PROPERTY FILE

REPORT ON THE INDEPENDANCE PROPERTY

ALBERNI MINING DIVISION, BRITISH COLUMBIA

FOR

NORTH AMERICAN VENTURES LTD.

NTS 92E/15E

49° 56' NORTH LATITUDE

126° 40' WEST LONGITUDE

BY

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Vancouver, B.C.

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A) SUMMARY AND CONCLUSIONS

The Independance property occurs in the Zeballos Gold Camp of north western Vancouver Island. The Zeballos camp has produced over 287,000 ounces of gold and 124,700 ounces of silver from narrow quartz-sulphide filled shear zones cutting volcanic, sedimentary and intrusive rocks. Although rarely exceeding 30 centimeters in thickness, the veins are persistent over considerable distances and had an average production grade of 0.44 ounces per ton gold.

On the Independance property, two westerly trending shear-hosted veins cut andesitic volcanic rock. The principal vein system, known as the Main Showing, was explored by open cuts and a 150 meter adit in 1939 by Bralorne Mines Ltd. The Main zone varies in thickness from two meters to less than 30 centimeters and has been traced over a distance of 150 meters and remains open on strike and to depth. Sampling of the vein and sulphide-mineralized sheared wall rock by J.W. Hoadley of the Geological Survey of Canada obtained gold values to 1.18 ounces per ton. Resampling of the adit during the current program obtained gold values to 0.528 ounces per ton.

The second vein system, known as the North Shear Zone, is up to two meters wide and can be traced in outcrop for 10 meters before disappearing under overburden. A one meter channel sample across the shear-hosted vein assayed 0.036 ounces per ton gold. The North Shear Zone remains open on strike and to depth.

Soil sampling on a widely spaced grid (100 meters by 50 meters) over the central portion of the property highlighted numerous areas of the claims as anomalous for silver, copper and zinc including a copper value to 528 ppm over the North Shear. The grid was not extended far enough to the west to cover the Main Shear. Sources of the remaining silver, copper and zinc anomalies are not explained. These anomalies may be caused by shear-hosted veins concealed beneath overburden.

A limited geophysical program of VLF-EM and magnetometer surveying was carried out over a few lines in the east part of the geochemical grid. The contoured Fraser Filtered VLF-EM data identified several east-west trending conductors, one of which is co-incident with the North Shear.

Exploration to date indicates the Independance property to have good potential for a high-grade, vein-type, gold-silver deposit similar to those mined elsewhere in the Zeballos Gold Camp. Future exploration of the property should be designed to outline a gold deposit in narrow shear-hosted vein systems having a reserve in excess of 150,000 tons grading 0.4 ounces per ton. To this end a comprehensive, two phase exploration program having a combined cost of \$133,750 is recommended.

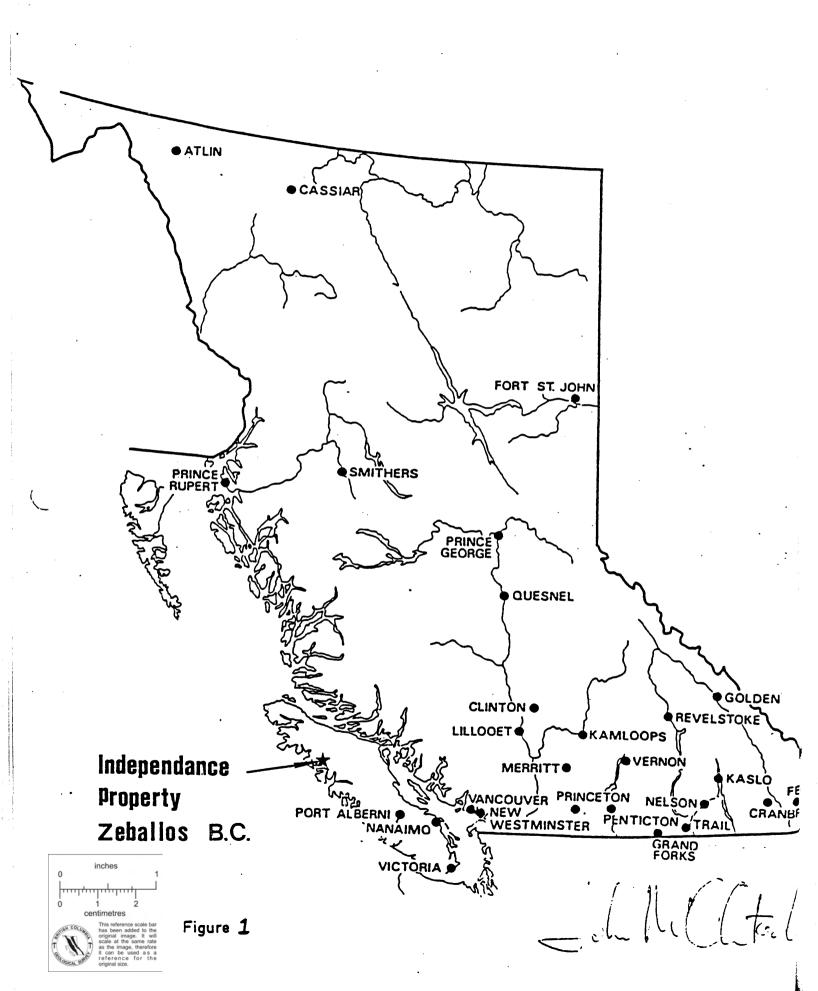
B) INTRODUCTION

At the request of J. Paul Stevenson of J. Paul Stevenson & Associates Ltd., the writer compiled this report on the Independance property situated in the Zeballos Gold Camp of Western Vancouver Island.

The report is based on a one day examination of the claim on July 11, 1987, a review of geochemical, geophysical and rock sampling data provided by Renegade Mineral Exploration Services Ltd. and a review of all available government maps and assessment reports describing work on the Independence property.

1) Location

The Independance property occurs in the Alberni Mining Division, British Columbia, approximately four kilometers north of the village of Tahsis. More exactly, it lies at 49 degrees 56 minutes north latitude and 126 degrees 40 minutes west longitude (National Topography System Map 92E/16).



2) Access and Physiography

The Independance property is readily accessible from Campbell River via Highway 28 to the village of Gold River, then by 65 kilometers of all weather gravel road to Tahsis. From Tahsis, a secondary gravel road extends to the south western corner of the claim. Access to the remainder of the claim is by foot.

The claim covers a steep, easterly facing slope overlooking the Tahsis River. Elevations vary from 30 meters at the river to over 1000 meters at the western property boundary.

Vegetation is dense, consisting of mature stands of cedar, fir and hemlock on the upper slopes and dense second growth alder, cedar and hemlock in the Tahsis River Valley. The Tahsis area receives heavy precipitation, close to 500 centimeters per year.

3) Ownership

At the time of the writer's examination, the Independence property consisted of a single mineral claim located under the British Columbia Modified Grid System.

Claim Name	# of units	Record #	Expiry Date
Independance	20	3097	Jan. 5/91

All interest in the above described claim is held by North American Ventures Ltd.

The legal corner post and claim lines of the Independance claim observed during the course of the writer's examination conformed to the regulations of the British Columbia Mineral Act.

4) History and Previous Work

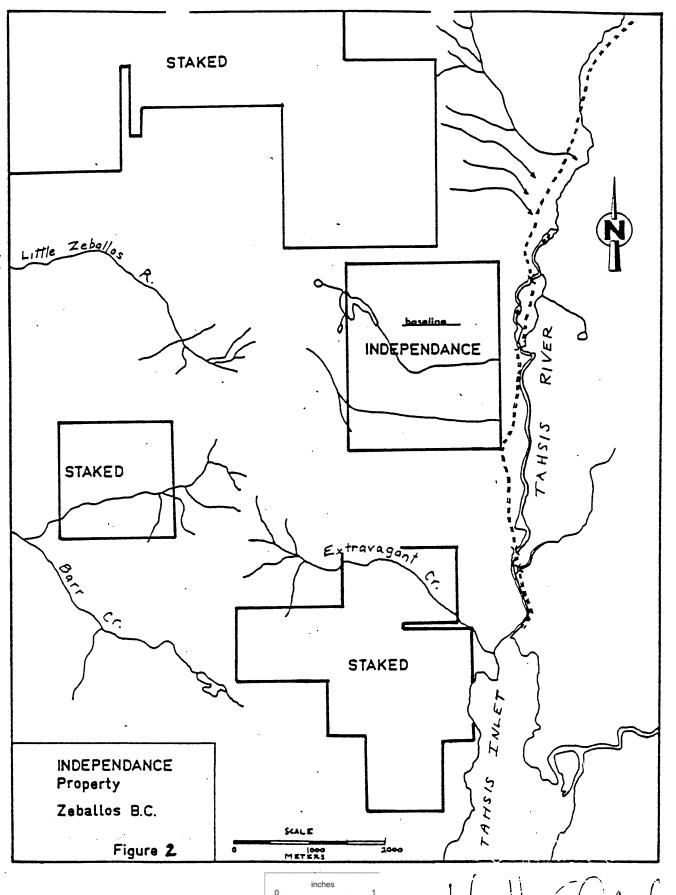
The Independance property is located five miles southeast of the Zeballos Gold Camp, one of the Canadian Cordillera's important gold producing areas (Economic Geology Report #1).

The area has a long history of exploration, development and mining dating back to the early 1900's when placer gold was discovered in the Zeballos River (Holland 1950).

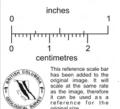
In 1924, the discovery of gold-bearing quartz veins on the Tagore property sparked a flurry of exploration activity which led to the discovery and staking of over 40 gold prospects. By 1934, shipments of high-grade gold ore had been made from several properties to smelters in Trail, B.C. and Tacoma, Washington. In 1936, the Privateer Mine was discovered and by 1939 a mill had been built and the mine was in full production. Over twenty other properties were under development or in production by 1940.

Production from the Zeballos Gold Camp continued until 1943 when the mines were closed due to labour shortages (Hoadley 1950). In 1945, the Privateer Mine was reopened and ran until 1948 when low-gold prices (\$35 per ounce) combined with rising costs caused closure. (Hoadley 1950).

Total lode gold production up to 1948 from the Zeballos Gold Camp is reported by the B.C. Department of Mines to be 287,811 ounces from 651,000 tons mined giving an average ore grade of 0.44 oz per ton. The bulk of the production was from the Privateer Mine which produced 154,381 ounces from 278,771 tons mined. Production from the various mines in the Zeballos Camp is summarized by J.F. Stevenson of the B.C. Department of Mines as follows:



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Mine	Production Ounce of Gold
Privateer Spud Valley Mount Zeballos Central Zeballos Prident White Star Others	154,381 54,039 30,525 20,472 13,937 7,081 7,387 287,811

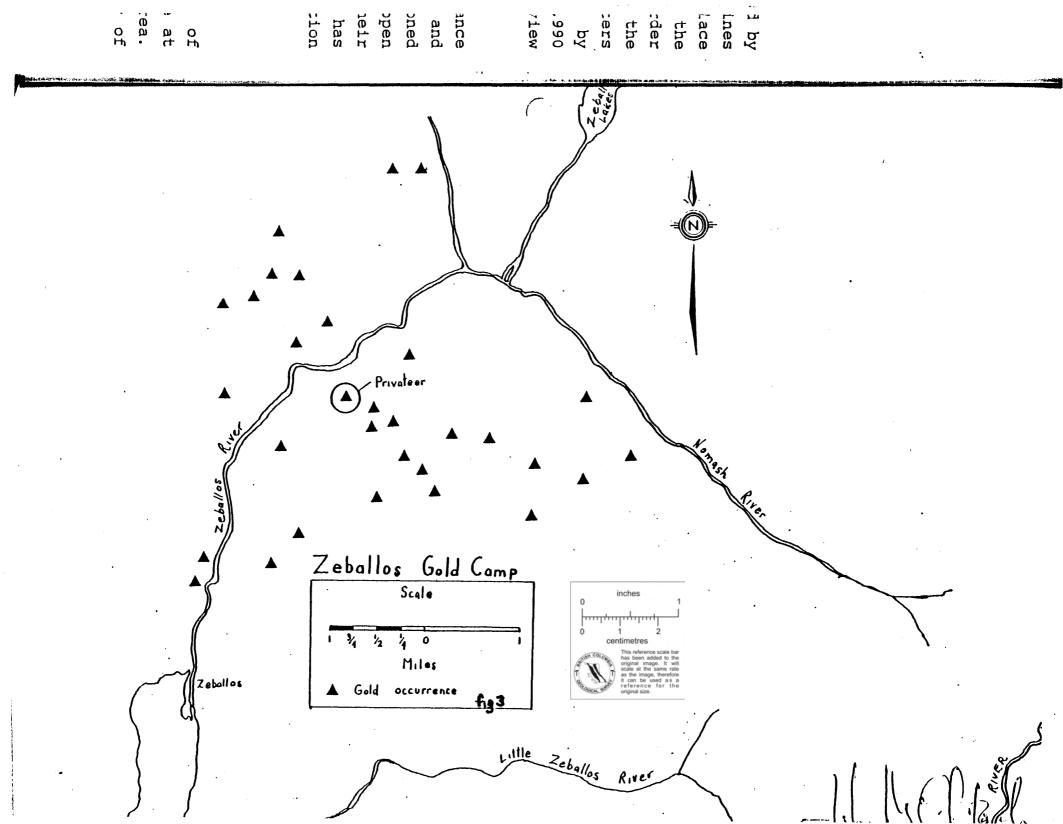
From 1948 until 1980, the area was sporadically explored by various companies and individuals. In 1983, New Privateer Mines Ltd. began re-evaluating the Privateer Mine, and planned to place the property back into production. Current reserves of the Privateer Mine are reported by New Privateer to be in the order of 135,000 tons grading 0.267 oz per ton gold. Elsewhere in the Zeballos area, the Spud Valley property, situated 12 kilometers northeast of the Independance property, is being explored by McAdam Resources. McAdam Resources report a reserve of 429,990 tons grading 0.25 oz per ton (B.C. Mineral Exploration Review 1986).

The first reported work on what is now the Independance claim was in 1938 when William Elliot, William Hamilton and George Hatlow staked claims in the area. Bralorne Mines optioned the claims and explored the gold showings with a series of open cuts and a 150 meter adit. Bralorne Mines relinquished their option in 1939. Since 1939, the vicinity of the workings has been staked by numerous individuals but no reported exploration of the property has occurred.

5) Economic Considerations

The Independance property is linked to the village of Tahsis by four kilometers of gravel road. The infrastructure at Tahsis could support development in the Independance area. Electrical power is available in Tahsis and a reliable supply of





water is available from the Tahsis River. There is adequate area on the Independence property for both waste and/or tailings disposal.

C) GEOCHEMISTRY

During May, 1987, Renegade Mineral Exploration Services Ltd., prepared a grid and collected 290 soil samples at 100 meter intervals along east/west oriented lines spaced 50 meters apart the central portion of the Independance claim. over Unfortunately, due in part to the dense forest cover and in part to initial confusion over the precise location of the adit, Renegade Mineral Exploration Services Ltd. positioned the grid to the east of the known gold mineralization. As a result, the soil lines were stopped short of the old workings.

At each station, a sample of "B" horizon soil was collected using a Polaski tool and placed in a labeled kraft envelope. All of the soil samples were sent to Vangeochem Laboratories Ltd. in North Vancouver where they were analysed by atomic absorption for gold, silver, copper and zinc. Results of sample analyses were statistically analysed to determine the anomalous levels for each element. Since silver, copper and zinc values displayed a lognormal distribution, statistical manipulations were carried out on the logarithms of the values. Anomalous levels for the elements were taken at mean plus two standard deviations.

<u>Elements</u>	Mean	<u>Anamalous</u>
Gold (ppb) Silver (ppm) Copper (ppm) Zinc (ppm)	N.D. 0.1 40 27	N.D. 0.9 240 120

pring. As copper occurs in the gold-bearing veins, these anomalous values may be caused by overburden covered auriferous veins. Investigations of these anomalous values to locate the source of the high copper will require detailed prospecting, rock and soil sampling.

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Zinc

Three separate anomalous zinc areas of the grid were outlined by soil sampling (Fig. 8). The largest anomalous area measures 150 meters by 50 meters and has zinc values to 375 ppm. The other two anomalies consist of single samples. Like silver and copper, the source of the anomalous levels of zinc is unexplained. Since zinc is known to occur with gold in the veins on the property, it is possible that the anomalous zinc in soil is caused by gold-bearing veins. Evaluation of the anomalous zinc requires detailed prospecting and rock sampling to determine its source.

D) GEOPHYSICS

A limited geophysical program of very low frequency (VLF) electromagnetic (EM) and magnetometer surveying was carried out over the Independance property. The purpose of the VLF-EM survey was to determine its usefulness in identifying fault or shear structure which might host gold mineralized vein systems. The magnetometer survey was carried out to test its ability to assist in mapping rock types. It was hoped the magnetometer survey could be used to trace the contact between the Quatsino and Karmutsen Formations.

1. Survey Procedure

The VLF-EM 16 survey readings were taken at 50 meter intervals along north-south lines in the eastern portion of the geochemical grid. Care was taken in regard to technique to attempt to compensate for the steep terrain present on the property. All readings were taken facing approximately perpendicular to the transmitting station at Seattle, U.S.A.

The magnetometer survey was carried out along the same grid line used for the VLF-EM survey. To compensate for diurnal drift, readings were taken at timed intervals along "looped" traverses in which the initial station of the traverse was reread at the end of the traverse to determine the magnetic drift. The magnetic drift was calculated and then applied as a correction to the raw data.

2. Compilation of Data

The VLF-EM readings were reduced by applying the Fraser Filter and plotted at a scale of 1:2500 (Fig. 4). Filtered data, as shown on the accompanying map, is plotted between reading stations. The positive filtered values were contoured.

The Fraser Filter is essentially a 4-point difference operator which transforms zero crossings into peaks and a low pass smoothing operator which reduces the inherent high frequency noise in the data. Another advantage of this filter is that a conductor does not show up as a cross-over on the unfiltered data.

The magnetic data, upon correction for diurnal drift, was plotted at a scale of 1:2,500 on Figure four.

3. Instrumentation and Theory

A standard Geonics VLF-EM 16 was used for the VLF-EM survey. This instrument is designed to measure the magnetic component of a very low frequency (VLF) electromagnetic field. The U.S. Navy submarine transmitter located in Seattle and transmitting at 24.8 KHZ was used.

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In all electromagnetic exploration, a transmitter produces an alternating magnetic field (primary) with a strong alternating current usually through a wire coil. If a conductive mass, such as a sulphide body, is within this magnetic field a secondary alternating current is induced which in turn induces a secondary magnetic field that distorts the primary magnetic field. It is this distortion that the VLF-EM receiver measures. The VLF-EM uses a frequency range from 16 to 24 KHZ whereas most EM instrumentls use frequencies ranging from a few hundred to a few thousand HZ. Because of its relatively high frequency, the VLF-EM can pick up bodies of too low a conductivity for the other EM methods to pick up. Also, since the signal derives from an infinite source, faults of great horizontal and vertical extent give particularly strong anomalous responses.

Consequently the VLF-EM has additional uses in mapping structure and in detecting sulphide bodies of too low a conductivity for conventional EM methods and too small for induced polarization. However, its sensitivity to lower conductive bodies makes VLF-EM susceptable to clay beds, electrolyte-filled fault-shear zones and porous horizons, graphite, carbonaceous sediments, lithological contacts, and low-conductive sulphide bodies. This susceptibility to lower conductive bodies results in a number of anomalies, many of them difficult to explain and thus VLF-EM preferably should not be interpreted without good geological knowledge of the property and/or other geophysical and geochemical surveys.

The magnetic survey utilized a Scintrex MP-2 precession instrument. This instrument measures the magnetic component of the rock. The technique is useful in distinguishing between rocks with magnetic minerals and those lacking them, and in locating magnetic sulphide mineralization.

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ion of reen in Magnetometer surveys are a useful tool in assisting geological mapping in overburden covered areas where rock types have contrasting magnetic signatures or in locating mineral deposits where there is a significant content of magnetic minerals.

4. Results

Plotting and contouring of the positive Fraser Filter VLF-EM values showed a number of east-west trending conductors in the southern area of the grid. One of these conductors is co-incident with a known shear-hosted vein and a copper soil anomaly. The remainder of the VLF anomalies are unexplained and will require geological mapping to determine their cause.

The magnetometer survey showed the magnetic relief to be in the order of 3500 gammas. However, because of the limited extent of the survey and the wide spacing of the lines, no meaningful trend could be identified.

The VLF-EM and magnetometer surveys should be extended to cover the entire grid. Since the present survey readings were obtained from widely spaced stations it would greatly assist interpretation of the geophysical data if readings were collected at closer spacings of no greater than 25 meters on 50 meter spaced lines. Interpretation of the data would also benefit from a better knowledge of the geology.

E) GEOLOGY

1. Regional Geology

Geologically, the Independance property lies in the Insular Belt, a northwest trending, Paleozoic to Cenozoic Age assemblage

of sedimentary, volcanic and intrusive rocks underlying Vancouver Island and the Queen Charlotte Islands.

The vicinity of the Independance property is underlain by volcanic and sedimentary rocks of the late Triassic to early Jurassic Age Vancouver Group. The Vancouver Group is divisible into three distinct formations, which are from oldest to youngest: the Karmutsen Formation, the Quatsino Formation and the Bonanza Formation.

The Karmutsen Formation is a thick sequence of pillowed and porphyritic basalt with intercalated pillow breccia and tuff, and minor argillite and quartzite. Estimated thickness of this formation varies from 1500 meters to 7600 meters.

Conformably overlying the Karmutsen is the Quatsino Formation, consisting of a sequence of limestone up to 1000 meters in thickness.

The Quatsino Formation is in turn overlain conformably by the Bonanza Formation. The Bonanza Formation consists of a lower sedimentary member and an upper volcanic member. The sedimentary member is composed of shale and graywacke while the upper member consists primarily of dacitic to andesitic lavas, tuff and breccias. Total thickness of the Bonanza Formation may be as much as 3000 meters.

The Vancouver Group rocks have been gently folded along a north-northwesterly trending axis and disrupted by large-scale block faulting.

Intrusive into the Vancouver Group rocks are granodiorite to quartz-diorite of the mid Jurassic Zeballos Batholith. The Zeballos Batholith forms an easterly trending batholith seven kilometers long by up to two kilometers wide.

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2. Property Geology

Detailed geological mapping of the Independance property has not been carried out, and the following geological description is based on 1:50,000 scale geological mapping of the area by J.W. Hoadley of the Geological Survey of Canada and published as GSC Map 1027 (J.W. Hoadley 1950). Rock outcroppings observed during the course of the field examination confirmed the geology mapped by J.W. Hoadley.

The property straddles the northerly trending, moderately dipping contact between the underlying Karmutsen and overlying Quatsino Formations. On the property, the Karmutsen rocks are predominately massive to porphyritic andesite flows and dykes with occasional tuffaceous beds. These volcanic rocks are weakly chloritized and cut by calcite and epidote veinlets. The Quatsino limestone consists of massive to thickly bedded white and medium gray limestone.

Approximately one kilometer north of the claims, the Karmutsen rocks are in contact with granodiorite of the Zeballos Batholith.

3. Mineralization

The following description of gold and silver mineralization in the Zeballos Gold Camp is summarized from B.C. Department of Mines Bulletin 27 entitled Geology and Mineral Deposits of the Zeballos Mining Camp by J.F. Stevenson.

In the Zeballos Gold Camp, over 287,000 ounces of gold and 124,700 ounces of silver were produced from narrow, quartz-sulphide filled, well defined fissures (Stevenson 1950). Although, rarely exceeding 30 centimeters in thickness, these veins maintain a fairly uniform strike and dip over considerable

distances. Locally the quartz and sulphide fillings are absent and only sheared rock is present. The walls of the veins are sharp and usually are marked by a thin seam of gouge. Often the veins occur in sheeted zones to 1.2 meters wide which may change along strike into a narrow shear containing lenticular quartz veins.

The veins consist of suphides and gold in a gangue of quartz and lesser calcite. Sulphides form 10% to 50% of the vein and consist of pyrite, sphalerite, arsenopyrite, chalcopyrite, galena and pyrrhotite. Gold occurs in its native form and visible gold is commonly observed in the veins.

The veins occur in both the Vancouver Group rocks and the Zeballos Instrusive, however, most of the gold was produced from veins cutting andesite. Alteration of the host rock is restricted to the immediate walls of the vein and seldom extends for more than 15 centimeters from the veins. Where the veins cut andesite, the wall rock is altered to a felted mass of sericite and carbonate while in the granodiorite, alteration consists of sericitization. Limestone wall rock is generally unaltered.

Gold mineralization on the Independance property occurs in westerly trending, steeply dipping shear zones cutting andesitic, fine grained flows near their contact with overlying limestone of the Quatsino Formation. Two separate, parallel shears are present and are named the Main Shear and the North Shear zones.

The Main Shear varies in width from two meters to less than 30 centimeters and contains lenticular-shaped veins of quartz. The quartz veins, like others in the Zeballos Camp, rarely exceed 60 centimeters in thickness and are variably mineralized with pyrite, chalcopyrite and sphalerite. Total sulphide content ranges from traces to greater than 50% and averages 5%. The Main Shear has been explored by a 150 meter long adit and a few open pits. Results of Bralorne Mines Ltd. sampling of the adit were

not available to the writer. However, eleven grab samples were collected from various places in the adit by Hoadley and were reported in Geological Survey of Canada Memoir 272 and assayed up to 0.19 ounces per ton gold and averaged 0.02 ounces per ton. A surface channel across an undisclosed width assayed 1.18 ounces per ton and 0.47 ounces per ton silver. The adit, which was located after the writers visit was sampled by an employee of Renegade Mineral Exploration Services Ltd. The results of the sampling are summarized as follows:

Sample #	Location	<u>Description</u>	Gold opt.	Silver opt.
1016	Back	Quartz Quartz & sheared andesite Sheared Andesite Sheared Andesite	0.024	0.01
1017	Wall		0.014	0.14
1018	Wall		0.064	0.03
1019	Wall		0.128	0.05
1020	Wall		0.528	0.10

The Main Shear remains untested to depth and is open on strike both to the east and west. The soil sampling grid did not extend far enough to the west to cover the zone. Further detailed soil sampling in conjunction with sampling of the working and hand-trenching of the projected strike extensions is warranted.

The North Shear zone is two meters wide and hosts two separate 15 to 30 centimeters thick quartz veins. The quartz veins are sparsely mineralized with pyrite and chalcopyrite which form selvages along the vein walls. The North Shear has been exposed in an open cut and is traceable on a bluff for ten meters before disappearing under overburden.

Soil sampling results from the North Shear zone showed a single sample to contain 528 ppm copper. The widely spaced sample sites (100 meters by 50 meters) in combination with the narrow widths of the shear zone (less than two meters) make it possible that the copper anomaly may be of greater extent. To

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properly trace the North Shear by geochemical techniques will require close-spaced sampling (ten meter intervals) along northerly oriented lines spaced no more than 25 meters apart. The strike extent of the vein could also be traced by hand-excavated trenches.

The writer collected two samples from the open cut on the North Shear zone. Results of the sampling are summarized below:

Sample #	Type of Sample	<u>Description</u>	Gold oz per ton
11-1	<pre>channel (lm) channel (lm)</pre>	shear 0 to 1 m west	0.001
11-2		shear 1 to 2 m west	0.036

DISCUSSION

The recent exploration program carried out on the Independance property has verified the presence of shear hosted quartz veins containing gold values up to 0.528 ounces per ton and confirmed the gold values reported by Hoadley in GSC Memoir 272.

The style of mineralization, alteration and geological setting of the Independence veins are virtually identical to the other vein systems in the Zeballos camp from which over 280,000 ounces of gold were produced. It is interesting to note that the Privateer Mine, which produced over 154,000 ounces, like the Independence property, occurred in andestic volcanic rocks.

In addition to the known gold mineralization on the Independance property, numerous copper, silver and zinc soil anomalies are present. The cause of these anomalies has not been identified. Each of these anomalous areas may be caused by gold-bearing vein systems concealed beneath overburden. Further prospecting and sampling is required to evaluate anomalous areas.

The Independance property, therefore, has a good potential to host a high-grade vein-type gold-silver deposit similar to that present on the Privateer property. Future exploration of the Independance property should be designed to outline a gold deposit in narrow shear-hosted veins having a reserve in excess of 150,000 tons grading 0.4 ounces per ton.

G) RECOMMENDATIONS

A two phase exploration program is recommended to evaluate the Independance property for vein-type gold deposits. The Phase Two program would be contingent upon the success of the initial Phase One program.

Phase One

Phase One would be a comprehensive program of 1:5,000 scale geological mapping, prospecting, detailed soil sampling and VLF-EM surveying, rock-chip sampling and hand trenching.

Geological mapping should be carried out over the entire property and should focus on structural interpretation. A better understanding of the geology would help interpretation of both VLF-EM and soil sampling results. Prospecting should be focussed in the areas of known mineralization and in the soil anomalies. Detailed and fill in soil sampling is recommended for the vicinity of the showings and to better define the areas highlighted by anomalous silver, copper and zinc. A similar recommendation for additional VLF-EM surveying is also made. Both soil sampling and detailed VLF-EM surveying should be carried out in intervals no more than 15 meters apart along lines spaced less than 25 meters apart. The adit on the Main zone and the North Shear should be geologically mapped at a scale of 1:200. Concurrently with detailed mapping, both showings should be rock-chip and channel

sampled to establish the gold and silver grade. Hand trenching of the projected strike extensions of both shear zones should be carried out.

PHASE ONE COST ESTIMATE

Analyses, 300 rock, 1500 soil Labour, 90 days @ \$120/day Geologist, 30 days @ \$200/day Food & Accommodation, 120 days @ \$45/day Supplies Truck Fuel Expediting Supervision & Reporting, 10 days @ \$400/day Contingencies	\$12,300 10,800 6,000 5,400 1,000 200 200 4,000 4,000
TOTAL	\$44,900

Phase Two

Contingent on successful results of the Phase One program it is recommended that mineralized zones, outlined by Phase One be tested with 500 meters of NQ-sized diamond drilling.

PHASE TWO COST ESTIMATE

Analyses Drilling, 500 m @ \$90/meter (all up) Helicopter, 40 hours @ \$550/hour Geologist, 20 days @ \$200/day Assistant, 20 days @ \$120/day Accommodation, 40 days @ \$45/day Truck Fuel Supplies Supervision & Reporting, 10 days @ \$400/day Contingencies	\$ 500 45,000 22,000 4,000 2,400 1,800 800 150 200 4,000 8,000
TOTAL	\$88,850
TOTAL PHASE ONE & TWO	\$133,750

John A. McClintock, P.Eng.

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