MAJOREM MINERALS LTD.

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QUEEN_CHARLOTTE_ISLANDS EXPLORATION_CONCEPT

ALS LTD. Polar Charlotte Islands 825964 fale

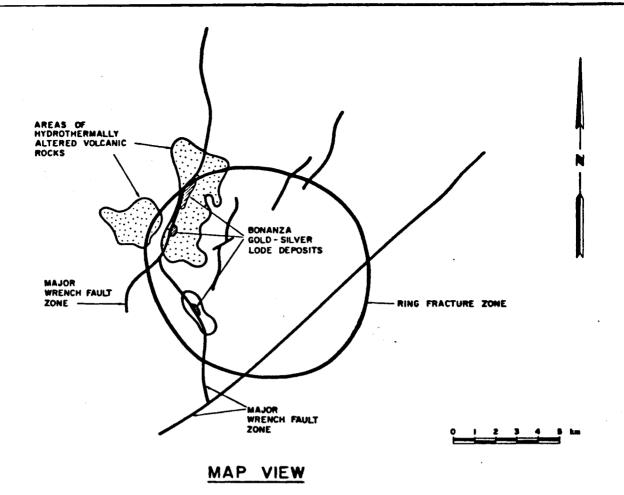
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As a result of geological studies initiated by Ventures West Minerals Ltd. (principal Majorem shareholder) in western Nevada in 1979, it became apparent that many of the known gold-silver prospects in the Oueen Charlotte Islands occur in geological settings similar to those of the bonanza gold-silver lode deposits of western Nevada. Several of the western Nevada bonanzas were among the most productive gold-silver deposits in the history of U.S. mining. For example, the Comstock Lode, Tonopah and Goldfield accounted for a total of 14.5 million ounces of gold and 375 million ounces of silver; the Comstock alone produced in excess of \$4.5 billion in gold and silver at today's prices. Ore grades in bonanza lodes commonly range from 0.15 to greater than 1.0 oz/ton gold and silver may exceed several oz/ton.

Western Nevada bonanzas occur in volcanic centres of Tertiary age characterized by ring fracture zones several kilometres in diameter (Figure 1). Ring fractures express incipient caldera structures which formed as a result of collapse of overlying volcanic strata underlying magma cavities. Volcanic centres developed in zones of major wrench, or strike-slip, faulting of the San Andreas type. Deep penetrating wrench faults provided access for volcanic and granitic magma which rose from depth. During cooling of hot magma, large volumes of heated ground water were set into convective circulation through overlying strata. These heated waters reached temperatures of 200-300:C, leached gold, silver, arsenic, mercury, antimony and other metals from rocks through which they circulated and transported the metals in chemical solution to higher levels. Fault zones provided the most favoured channelways for upward flow of metal-rich fluids. Frecipitation of gold and silver occurred under favourable chemical conditions in individual faults in wrench fault zones. Surrounding rocks through which fluids passed became hydrothermally altered to distinct clay- and silica-rich alteration assemblages; altered rocks commonly contain unusually large amounts (anomalies) of arsenic. mercury, antimony, gold and silver. Concentrations of trace metals produce geochemical anomalies in soils and stream silts in areas of mineralization.

MAJOREM_EXPLORATION_HISTORY

In early 1980, Ventures West Minerals Ltd. entered into an agreement with JMT Services Corp., whose members have a total of many years of exploration experience in the Charlottes, and a reconnaissance exploration program was initiated. JMT had been particularly successful during 1977-79 when they discovered several prospects for Chevron Canada Ltd. and for Placer Development Ltd. — the most important of which was Placer Development's April prospect on Lyell Island.



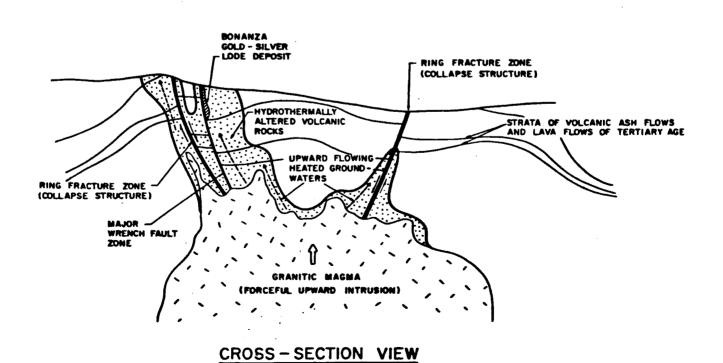
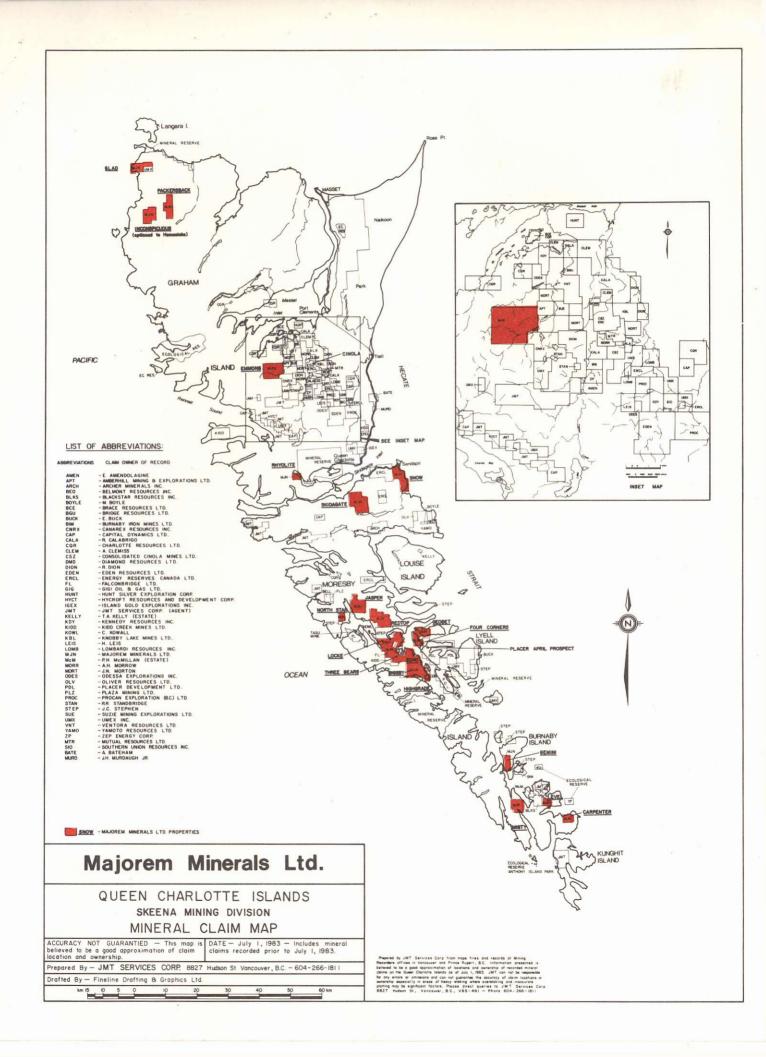


Figure 1. Generalized geological map and cross-section views of typical bonanza gold-silver lode deposits, western Nevada (modelled after Comstock Lode).

Subsequent geological investigations have clearly shown that principal known gold prospects in the Charlottes (in particular, Specogna, held by Consolidated Cinola Mines Ltd., and the April) occur in settings which are extremely similar to those of the bonanza lode districts of western Nevada. Mineralization occurs in Tertiary volcanic rocks and underlying sediments in apparent volcanic centres indicated by ring fracture zones and granitic intrusions. wrench fault zones cut through the Charlottes and known gold mineralization commonly appears in faults within these zones. hydrothermal alteration and geochemical trace metal anomalies related to mineralization. Specogna appears to have a core better than .15 oz/ton Au (surrounded by several tens of millions of lower grade), and drilling on the April prospect has intersected zones in excess of 20° in thickness which average .70 oz/ton Au; potential for significant tonnages of high grade ore on this prospect appear to be very good.

In addition to recent exploration and development activities at Specogna and April, several companies have been active over the last few years in the Charlottes. These companies include Chevron Canada Ltd., Texas Gulf, Umex Ltd. and Energy Reserves Canada Ltd.

Because rock outcrop is sparse and vegetation is dense over most the Charlottes, geochemical stream silt sampling in selected areas of favourable geology has been the principal means of exploration. Anomalies in stream silts have been investigated by follow-up geological mapping and geochemical soil sampling. A valuable aid in exploration has been the use of structurally enhanced satellite images. Major structural features, such as ring fracture In 1980 a total of 12 and wrench fault zones, have been identified. new gold prospects were discovered and staked and in 1981, eight properties were discovered and staked, one property was acquired by option and some of the 1980 properties were increased in size (Figure In 1983, Majorem conducted advanced exploration programmes 2). properties (Highgrade, Locke and Snow) and optioned property (Inconspicuous) to Homestake Mineral Development Co.; summary descriptionsof these four properties follow. Of the remaining Majorem properties in the Charloettes, allcover significant geochemical anomaies in favourable geological environments and require additional exploration and evaluation.



HIGHGRADE_PROPERTY

Claims_and Location Five mineral claims (50 total units) staked in 1980-81. Adjoining properties, Echo and Bigsby include 186 total units in 13 claims. Located west of Darwin Sound, 70 km south of Sandspit on the east side of Moresby Island. Accessible by helicopter. Barge-supplied logging camps and roads located nearby.

Geology and History

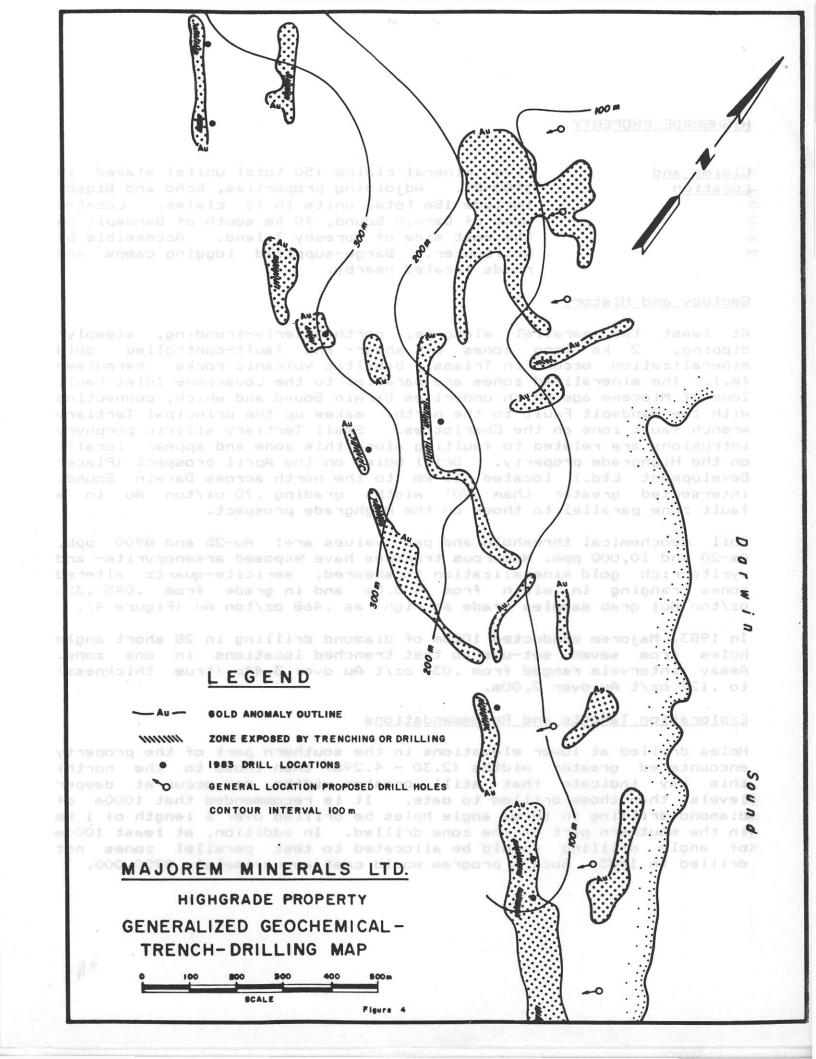
At least two parallel elongate, northwesterly-trending, steeply-dipping, 2 km long zones of shear- and fault-controlled gold mineralization occur in Triassic basaltic volcanic rocks (Karmutsen fm.). The mineralized zones are parallel to the Louscoone Inlet Fault Zone of Miocene age which underlies Darwin Sound and which, connecting with the Sandspit Fault to the north, makes up the principal Tertiary wrench fault zone on the Charlottes. Small Tertiary silicic porphyry intrusions are related to faulting along this zone and appear locally on the Highgrade property. Drill holes on the April prospect (Placer Development Ltd.) located 10 km to the north across Darwin Sound, intersected greater than 20' widths grading .70 oz/ton Au in a fault zone parallel to those on the Highgrade prospect.

Soil geochemical threshold and peak values are: Au-25 and 8900 ppb, As-20 and 10,000 ppm. Numerous trenches have exposed arsenopyrite- and pyrite-rich gold mineralization in sheared, sericite-quartz altered zones ranging in width from .4-8.0m and in grade from .045-.328 oz/ton Au; grab samples grade as high as .468 oz/ton Au (Figure 4).

In 1983, Majorem conducted 1028m of diamond drilling in 28 short angle holes from seven set-ups to test trenched locations in one zone. Assay intervals ranged from .039 oz/t Au over 3.44m (true thickness) to .127 oz/t Au over 2.00m.

Exploration Targets and Recommendations

Holes drilled at lower elevations in the southern part of the property encountered greater widths (2.30 - 4.29m) than those to the north; this may indicate that still greater widths may occur at deeper levels than those drilled to date. It is recommended that 1000m of diamond drilling in three angle holes be drilled over a length of 1 km in the southern part of the zone drilled. In addition, at least 1000m of angle drilling should be allocated to test parallel zones not drilled in 1983. Such a program would cost approximately \$250,000.



INCONSPICUOUS_PROPERTY

Claims_and Location Seven mineral claims (85 total units) staked in 1980. Located on the northwest corner of Graham Island. Accessible by helicopter. Nearest road 20 km to east at Naden Harbor.

Geology and History

A large area (2 km x 1 km) of hydrothermal alteration and gold, silver, arsenic, mercury and antimony soil geochemical anomalies (Figure 3) occurs in Tertiary volcanic rocks (Masset formation) and underlying sedimentary rocks (Haida fm.) within an apparent volcanic centre. A distinct elliptical ring fracture zone is associated with prominent northeasterly-trending faults and abundant small porphyry intrusive bodies. Alteration consists of widespread clay-pyrite with local jasperoidal silica. Geochemical soil threshold and peak values are as follows: Au-20 and 790 ppb, Ag-0.5 and 3.3 ppm, As-100 and 3902 ppm, Hg-500 and 24,000 ppb, Sb-10 and 175 ppm. Outcrop is rare but mineralization is exposed in two locations 1500m apart; samples at these locations assayed .07 oz/ton Au across 5m and .13 oz/ton Au across 6m.

Under an option agreement with Majorem, Homestake Mineral Development Co. conducted a 1983 programme which included detailed geochemical, magnetic and induced polarization (IP) surveys and 472.8m of diamond drilling in three closely-spaced, steeply inclined holes. The best interval drilled assayed .16 oz/ton Au over 13' and is related to intense silica-argillic alteration in sheared volcanics. Homestake's drill programme tested a very small portion of the large target on the property, holes were drilled to shallow depths — and did not, in fact, test a prominent IP anomaly — and were not located to intersect the indicated structurally-controlled mineralization.

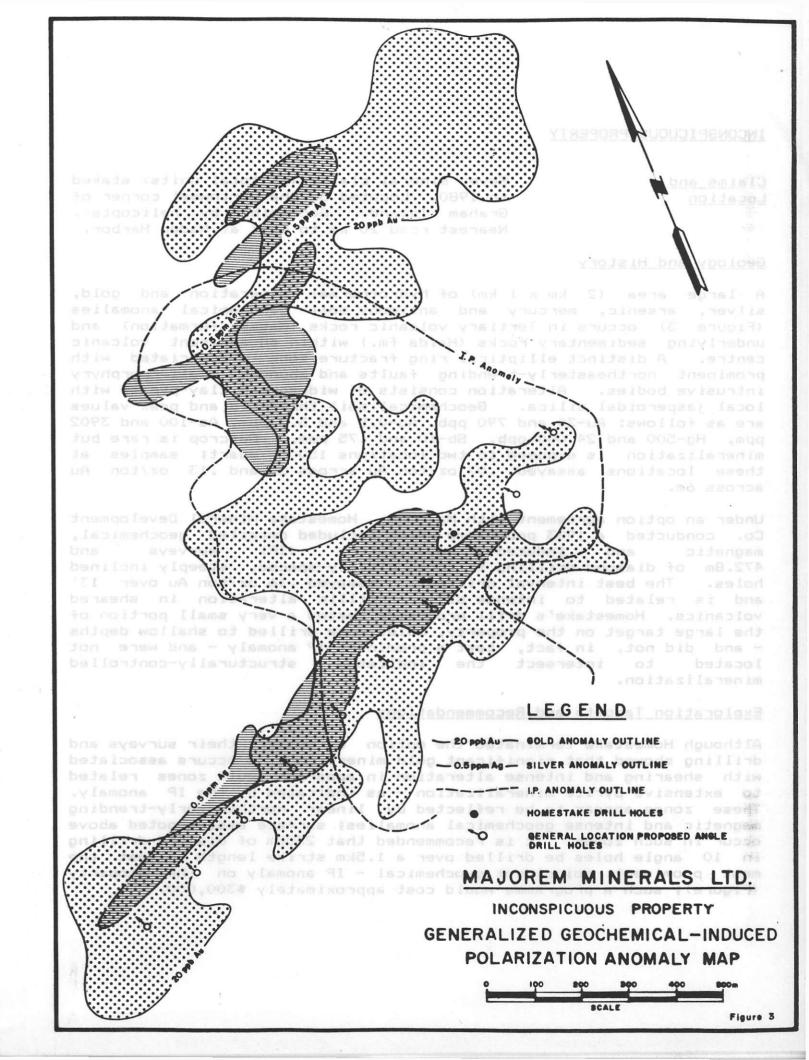
Exploration Targets and Recommendations

Although Homestake terminated the option agreement, their surveys and drilling showed that significant gold mineralization occurs associated with shearing and intense alteration in apparent fault zones related to extensive pyrite mineralization — as indicated by the IP anomaly. These zones appear to be reflected by linear northeasterly—trending magnetic and intense geochemical anomalies; surface assays noted above occur in such zones. It is recommended that 2500m of diamond drilling in 10 angle holes be drilled over a 1.5km strike length to test the most prominent coincident geochemical — IP anomaly on the property (Figure); such a programme would cost approximately \$300,000.

GENERALIZED GEOCHEMICAL-INDUCED

POLARIZATION ANOMALY MAP

2 14 2 2



LOCKE_PROPERTY

Claims and Location Six mineral claims (110 total units) staked in 1979. Adjoining properties, Three Bears and Goldy, include 122 total units in 7 claims. Located south of Crescent Inlet, west of Darwin Sound, 57 km south of Sandspit on Moresby Island. Accessible by helicopter. Bargesupplied logging camps and roads nearby.

Geology and History

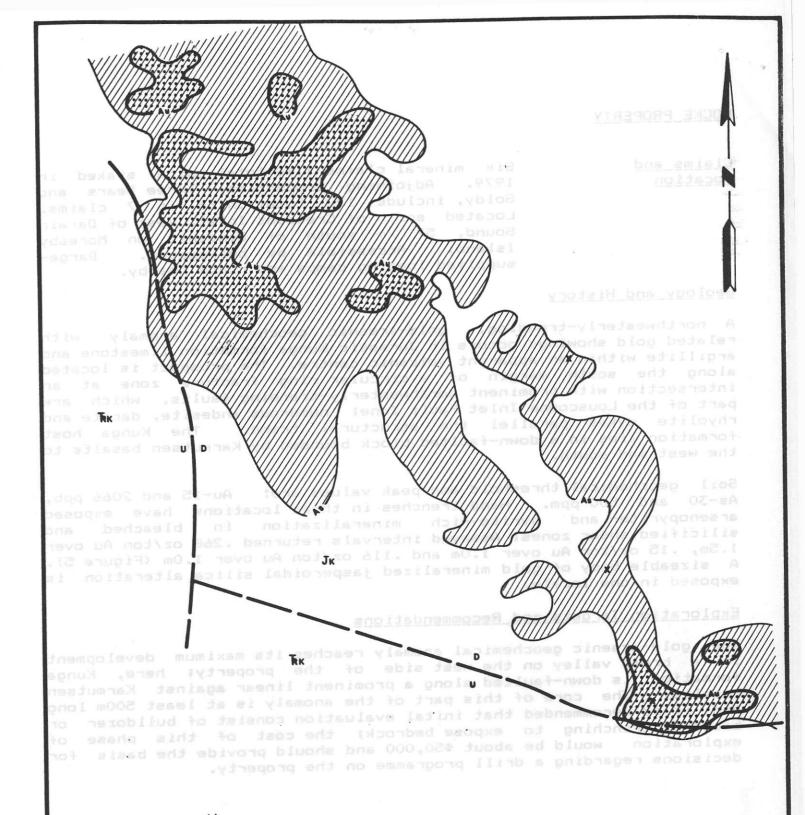
A northwesterly-trending, gold-arsenic geochemical anomaly with related gold showings occurs in Jurassic Kunga formation limestone and argillite within an apparent volcanic centre. The prospect is located along the south margin of a circular ring fracture zone at an intersection with prominent northwesterly-trending faults, which are part of the Louscoone Inlet Fault Zone; numerous andesite, dacite and rhyolite dykes parallel the structural trend. The Kunga host formation lies in a down-faulted block bounded by Karmutsen basalts to the west and south.

Soil geochemical threshold and peak values are: Au-15 and 2066 ppb, As-30 and 500 ppm. Hand trenches in three locations have exposed arsenopyrite- and pyrite-rich mineralization in bleached and silicified shear zones; Assayed intervals returned .268 oz/ton Au over 1.5m, .15 oz/ton Au over 1.0m and .116 oz/ton Au over 1.0m (Figure 5). A sizeable body of gold mineralized jasperoidal silica alteration is exposed in one locale.

Exploration Targets and Recommendations

The gold-arsenic geochemical anomaly reaches its maximum development in a broad valley on the west side of the property; here, Kunga formation is down-faulted along a prominent linear against Karmutsen basalts. The core of this part of the anomaly is at least 500m long and it is recommended that inital evaluation consist of bulldozer or backhoe trenching to expose bedrock; the cost of this phase of exploration would be about \$50,000 and should provide the basis for decisions regarding a drill programme on the property.

MAJOREM MINERALS LTE LOCKE PROPERTY GENERALIZED GEOCHEMICAL-GEOLOGICAL MAP



LEGEND

Au GOLD ANOMALY OUTLINE

ARSENIC ANOMALY OUTLINE

X GOLD MINERALIZATION EXPOSED IN TRENCH

FAULT ("D" ON DOWN DROPPED BLOCK)

JK KUNGA FORMATION

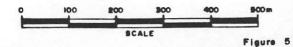
KARMUTSEN FORMATION

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LOCKE PROPERTY

GENERALIZED GEOCHEMICAL —

GEOLOGICAL MAP



SNOW_PROPERTY

Claims and Location

Five mineral claims (92 total units) are held under option by Majorem. Located 5 km south of Sandspit on northeast tip of Moresby Island. Accessible by road from Sandspit.

Geology and History

Gold mineralization has been exposed in several backhoe trenches in sheared Jurassic age andesitic volcanics (Yakoun fm.) over a 300m strike length. Mineralization is reflected by arsenic soil geochemcial anomalies (gold was not analyzed) located over a 6 km x 2 km area (Figure 6) adjacent to and west of the Sandspit fault zone. The Sandspit Fault is the principal Tertiary wrench fault on the Charlottes and is the controlling structure at the Specogna gold deposit located 40 km northwest of the Snow prospect.

Outcrop is limited on the Snow property and glacial deposits cover large areas. Nevertheless, several prominent arsenic geochemical anomalies occur; threshold and peak values are 25 and 500 ppm. Trenches located to test one anomaly exposed arsenopyrite—and pyrite—rich gold mineralization in carbonate—and argillic—altered shear zones; assayed intervals returned .254 oz/ton Au over .5m, .118 oz/ton Au over 2.0m and .08 oz/ton Au over 5.3m. Previous work by Falconbridge Copper Ltd. during 1969—79 revealed a 100m wide zone of copper mineralization associated with strong alteration, and up to 20% pyrite—pyrrhotite in the southern part of the property.

Exploration Targets and Recommendations

Evidence of extensive anomalous geochemical results and associated significant gold mineralization related to the Sandspit Fault zone make the Snow an attractive prospect. It is recommended that geophysical surveys, including airborne and ground magnetics, electromagnetics and induced polarization as well as additional backhoe trenching be conducted over portions of the property. Such a programme should cost about \$50,000 and provide the basis for drilling decisions.

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GENERALIZED GEOCHEMICAL -

