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ST. VINCENT BAY MoS₂ PROSPECT

JERVIS INLET, B.C.

VANCOUVER MINING DIVISION

92 F

Vancouver Office
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P.E. Fox

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SUMMARY

The St. Vincent Bay Property is situated on the lower reaches of Jervis Inlet 27 miles east of Powell River, B.C. It is readily accessible by road and consists of 46 claims in good standing staked by G. Bleiler and F. Giaque in December 1966 and January 1967. The property was later optioned by Hogan Mines Ltd.

The property lies within the Coast Range plutonic complex and rocks typical of this geological province were found at the property. Molybdenite and a related iron oxide stain zone occur in a body of poorly exposed biotite quartz monzonite and biotite quartz diorite. These units are surrounded by extensive bodies of hornblende diorite and biotite-hornblende quartz monzonite. Molybdenite is distributed over a northerly-trending belt 2,400 feet long and 800 feet wide within a broad oxide stain zone 4,000 x 2,400 feet. Small amounts of fine grained molybdenite, pyrite, and chalcopyrite were found in quartz stringers and veins that lie parallel to prominent north-south joints. The best mineralized material occurs in biotite quartz monzonite where it is exposed along a logging road for 400 feet. At this point, grade was estimated in the range of 0.05% to 0.10% MoS₂, but samples returned assays in the order of 0.01% to 0.06% MoS₂.

CONCLUSIONS

The St. Vincent Bay Property has some geological intrigue involving the emplacement and mineralization of the biotite quartz monzonite, however, the grade is very low and

discourages work on an option basis. Hogan Mines Limited plans to do some surface mapping and stripping in the near future to be conducted by Cordilleran Exploration Limited.

INTRODUCTION

The St. Vincent Bay showing was examined by a three man crew from April 11 to 14. The area was mapped on a scale of 1 inch to 200 feet and represented follow-up work recommended by J.F. Allan who visited the property in January 1967. The property was staked by G.A. Bleiler and F. Giaque during December 1966 and January 1967, and subsequently optioned by Hogan Mines Limited.

Location and Access

The property borders St. Vincent Bay, which forms part of Jervis Inlet, and lies some 27 miles east of Powell River, B.C. It is readily accessible by float plane, boat, or a logging road leading eastwards from Saltry Bay. Recent and current logging operations at the property site have provided good access to most points within the claim group.

Physical Features

The claim group extends northwards from sea level to a saddle 1,800 feet above sea level lying between two ridges that extend to 3,000 feet. The mineralized area, as presently known, occurs on the crest and south slope of the saddle. Bedrock is largely obscured by glacial debris ranging from one foot to four feet thick. The best outcrop occurs along logging roads and at the crest of the saddle.

Previous Work

The property has been examined by a number of mining companies including New Jersey Zinc and McIntyre-Porcupine.

Cordilleran Exploration Limited completed a soil survey and geological report on behalf of Hogan Mines Limited in February 1967. J. Dawson of Cordilleran Exploration started a detailed mapping program on April 11th. A start was made on a trench between the upper and lower road but the bulldozer hired for the job soon encountered operating difficulties.

REGIONAL GEOLOGY

The surrounding terrain is part of the Coast Range plutonic complex, which in the vicinity of Jervis Inlet, consists primarily of regionally developed quartz diorite and granodiorite enclosing narrow bands of metasedimentary and metavolcanic rocks. These bands trend northwest and are believed to be remnants of the pre-Coast complex roof. Many of the copper and gold occurrences in the southern coastal mountains were found within these remnants.

A variety of feldspar porphyry and quartz-feldspar porphyry dykes postdate the Coast plutonics in this region.

LITHOLOGY

Four varieties of Coast plutonics were distinguished on the property; hornblende diorite (unit 1), biotite quartz diorite (2), hornblende-biotite quartz monzonite (3), and biotite quartz monzonite (4). These rocks are hosts for feldspar porphyry dykes (5) of intermediate composition. Variable amounts of pyrite, quartz, K-feldspar and molybdenite were found in all the above rocks with the exception of unit (3).

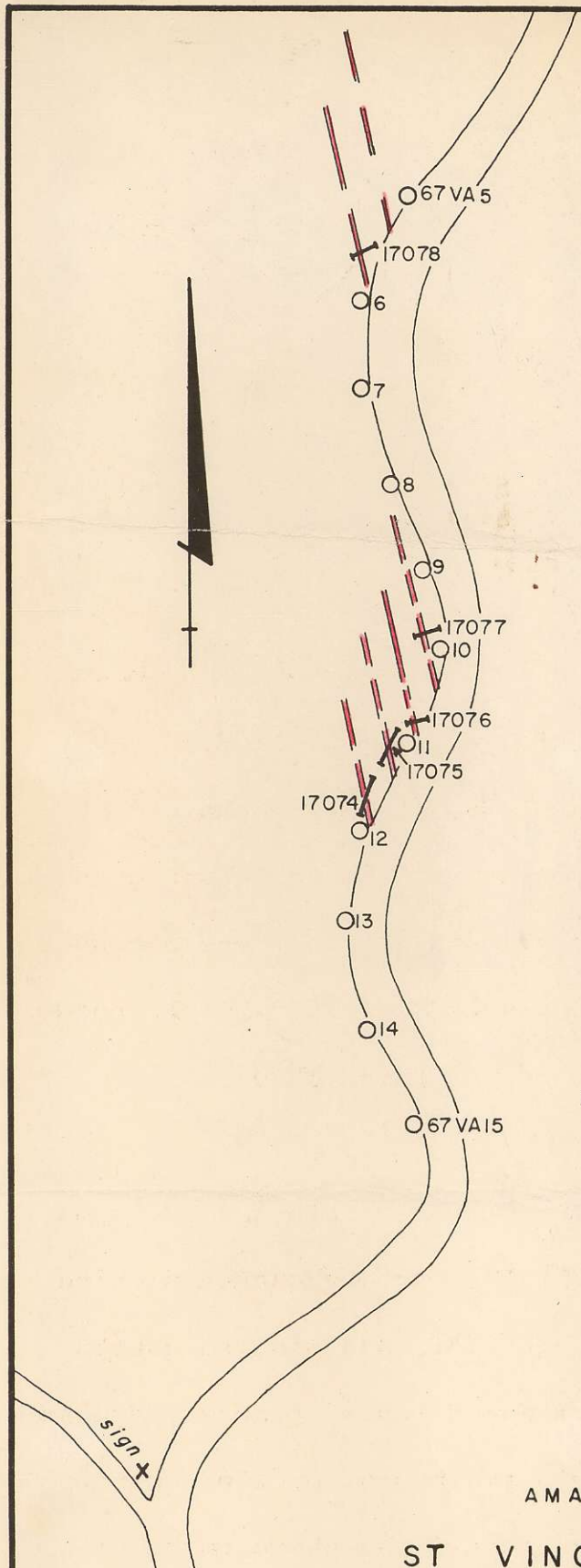
Hornblende Diorite (1)

Hornblende diorite is one of the most extensive rock units on the property. It is an equigranular rock consisting of 20% equant subhedral hornblende, minor biotite, white plagioclase and small amounts of quartz. The rock varies in grain size from place to place ranging from medium to coarse grained types.

Much of this unit lies outside of the pyritic stain zone but locally contains pyrite disseminated in the rock and coating fractures. This feature is most obvious near the contact with units (2) and (4). Exposures along the road on Claim Mo 4 show the hornblende diorite to be older than units (4) and (5). No molybdenite occurrences were found within this unit.

Biotite Quartz Diorite (2)

The biotite quartz diorite occupies the central part of the claim group and is bounded by hornblende diorite to the south and southwest and an extensive body of hornblende-biotite quartz monzonite outcropping along St. Vincent Bay to the southeast and high ridges to the east. Unlike the hornblende diorite, this unit varies from place to place and contains many inclusions of fine to medium grained diorite. Locally these inclusions make up as much as 10% of the rock. The unit varies from diorite to granodiorite, but by far the most common variety is a quartz diorite composed of 10% biotite, minor quantities of hornblende, 20% quartz, and sugary white feldspar. Pyrite can be found in freshly broken rock on joint planes, disseminated, and in quartz veinlets. Oxidation of



SOIL SAMPLES

SAMPLE No.	ANALYSIS		pH
	Cu	Mo	
67VA5	30	60	7.1
6	12	12	6.5
7	12	20	5.7
8	16	25	6.5
9	100	40	5.9
10	16	20	5.4
11	24	30	6.0
12	60	80	6.0
13	24	40	6.2
14	16	40	6.4
15	4	20	6.0

In ppm.

In percent.

ROCK CHIP SAMPLES *

SAMPLE No.	LENGTH	ASSAY RESULTS			
		MoS ₂	Mo	MoS ₂ equiv.	Cu
17074	20'	0.006	0.019	0.03	0.04
17075	20'	0.008	0.008	0.01	0.02
17076	7'	0.058	0.031	0.06	0.02
17077	7'	0.006	0.005	0.01	0.02
17078	15'	0.006	0.017	0.03	0.02

* NOTE -
Rock chip samples taken as chips every 6" to 1 foot on logging road cutbank exposures.

- MoS₂ Veins.
- Rock Chip Sample Site.
- Soil Sample Site.

AMAX EXPLORATION INC.

ST VINCENT MoS₂ PROPERTY

VANCOUVER M. D. — B. C.

DETAIL AREA
SOIL AND ROCK CHIP SAMPLING

SCALE 1" = 100' APPROX.

H.P.

this material has produced a broad stain zone covering much of the outcrop area of the quartz diorite.

Steeply dipping quartz stringers, generally one inch thick, are common in some outcrops of this unit. These are invariably parallel bodies trending north-south. Minor quantities of molybdenite, pyrite and chalcopyrite were found in these stringers. Most of the pits at the summit of the saddle between the upper and lower roads were evidently made to test such occurrences.

Hornblende-Biotite Quartz Monzonite (3)

Unit (3) occurs along St. Vincents Bay and forms prominent ridges to the northeast. It consists of quartz monzonite composed of 5% subhedral hornblende, 3% coarse biotite books, 20% bluish quartz, and equant feldspar. It is faintly foliated and near the contact with the hornblende diorite is crowded with dark inclusions. Many dykes of intermediate composition were seen in the quartz monzonite along St. Vincent Bay. This unit is unaltered and is well beyond the stain zone associated with the molybdenite occurrences.

Biotite Quartz Monzonite (4)

This unit is the most interesting on the claim group because it is the host rock for the best mineralized material seen at the property. Unfortunately, it is poorly exposed, hence little is known of its size and distribution. About 400 feet of Unit 4 is exposed along the road in claim Mo 4 and isolated outcrops were located in Mo 5. In outcrop, this unit is a homogeneous quartz

monzonite consisting of 5% euhedral biotite flakes, 25% quartz, 70% pinkish K-feldspar and white to greenish plagioclase. The rock is equigranular and medium grained. An intense iron oxide stain is common on weathered surfaces. One to two percent pyrite frequently occurs on fractures and disseminated among silicates. Molybdenite was observed in this unit in exposures along the lower road where quartz-molybdenite-pyrite veins are fairly common. These occurrences are described more fully in a following section.

Porphyry Dykes (5)

A variety of porphyry dykes occur on the property, all appear to be of intermediate composition. These are dark grey or greenish grey in colour, highly fractured, and were found to intrude all of the above units. They consist of about 40% white to grey feldspar phenocrysts up to 4 mm in size set in a dark aphanitic matrix. Quartz phenocrysts were noted at a few exposures but are rare. Minor quantities of pyrite were noted in a dyke in the hornblende diorite exposed on the lower road. Elsewhere they are barren.

Granitic dykes were found in units (1), (2), and (4). These are small scale features, normally a few inches thick, composed of quartz, pink and white feldspar, minor amounts of biotite and chlorite, and 1% or less pyrite.

STRUCTURAL GEOLOGY

Structural preparation varies from rock to rock. The hornblende diorite and biotite-hornblende quartz monzonite are

coarsely jointed rocks whereas the biotite quartz diorite, biotite quartz monzonite and dykes are comparatively highly fractured. Five to ten fractures per foot prevail in the latter rocks. Joints trending 170° , steeply dipping, are the best developed and are spaced 4 to 6 inches apart. Both barren and mineralized quartz veinlets parallel these joints as do shear zones. Shears were also found to trend 040° . A conspicuous gouge zone occurs in a large open cut on the lower road near the north end of the mapped area. Shears within the gouge trend 095° and dip 60° S. Movement within the zone is evident from the many displaced and truncated dykes. Other rocks in this gouge are rich in chlorite and pinkish feldspar.

ECONOMIC GEOLOGY

Molybdenite was found in quartz veinlets in the biotite quartz diorite on both sides of the upper road, along the lower road, and in the biotite quartz monzonite along the lower road. Mineralized rocks appear to form a weakly mineralized belt of rock extending northwards from the lower road for a length of 2,400 feet and a width of 800 feet. The associated stain zone covers a much larger area, approximately $4,000 \times 2,400$ feet.

A number of pits have been opened up to test occurrences near the upper road. Molybdenite is not abundant here but is found on occasion in quartz-pyrite stringers, usually one inch thick or less, lying parallel to northerly trending joints. Two or three veinlets may be seen in close proximity but more frequently are

widely spaced. In contrast, the occurrence along the lower road is more intensely mineralized. Fine grained molybdenite was found in quartz-pyrite-molybdenite stringers which also trend northerly parallel to prominent joints and shears. Sixteen such veinlets occur over a distance of 400 feet, which represents a true width of 200 feet. Veinlets here were traced along strike for twenty feet. One or two of these stringers merge into banded quartz veins six inches thick. Two such veins occur in a mineralized rock 100 feet north of the hornblende diorite. At this point fine grained molybdenite also occurs on a number of intersecting joint surfaces forming a crude stockwork. This type however is not typical of the occurrence. Thin molybdenite smears in shear zones are also of minor importance.

The enclosing host rock is generally unaltered, but it takes on a pinkish tinge close to veinlets and shears. Biotite becomes altered to chlorite, and considerable amounts of pyrite are visible.

ASSAYS

Thirteen samples were taken for assay. Results are given below. Samples 12236, 37, 45 and 46 are from the best mineralized section on the lower road. J.F. Allan sampled the same section returning results of 7 feet of 0.03 Cu, 0.06 MoS₂; 20 feet of 0.02 Cu, 0.01 MoS₂; 20 feet of 0.04 Cu, 0.03 MoS₂.

Number	Type	Distance	Cu	Mo	MoS ₂
12235	Grab-10 lbs.	-	0.03	0.014	0.01
12236	Chip	5'	0.04	0.01	0.01

<u>Number</u>	<u>Type</u>	<u>Distance</u>	<u>Cu</u>	<u>Mo</u>	<u>MoS₂</u>
12237	Chip	3'	0.03	0.01	0.01
12238	Grab-20 lbs.		0.03	0.01	0.01
12239	Grab-20 lbs.		0.05	0.01	0.01
12240	Grab-10 lbs.		0.03	0.01	0.01
12241	Grab-10 lbs.		0.20	0.005	0.01
12242	Grab-10 lbs.		0.04	0.005	0.01
12243	Grab-10 lbs.		0.04	0.005	0.01
12244	Grab-10 lbs.		0.04	0.005	0.01
12245	Grab-10 lbs.		0.03	0.005	0.01
12246	Bulk-50 lbs.		0.03	0.005	0.01
12247	Grab-10 lbs.		0.04	0.005	0.005

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