GEOLOGICAL REPORT

ON THE

PT CLAIM GROUP

FRANKLIN RIVER, PORT ALBERNI AREA
ALBERNI MINING DIVISION, VANCOUVER ISLAND, B.C.
49° 06' North Latitude - 124° 42' West Longitude
N.T.S. 92F/2E

for

AMSTAR VENTURE CORP. #526 - 736 Granville Street Vancouver, B.C., V6Z 1G3

Ъу

Guy A. Royer, B.Sc. Trans-Arctic Exploration Ltd. #815 - 850 West Hastings Street Vancouver, B.C., V6C 1E2

June, 1986

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SUMMARY

The PT claim group lies approximately 15 km at a bearing of 150° from Port Alberni and 6 km east of Alberni Inlet in the Alberni Mining Division of Vancouver Island, British Columbia. Museum Creek flows through the heart of the claim group, Franklin River flows through the northern edge, while Corrigan Creek flows through the southwest corner. The PT claim group consists of 54 claim units. The topography is generally moderate by Cordilleran standards with the exception of the more rugged northeast and southern areas. There are several logging roads which allow easy access to much of the claims.

Two major formations are present on the claim group. The Karmutsen formation is composed of volcanics rocks and is mainly of Triassic age. The island intrusions composed of granitoid rocks are of Jurassic age. The Karmutsen formation was divided by the author into several categories based mainly on difference in colouration, grain size and degree of alteration. The volcanics seem to vary from dacite to basalt with the latter predominating. Many of the volcanics are quite unaltered but some are metamorphosed to the greenschist facies. The degree of alteration often corresponds to the occurrence of sulphides. The island intrusions are mainly composed of medium grained quartz diorite. In places though they are transitional to quite mafic-fine to coarse grained diotite. Visible sulphides and copper staining are present in the altered volcanics through much of the claim group.

INTRODUCTION

On behalf of Amstar Venture Corp. the author mapped and prospected in detail the PT claim group. He was engaged during May and June, 1986 being contracted by Trans-Arctic Explorations. He was assisted by Chris Sywulsky and Eugene Dodd. The mapping scale chosen was 1:5,000.

LOCATION AND ACCESS

The approximate geographical corordinates for the center of the claim group are 49° 06' north latitude and 124° 42' west longitude. The western edge of the claim group lies approximately 6 km east of the Alberni Inlet, the northwestern corner of the claim group is situated 15 air km southeast of Port Alberni.

To reach the claim group one follows the Ship Creek road which heads southeastwards from Port Alberni. This road intersects the Cameron River road and Bamfield road junction adjacent to MacMillan-Bloedel's Cameron Division compound. One then turns south on the Bamfield road and travels for approximately 16 km until the Main Ridge road turn-off is attained. This road heads northward through the heart of the PT #4 claim and allows easy access to the western section of PT #3.

In order to attain the south boundary of the PT #5 claim one travels a further 600 meters south on the Bamfield Road from the Main Ridge Road turn-off, This leads to the Pool Creek Road turn-off. One then travels eastward on this road for approximately three km until the southwest corner of the PT #5 claim is

reached. The heart of the PT #5 claim is accessible by following this road for a further 5 km.

In order to reach the PT \$1, PT \$2 and the northeast corner of PT \$3 claims one turns eastward on the Thistle Mine road approximately 10 km south of the junction of the Bamfield and Ship Creek roads. One follows this road for approximately 4 km until the Museum Creek road fork is reached. One turns southeast on this road for 1 km before entering the PT \$1 claim. This road continues southeastward through the center of the PT \$2 claim and the northeast corner of the PT \$3 claim.

Instead of turning off on the Museum Creek road, one can continue to follows the Thistle Mine road. After travelling approximately 1 km on this road you will reach the northern edge of the PT \$1 claim. The northeastern corner of the PT \$2 claims is a further 11 km southeastwards on the Thistle Mine road.

PROPERTY AND OWNERSHIP

The property consists of 4 claim blocks containing 54 units as described below:

Claim Name	Record Number	Number of Units	Anniversary <u>Date</u>	Registered Owner
PT #1	2827(2)	4	Feb. 12, 1987	Wm. McKee
PT #2	2828(2)	18	Feb. 12, 1987	Wm. McKee
PT #3	2829(2)	20	Feb. 12, 1987	Wm. McKee
PT #4	2830(2)	12	Feb. 12, 1987	Wm. McKee
PT #5	29691(7)	12	July 28, 1987	Amstar
	•		-	Venture
				Corp.

Total 66 units

The PT claim group is beneficially held by Mr. Wm. McKee, Amstar Venture Corp. The expiry dates do not take into consideration the work carried out on this claim groups as being accepted for assessment credits.

TOPOGRAPHY

Most of this claim group by Cordilleran standards has moderate slopes. Museum Creek which is a tributary of the Franklin River is the main drainage system as it flows through the heart of the claim group. The Franklin River flows through the northern edge of the PT #1 claim. A divide separates the PT #4 claim from the remainder of the claim group. The PT #4 claim belongs to the drainage system of Corrigan Creek which flows through the southwest corner of the claim.

Pool Creek flows just south of the southern boundary of the PT #5 claim. This creek drains most of the PT #5 claim.

Elevations on the claim group vary from 190 meters on the southwest corner to a height of 1,050 meters above sea level on the south boundary. The land is often poorly drained and swampy on north side of Museum Creek. Precipitous cliffs are located on the east edge of the PT #2 claim and on much of the southern boundary of the claim group.

CLIMATE AND VEGETATION

The claim group lies in the Pacific Coastal West Belt and the average precipitation is 250 cm annually. Winters are very damp but mild in the creek valleys though on higher elevations temperatures are cooler with heavy snow-falls. Thaws are frequent and all of the claims are snow-free seven months a year. Summers are warm and relatively dry.

EXPLORATION LOGISTICS

Many permanent creeks flow through the PT claim group assuring an adequate supply of water for any exploration and drilling purposes. Generators would be required for electrical power. Most of the claim group is well wooded thus providing an ample supply of timber. Most of the claim group is easily accessible by good logging roads, no parts of the claim group is situated more than 40 road km from Port Alberni city center which an approximate population of 20,000. Most required goods and services would be readily available here, the remainder could be obtained from Vancouver which lies 120 air km east.

HISTORY OF PREVIOUS WORK

According to a B.C. government publication from 1977 entitled "Exploration in British Columbia" there is a property referred to as "Star of the West" claim which lies adjacent to the west

boundary of the PT \$4 claim. This claim received considerable attention in the mid-1970's, the government report mentioning that interesting values in gold were obtained from quartz and carbonate veins. These veins carry small amounts of pyrite and chalcopyrite, they intrude the contact between Jurassic granodiorites and Triassic greenstones. Surface geological mapping, geochemical surveying and the excavation of four trenches took place here in the mid-1970's.

GEOLOGY OF THE PT CLAIM GROUP

Two major contrasting lithologies are situated on the claim group. These are the volcanic Karmutsen formation and the Plutonic Island Intrusions. The volcanics are volumetrically the most abundant rock types on the PT claim group and comprise the majority of the hills and cliffs. These rocks are semi-arbitrarily divided by the author into several categories. The Plutonic rocks show less variation and are divided into two major groups. These rocks are often intruded into the volcanics.

The volcanic rocks are mainly of Triassic age and are assigned to the Karmutsen formation. These rocks are often quite variable even in a relatively small outcrop. They vary in grain size from aphanitic to porphyritic and similarly vary in colour, i.e. from almost white to grey through various shades of green to almost black. Usually though, the dominant colour is a dark green or dark grey implying an andesitic to basaltic composition. A third variation of the volcanics is the degree of alteration and/or metamorphism. External iron staining is very common and some rocks are metamorphosed up to the greenschist facies. Pods of greenstone are common in the moderately altered volcanics though

their areal extent is never more than a couple meters. Chlorite schist, which has obviously been derived from the volcanics, is particularly abundant near the contacts with plutonic rocks. The volcanic rocks and their metamorphosed derivitives were divided into six main categories; 1) dacite, 2)unaltered aphanitic andesite, 3) unaltered aphanitic basalt, 4) porphyritic volcanics, 5) moderate to strongly altered volcanics and 6) chlorite schist.

The observed dacite is comparatively rare volumetrically though it is quite widespread. Some of it is so light coloured that it appears rhyolitic, the colour of the dacite varies from white to light greyish green. The rocks often occur as narrow dykes intruding the other volcanics, as these are no more than a few meters wide they are not mappable on a 1:5,000 scale map. The dacites are often porphyritic or even hypabyssal. The latter type is often adjacent to igneous intrusions. It is probable that some dacites are derived from them. As the colour of the dacite deepens the rocks grade into andesites. Most of these andesites are quite fresh and aphanitic and perhaps volumetrically are the most abundant rock types on the claim group. The andesites are often slightly porphyritic and iron-stained externally, by definition they are coloured medium to dark green. As the colour of the rocks deepens to dark grey or black they are termed basalts. Many of these are very aphanitic with only the rare phenocrysts visible. These rocks seem slightly heavier than the other volcanics. In a few areas pillow basalts are numerous particularly near their contact with plutonic rocks. In all of these fresh aphanitic volcanics are usually traces of sulphides and often chlorite and epidote. Veins composed of quartz calcite and epidote are fairly common in some outcrops.

The various porphyritic volcanics are gradational to the aphanitic varieties and the two phases may be present in one small outcrop. The porphyritic varieties range in colour from light to

dark green to almost black, the dark green tints are the most abundant. These rocks are usually somewhat more altered than the aphanitic varieties and indeed the degree of alteration often corresponds to the size and abundance of the phenocrysts. Most of these are no more than 1 or 2 mm long and are usually composed of plagioclase. In a few cases though they attain lengths of up to 1 cm particularly in the porphyritic basalts. These rocks are often amygdaloidal, with vesicles filled by quartz calcite, epidote and in the more altered varieties, iton oxides. The amygdules range from 2 to 4 mm usually, though in the basalts they may be more than 1 cm. In the contact zone with the intrusives, many of the porphyritic volcanics are almost gradational to the plutonic rocks.

The moderate to strongly altered volcanics are transitional to the chlorite schists and greenstones. By definition they usually contain numerous pods of greenstone which are principally composed of epidote. These rocks are frequently heavily shoared and brecciated, they have undergone much tectonic stress. These rocks contain a greater percentage of visible sulphides and malachite than the other lithologies on the claim group and are usually associated with the greenstone pods. The greenstone occurs only in pods one meter or less in areal extent. Besides epitode, it often contains quartz calcite and kaolin. Visible sulphides and copper stain are ubiquitous in these pods. The chlorite schist differs from the greenstone in meveral respects. If has a very distinctive schistose foliation which is a function of its composition, its main constituent is chlorite along with sericite and often occurs in distinct mappable outcrops that are juxtaposed with less metamorphosed volcanics. Visible sulphides and malachite are much less abundant here, than in the greenstones. The chlorite schists mark the site of more shear zones. They are often quite heavily veined with much quartz and calcite. Some of the greenstones grade into true skarn. Garnet, actinolite and tremolite are occasionally visible.

The intrusive rocks generally outcrop on the northwest edge of the claim group and in the heart of the claim group outcropping on both sides of Museum Creek. They usually occur topographically lower than the volcanics. Most of the intrusives are medium grained granitoid rocks usually white or grey coloured with a colour index of approximately 20. The grain size is somewhat variable though it averages 3 to 8 mm. Judgin by the white colou of the feldspars thay are probably of plagioclase composition which would suggest that these rocks are tonalites, i.e., quartz diorites. Quartz is usually fairly abundant in these rocks comprising about 25% of the minerals. Hornblende is usually the dominant mafic and often the only prominent one, though much biotite does occur north of Museum Creek. A little muscovite also occurs here but otherwise it is quite rare. The rocks north of Muaeum Creek may be granodiorite. Most of the tonalite is quite fresh though some outcrops are altered to varying degrees. Iron-staining is very common on external sufaces and sometimes chlorite epidote, kaolin and sericite are visible. Quartz veins measuring up to several meters wide are prominent in some outcrops. The tonalite is relatively uniform with not much variation in colour index or minerology. A typical composition would be; quartz -25%, plagioclase - 50%, hornblende - 17%, biotite - 3% Fe-oxides and accessories - 5%.

Adjacent to the contacts with volcanic rocks the intrusives are radically different. They are often much finer grained and more mafic with a colour index of 50 and a grain size of 2 to 3 mm. They may be very coarse grained with hornblende phenocrysts up to several cm long and a colour index of 75. Segration of the intrusive magma obviously occurred here as there are adjacent phases of hololeucocratic rocks composed chiefly or wholly of quartz and feldspar. The dominant rock phase though is a medium grained diorite which lacks visible quartz and has a colour index of 40 to 50. Although only traces of visible sulphides occur on this

rock they are often relatively abundant in the adjacent volcanics. The porphyritic dacite dykes mentioned previously are probably derived from the igneous intrusions. Apophyses are often found at the volcanic/plutonic contact. Xenoliths of volcanic material up to a meter long are found in igneous bodies near the contacts.

ECONOMIC POTENTIAL OF THE PT CLAIM GROUP

Visible sulphides and malachite are often encountered on the PT claim group particularly the PT #4 and PT #5 claims. Several old mines and new occurrences abound in the area. The surrounding Thistle Mine lies approximately 3 km east of the east boundary of the claim group, several other old mines and showings occur just eastwards. A platinum occurrence was recently discovered approximately 11 km southeast of these claims near the Nitinat River. So this is a prime area for mineral exploration.

The greatest concentration of sulphides lies on and slightly west of the Main Ridge road near the center of the PT \$4 claim. Here intrusive rocks are in intimate contact with mafic volcanics. The intrusive rocks are of an unusually mafic composition and range from fine grained to almost pegmatitic phases. The mafic volcanics appear to host all the visible sulphides though it seems very probable that their genisis was from the plutonic rocks. The rocks here are often intensely Fe-stained and they are the site of a couple of shear zones. In addition to pyrite are bornite, chalcopyrite and malachite. The sulphides are found disseminated, in stringers or massive. They are associated with patches of iron formation. This sulphide zone appears to extend for a couple of hundred meters.

On the extreme northeast corner of the claim group are extensive flows of variable basaltic lava. Much of it is heavily ironstrained, coarsely porphyritic and/or amygaloidal. In a few spots the lavas host abundant sulphides including malachite and chalcopyrite. This area is of particular interest as it lies only 3 km west of the Thistle Mine. This showing differs from the one on the PT \$4 as the contact with the plutonic rock is at least several hundred meters away.

Greenstone pods with associated sulphides and malachite are particularly abundant on the northeast corner of the PT #4 and the northwest corner of the PT #5 claim. These sulphide rich areas are often associated with shear zones. The greenstones are hosted by moderately altered usually porphyritic volcanics of andesitic to basaltic composition. Igneous intrusions occur a few hundred meters northward and southeastward of the PT #4 (northeast zone) and appear to be the same igneous intrusions found in the vicinity of the PT #5 (northwest zone).

Several rock samples were collected during this examination. Results from the lab returned several interesting and anomalous results; cobalt 193-850 ppm, nickel 2,750 ppm, (platinum metal) palladium 15-335 ppb, copper 10.6% and silver 1.2 oz/ton.

There has also been two bulk samples collected, one from the center of the PT #4 claim and one from the northwest corner of the PT #5, both samples have been forwarded to the lab for analysis, results are pending.

NOTE: Refer to Geology Map in pouch at the back of this report for sample locations.

The above results, obtained during this initial examination, are very encouraging and combined with the geological environment of

this property, significantly enhances its exploration potential. It is highly recommended that the company continue to explore the remaining areas of these claims and further develop the mineralized areas already discovered. The discovery of a platinum base metal anomaly is very significant and should be further investigated to better determine its full potential.

Respectfully submitted, TRANS-ARCTIC EXPLORATIONS LTD.

Guy A. Royer, B.Sc. Geologist

CERTIFICATE

I, Guy A. Royer am a consulting geologist for Trans-Arctic Explorations Ltd. of Vancouver, British Columbia.

I hereby certify that:.

- 1. I graduated from the University of Saskatchewan with a B.Sc. degree in geology in April, 1980.
- 2. I have been practising my profession for six years.
- 3. I have no interest, beneficial or otherwise in the properties of Amstar Venture Corp.
- 4. I am the author of this report, which is primarily based upon my personal observations made while in the field.

Dated at Vancouver, B.C. this 18th day of June, 1986.





