because the skarn forms a massive rock from a foliated rock (gneiss), it appears that the skarn postdates the metamorphic event. Quartz monzonite outcrops northeast of the skarn zone, but it is foliated and thus is an unlikely parent. The prophyry dikes which cut the skarn and which are post deformation may be related to an unexposed intrusive body which could be the source of the skarn-forming fluids.

The sulfide-oxide mineralogy at Giscome is unusual in that sphalerite and galena are very abundant and chalcopyrite is sparse.

Potential

Two areas have ore potential. The first is the skarn zone along the gneiss-limestone contact, which has been examined in detail only in a small region in the central part of the area. High-grade float in the eastern part of the area, and surface showings in the west indicate that this zone continues in both directions away from the zone of drilling.

The Ag and Hg soil surveys show a large anomalous region to the southwest. High-grade float in this region and the presence of abundant limestone (from previous studies) indicate that a sulfide body may be present.

Further Work

Because of the uncertainties regarding the mining policy of the present British Columbia government, no major program is anticipated for the coming season. The following program is considered to be the best approach to understanding the potential of the property without spending a lot of money.

1. Relog all available drill holes in the skarn area which have not yet been relogged in 1974. Relog several holes outside the skarn area, in particular, hole 67-7, which intersected sphalerite and galena at the bottom of the hole. This study will update the data and allow a better correlation and interpretation in the area of maximum information.
2. Remap the surface geology. Questions to be answered include structural relations of the limestone in the skarn zone with the limestone to the south, possible sources for skarn-forming fluids, and details in the east and west extensions of the skarn zone.
3. Based on the above studies and present data, a diamond drilling program can be undertaken. The amount of drilling done will depend on how much money we want to spend. The main purpose of the diamond drilling will be to explore areas of ore potential outside the known major sulfide zone. These areas would include the east and west extensions of the skarn zone, and the Ag-Hg anomaly to the southwest.

John Payne

an G. Payne, PhD.
7750 Nelson Ave.
Burnaby, B.C.

Telephone; 437 4852

CENTRAL B.C. EXPLORATION LTD. (N.P.L.)
1726 WEST 14th AVE. VANCOUVER 9, B.C.

MARCH 111974.

Project NO. 320
Invoice NO. 101

PROFESSIONAL SERVICES from Feb. 19th to March 11th 1974.

Geological Report	$950.00
Office supplies & printing,	$ 25.00
	$975.00
EXPENDITURES.	
Transportation, to and from Airport	$ 10.10
Avis car rental 4 days (sedan)	$ 63.00
Technical (Vancouver Petrographics) thin& polished section preperation & microscope rental	$ 78.00
Grub & meals	$ 42.00
Assays (loan)	$ 62.00
	$255.00
	$975.00
TOTAL	$1.230.00

SIGNED John Payne


LEGEND
see p 2, 3 of report
SYMBOLS
outcrop area
geological contact
original rock types
skarn
zone of abundant sl and ga
bedding
foliation
fault
E.M. conductor
defined
assumed
BASELINE
Camp
Trench
Gerbie Trench
E.M. Conductor
assumed defined
direction of flow of glacier
Claim J.H.G. 5
Claim J.H.G. 3
Idealized Section along Line 2W
same scale as map
SCALE IN FEET
NO. 4907 MAP #1
CENTRAL B.C. EXPLORATION LTD (N.P.L.)
GISCOME B.C.
PRELIMINARY GEOLOGY
John G. Payne
March, 1974

4907 M1