JOLY-JAK PROPERTY

ATLIN MINING DIVISION

MAP 104K/11E

58°~~44~~'N,133°13'W

42½

owned by

ANGLO-CANADIAN MINING CORP.,
713-744 W. Hastings St.,
Vancouver, B.C.,V6C 1A5

GEOLOGY REPORT

by

John G. Payne, PhD.,
Consulting Geologist

October, 1980

STOKES EXPLORATION MANAGEMENT CO.,LTD.,
713-744 West Hastings Street,
Vancouver, B.C., V6C 1A5.

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JOLY-JAK PROPERTY
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A Cu-Zn-Ag-Au-Pb Prospect

INTRODUCTION

The Joly-Jak property was staked in July, 1980 following discovery of base metal (mainly Zn,Pb,As,Sb) veins and float by Anglo-Canadian geologists during the course of a regional exploration program in the Taku-Tulsequah area. The property is on the southeast flank of Mt. Lester Jones from elevation 670 m to 1580 m. Access is by helicopter from Atlin, 95 km north, or from the Tulsequah airstrip, 26 km southwest (see Figure 1).

The topography is moderately rugged, but all parts of the property are readily accessible by foot. At the west of the property is a prominent alpine ridge with abundant outcrop and rubblecrop. This drops off steeply to the east; the upper slopes are covered by talus and scattered outcrops. Lower down, scrub brush and scrub forest take over; these areas contain only minor outcrops on major ridges and creek valleys. Two main creeks, Joly to the north and Jak to the south, flow off the ridge to the east and provide good outcrop sections through the center of the property. They flow into an unnamed creek which flows eastward near the north border of the property. The creeks drain snowfields, and provide a plentiful supply of water throughout the summer.

In 1980 the property was mapped on a scale of 1:10,000 using a hand-drawn topographic base which was enlarged from a 1:50,000 scale map, itself a photographic enlargement of the 1:250,000 topographic base of the Tulsequah region. As a result, topographic control was very approximate and in places poor. Samples were taken from major sulfide showings and float (29 samples), from a soil grid on Jak Creek (34), and from various streams (12).

The Joly-Jak property consists of two claim blocks as follows:

Joly	9 units	record no. 1088
Jak	6 units	record no. 1089

The claims were staked on July 6th and 7th, 1980 by JoAnne Nelson acting as agent for Mr. Ronald B. Stokes. The claims are to be transferred by Mr. Stokes to Anglo-Canadian Mining Co., Ltd.

GEOLOGY

1) Regional

A major anticline (King Salmon Anticline) trends 115° and plunges gently to the northwest near the Taku River and gently southeast near the Joly-Jak property. It exposes Upper Triassic King Salmon formation rocks in its core, and generally younger Upper Triassic Stuhini group volcanic and related rocks, and Jurassic Takwahoni formation sedimentary rocks on its limbs.

The King Salmon formation consists of very thinly laminated siltstones and mudstones, generally slightly limy, with a few coarser, commonly moderately limy greywacke beds and lenses. The sedimentary rocks are overlain and locally interfingered with felsic volcanic and volcanoclastic rocks of the Stuhini group. A major felsic volcanic center extends from Mt. Lester Jones northwestward across the Taku River to Shustahini Mt. The core of this, on the northwest flank of Mt.

Lester Jones, contains felsite flow and/or dome rocks and associated flow and/or explosion breccias. The breccias contain subangular to angular fragments of felsite in a groundmass of similar composition. The fragments comprise from 10 to 50% of the rock, and average 2-5 cm across. Southeast of the center, the felsite breccia grades along strike into faintly to well bedded conglomerate, with subangular to well rounded felsite fragments up to boulder size in a sparse to abundant arenaceous groundmass of similar composition and texture. Except on certain weathered surfaces, these textural distinctions are generally not readily apparent. The conglomerate is interbedded with units up to a few meters thick of arenite, thinly laminated mudstone and thinly laminated to flaggy siltstone. Limestone forms interlayers up to several tens of meters long and up to a few meters thick, and some conglomerate and breccia units contain scattered limestone fragments up to several meters long. The sediments were deposited , in part as sub-areal debris flows, into shallow basins surrounding the volcanic center. Limestones and mudstones were being deposited in these basins at the same time. Some of the debris flows ripped up fragments of limestone and mudstone from the basin floor. At the same time, some upwelling magma did not reach the surface, but spread out along bedding planes to give felsite sills up to a few tens of meters thick; these are mainly in mudstone and siltstone just below the main felsite mass.

The Upper Triassic rocks were intruded by several stocks along a northwest trending zone. Most stocks are medium grained, with compositions from diorite to monzonite, with much less abundant granodiorite and quartz monzonite. Some rocks contain scattered feldspar phenocrysts up to 1 cm long. Less abundant diorite to dacite porphyry contains plagioclase phenocrysts up to a few mm long in a very fine grained groundmass. The ages of the stocks are unknown, but one of them intrudes Sloco group volcanic rocks. Associated with most stocks are prominent Fe-stained zones, produced by surface weathering of alteration zones containing moderate to abundant disseminated pyrite and veins of pyrite-chlorite or pyrite-sericite. Some of the stocks cut the altered rocks, and themselves contain minor to moderate alteration. The stocks are late-stage intrusions which either are genetically related to the alteration event, or which caused migration of alteration minerals into the borders of the stock during the time when it was cooling.

The mineralized zones generally are centers of strong fracturing and faulting, some of which provided channelways for hydrothermal solutions. One major fracture set trends northeast at Red Cap, and two major sets at Joly-Jak trend 090° and 130-150° respectively. Most of these appear to be tension fractures with little displacement.

2) <u>Property</u>

The claims are underlain mainly by the King Salmon formation rocks and by a diorite-monzonite intrusion. The King Salmon rocks consist mainly of thinly laminated grey to bluish-grey mudstones and siltstones, generally slightly to moderately limy, and generally moderately hornfelsed. Several massive, very fine to fine grained units in the upper part of the sequence are either recrystallized greywackes or felsic volcanic or subvolcanic rocks. The contact of one of these cuts bedding in the thinly laminated sequence at a low angle. Locally the massive units contain ellipsoidal patches up to 2 cm across of medium to coarse grained calcite with abundant patches of pyrite and sphalerite. Lower in the sequence a thick andesite unit is interlayered with massive greywacke? and thinly to thickly bedded arenites containing lenses up to 30 cm thick of limestone. The bedded rocks have a relatively uniform attitude, striking 120-135°, and dipping 40-45° southwest on the southwest limb of the King Salmon anticline.

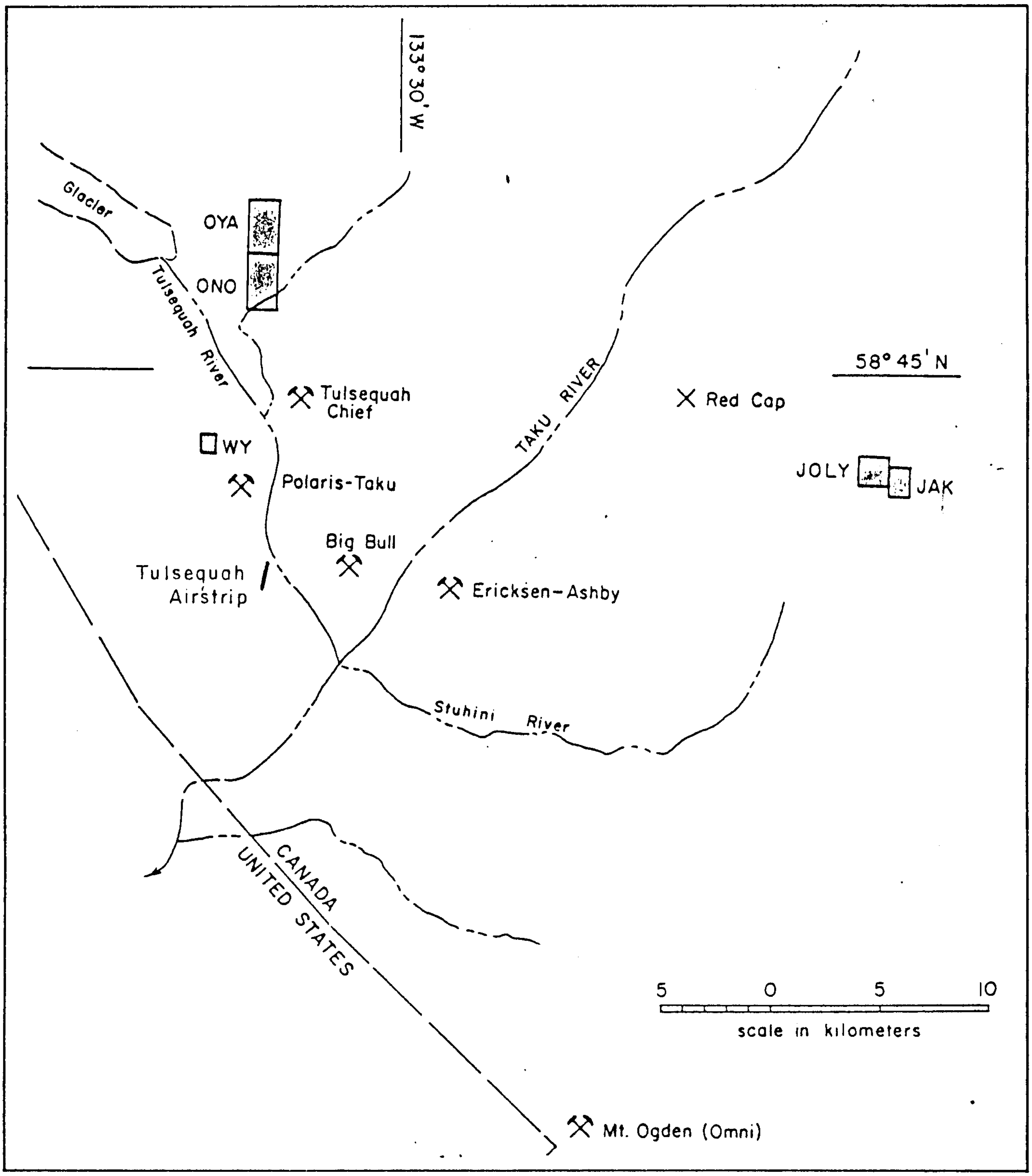


Figure 1. Location of Joly-Jak Claim Group

Two phases of intrusive rock cut the sedimentary rocks, mainly on the ridge at the west side of the property. At the head of Joly Creek, a white, slightly porphyritic dacite containing 1-3% disseminated pyrite cuts irregularly across the sedimentary rocks. Further to the southwest above Jak Creek is a medium grained diorite-monzonite? stock. It is strongly altered by addition of calcite (and some Fe-bearing carbonate) and muscovite-sericite. The rock has a typical orange-brown color on the weathered surface, produced by release of the iron from the carbonate. Part of its contact with the sedimentary rocks is exposed along the upper part of Jak Creek (in late summer). Here a one to two-meter wide zone of massive coarse grained carbonate occurs in a steeply dipping planar zone which probably represents a fault zone. Near the contact the laminated mudstone and siltstone unit is very tightly folded on the scale of a few meters.

Cutting both the porphyritic dacite and the sedimentary rocks are several sheeted dikes up to 3 m across of fine to medium grained carbonate-altered diorite-syenodiorite. Many trend parallel to the east-west fracture system. No age relations were observed between the dikes and the sulfide-bearing veins.

In the southwest corner of the property on the other side of the diorite-monzonite intrusion are thin to moderately bedded arenites which grade upwards rapidly into coarse dacitic conglomerates and breccias, with thin interlayered units of mudstone-siltstone, and lenses and fragments of limestone. These rocks are at the stratigraphic level of the rocks which host the Red Cap deposit, 5 km to the northwest.

3) <u>Economic Mineralization</u> (see Figures 2, 3)

The rocks are moderately to strongly fractured, with two major, steeply dipping sets, one striking 090° and the other from 130-150°. In and near Joly Creek is a broad zone of carbonate-alteration of the host rocks; this zone contains many veins averaging 5-10 cm across (maximum 30 cm), with spacing of one to a few meters; these veins mainly occur as fracture-fillings in the 090° fracture set. Most of the veins occur between elevations of 1000 and 1350 meters.

Veins in the headwaters of Jak Creek and its northern tributaries are mainly in the 130° trend; locally on the ridge this set of veins cuts the set trending 090°. Most veins are from 5 to 10 cm wide, but a few are from 30 to 50 cm wide, and one locally is 2 meters wide. The veins narrow to the west just over the crest of the ridge.

Lower down in Jak Creek at elevation 975-1040 meters, the sedimentary rocks and an interlayered porphyritic andesite are strongly fractured and altered, with two prominent fracture sets trending 090 and 150°, with spacing of 1-3 cm in the most strongly altered central zone.

Elsewhere on the property outcrop is poor and the density and distribution of veins is unknown.

No pattern of sulfide mineralization is present. The veins are typical fracture-fillings, commonly strongly banded parallel to vein walls, and locally braided. The mineralogy is mainly calcite and quartz in widely varying amounts. Sulfides occur in patches and lenses up to a few tens of meters in length, and generally grade out along strike into quartz-carbonate veins. The sulfide mineralogy and texture commonly vary widely along strike within a sulfide-rich lens. The major sulfides, in order of decreasing abundance, are pyrite, arsenopyrite, and sphalerite; less abundant sulfides are galena, stibnite, pyrrhotite, and chalcopyrite. Representative assays for a variety of vein types are shown in Table 1; complete assays are shown in Appendix 1. Sample widths are from 5-20 cm, except for a few up to 1 m wide; samples were taken from sections of veins showing abundant sulfides.

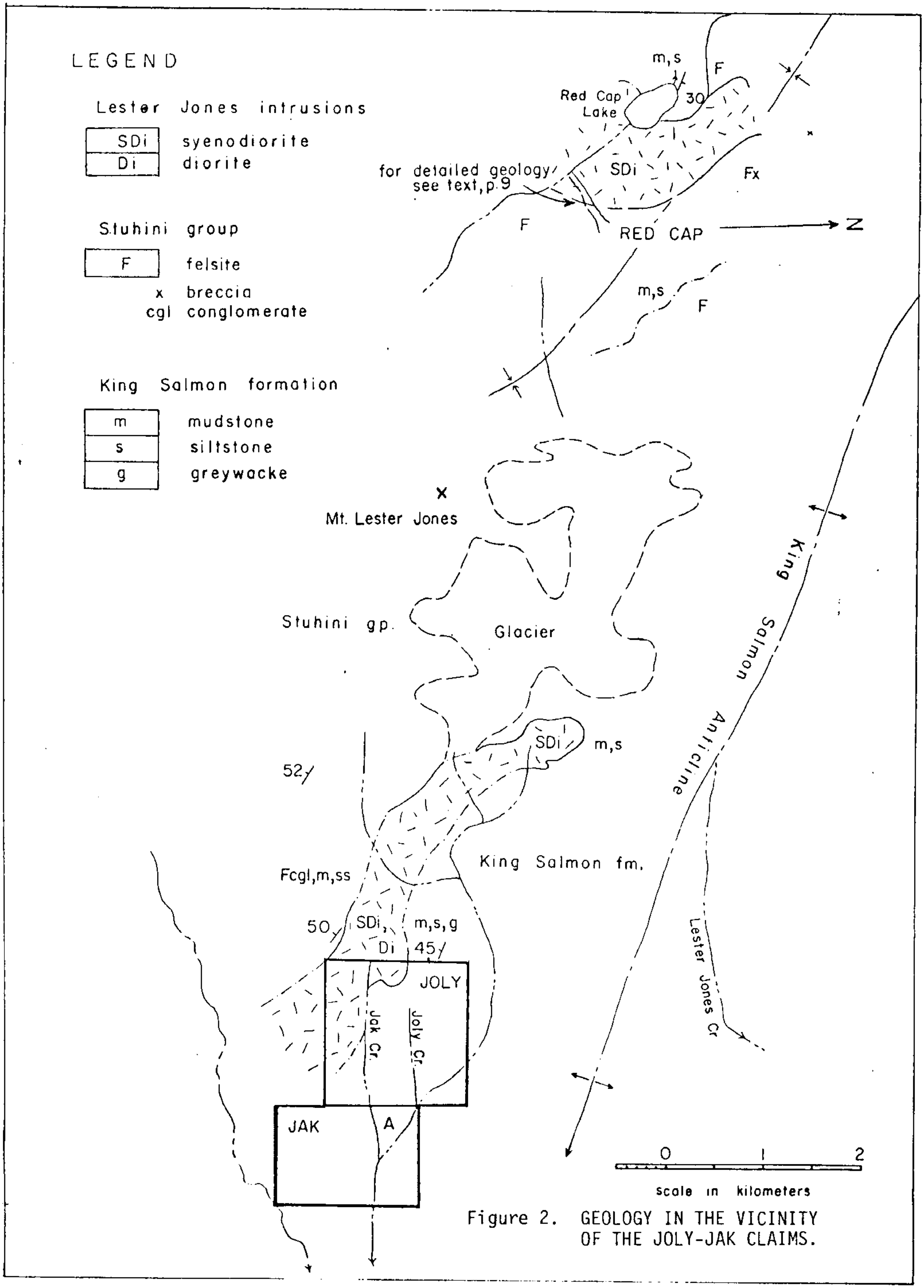
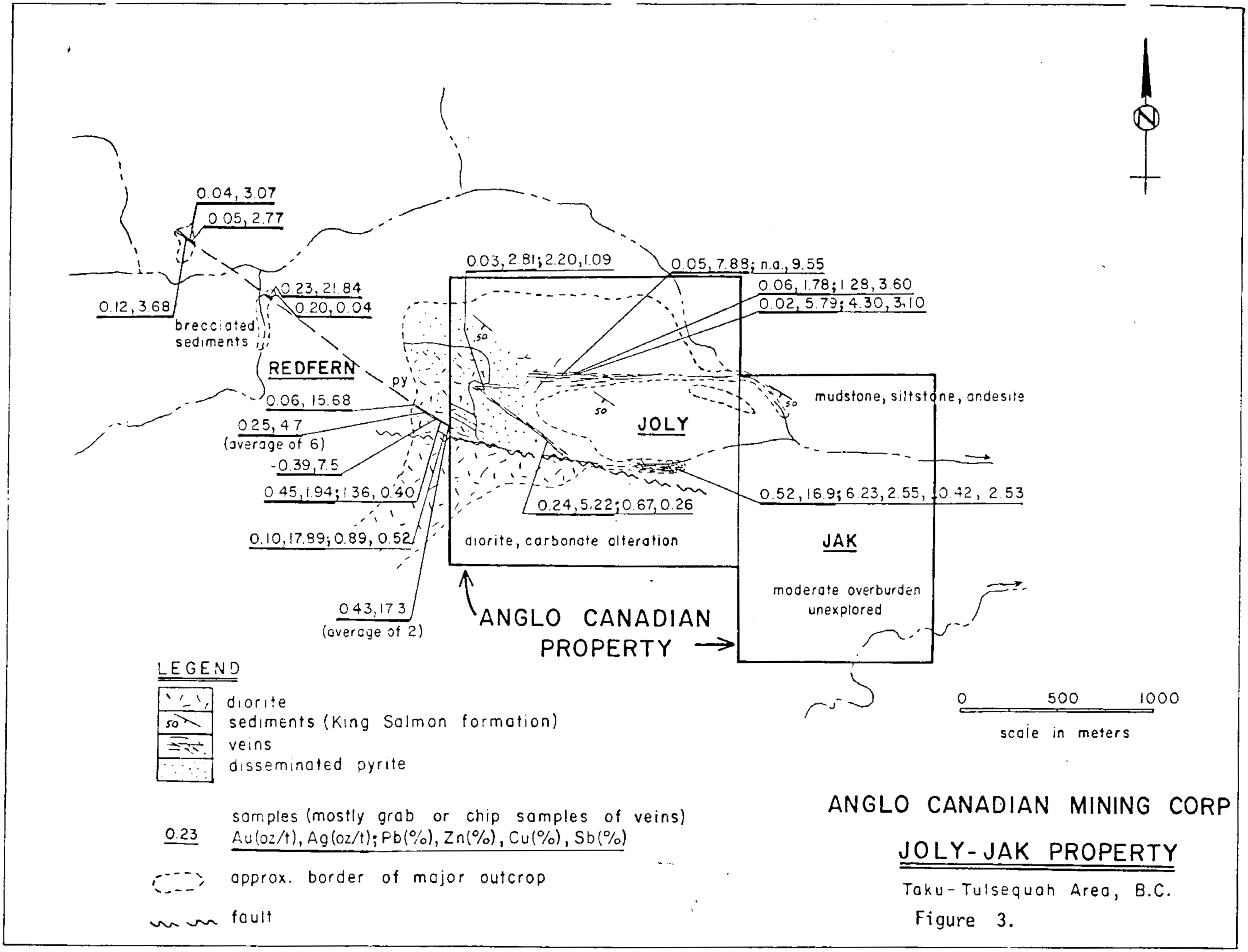


Figure 2. GEOLOGY IN THE VICINITY OF THE JOLY-JAK CLAIMS.



ANGLO CANADIAN MINING CORP

JOLY-JAK PROPERTY

Taku-Tulsequah Area, B.C.

Figure 3.

Table 1. Representative Assays from Sulfide-Bearing Veins

sulfide mineralogy	Au(oz/t)	Ag(oz/t)	Pb%	Zn%	As%	Cu%	Sb%
1. sl-py	0.03	0.35	*	5.2	*	*	*
2. sl-py-(gl)	0.05	7.9	1.0	9.6	*	*	*
3. apy-py-sl	0.06	1.0	0.1	0.5	8.0	*	*
4. apl-sl-py-gl	0.05	3.0	1.9	8.3	7.5	*	*
5. apy-py	0.22	2.8	*	1.5	15.8	*	*
6. apy	0.15	4.3	1.1	0.6	9.0	*	*
7. Jak Creek (lower zone)	0.52	16.9	6.23	2.55	0.65	0.42	2.53

* not assayed

In the lower part of Jak Creek, the intensely fractured zone is also a zone of strong alteration and veining, with pyritic veins along most fractures of both major sets. Veins average 1-2 mm wide, with locally wider veins up to 1-2 cm across. A few veins contain sphalerite, stibnite, chalcopyrite, and galena.

A geochemical soil and stream sediment survey was conducted in the covered region near the strongly fractured zone on Jak Creek, and stream sediment samples were collected near the creek draining the northern part of the property from tributaries draining the slope north of Joly Creek.

Results of these surveys are shown in Figure 5. Two anomalous areas are present. One is directly over the outcrops in the strongly altered and veined zone in Jak Creek, and the other is in the samples from the lower (eastern) part of the drainage north of Joly Creek.

4) Related Properties

a) Red Cap

The bedrocks are mainly Stuhini group felsite and felsite breccia with minor mudstones and siltstones near the crest of the ridge which runs northwest from Lester Jones Mt. to Red Cap Mt. These are cut on the southwest side of the ridge near Red Cap Lake by a medium grained granodiorite to diorite stock, with several irregular fingers extending into the country rocks. Much of the felsite and sediments are altered and hornfelsed. Weathering of the altered rocks produced a strong reddish-brown stain; this is particularly prominent on rocks near the crest of the ridge. Rocks are strongly fractured, with a major set trending 040^{o}, and other less prominent sets at a variety of angles to this.

The alteration of the felsites is best seen in two subparallel tributaries of Red Cap Creek, which expose fresh sections through the altered zone. In the creek to the southeast, the following section is seen (elevations from altimeter):

3155-3250'	medium grained, unaltered hornblende syenodiorite, scattered feldspar phenocrysts up to 5 mm long. Near the top are scattered quartz and quartz-pyrite veins, some of which are striking 040^{o}, parallel to a major vein set in the felsite above.
3250'	sharp contact, syenodiorite cuts across strongly altered (silicified and K-feldspar addition) felsite; felsite contains closely spaced vein stockwork with two major sets at 042^{o},85^{o}SE and 125^{o},80^{o}NE, with spacing of 1-3 cm. Veins average 1 mm wide and contain pyrite-chlorite. The intrusion truncates the vein set, with only a few veins, mainly later? quartz veins extending into the intrusive rock.
3250-3295'	felsite, altered and veined as described above
3295'	a patch (=fragment?) 50 X 70 cm in plan contains abundant disseminated pyrite and chlorite, and several subrounded fragments? 2-5 cm across of massive, medium to coarse grained pyrite.
3295-3450'	felsite, as from 3250-3295, but with magnetite prominent in veins and disseminated through the altered felsite.
3450-3680'	felsite as from 3295-3450, but intensity of vein network is less, with spacings of several cm between veins. The rock is cut by a few irregular diorite-syenodiorite dikes up to 40 cm wide; these are similar to the main intrusion lower in the section.
	From 3250-3680' the altered felsite is cut by scattered quartz veins up to 1 cm wide. These have several orientations, one of the main ones is 040^{o}, parallel to the major fracture system in the region. The veins commonly have a centerline, and some contain clusters up to 5 mm across of fine to medium grained molybdenite flakes; the clusters are mainly along vein borders.
3680'	a major fault trending 030 and dipping steeply, with a 2 cm wide tourmaline breccia and minor chrysocolla in a 2 meter wide zone of breccia and minor gouge.
3680-4240'	altered felsite with moderate veining of pyrite-chlorite-(magnetite), and scattered coarser veins of quartz-pyrite-(chalcopyrite).
4240'	end of outcrop.

In the creek to the northwest, whose lower section is about 100 meters away from the other creek, the following section was seen:

3135-3480' unaltered syenodiorite-diorite, cut by one prominent vein of quartz-pyrite up to 2 cm wide. The vein is parallel to the creek, and a prominent fracture zone through which much of the lower part of the creek travels.

3480-4040' strongly altered felsite with abundant pyrite-chlorite veins and scattered later quartz veins; the latter locally contain medium to coarse grained clots up to 1 cm across of chalcopyrite and of molybdenite.

Geologists of Omni Resources have mapped the region in some detail and conducted a soil geochemical survey on a grid over most of the zone of alteration. Broad, intense anomalies are seen for Cu and Mo, with more concentrated anomalies in Ag, Pb, Zn, and As near the southern part of the zone and peripheral to the center of alteration. In the region of the latter are a series of late, fracture-controlled veins up to 30 cm wide; these are dominated by vuggy quartz and lesser calcite, with concentrations of arsenopyrite, pyrite, galena, and sphalerite. These veins are very similar texturally and compositionally to those on the Joly-Jak property.

Away from the main alteration center, near the southeastern corner of the property just below the main peak of Mt. Lester Jones is a large sulfide vein called the Zohini vein. It cuts rocks of the Takwahoni formation near a faulted contact with Sloco group rocks. The vein appears to pinch out to the southeast and is lost beneath rubble just below a major saddle between Red Cap valley and Zohini valley. It occurs along a major set of fractures trending 090^{o}, with sulfide mineralization exposed in scattered outcrops over a length of several thousand feet and over an elevation range of 1200 feet. Assays from old data (New Taku Mines, 1964), Island Mining & Exploration (Omni)(1980), and this study are given in Table 2.

Table 2. Assays from the Zohini Vein

source	width (feet)	Au(oz/t)	Ag(oz/t)	Zn%	Pb%	As%	Sb%
New Taku (30' section, 2 intervals)							
	13	0.05	18.	6.3	2.1	*	*
	6	0.10	5.5	3.3	2.7	*	*
(3 cuts in vein 110'long, 3.5' wide, average)		0.53	24.4	*	13.1	*	9.2
Island Mining	4	0.08	12.84	*	*	*	*
	15	0.036	3.60	11.7	*	*	*
	6	0.374	43.1	*	*	*	*
	8	0.248	23.0	*	*	*	*
	8	0.340	1.38	*	*	*	*
	2	0.136	72.84	1.3	50.3	*	*
	5	0.196	2.48	*	*	*	*
	5	0.168	9.22	*	*	*	*
Anglo-Canadian	5	0.057	189.5	9.5	4.8	4.1	*

* no assay

Summary of Red Cap and comparison with Joly-Jak

The geology of the Red Cap property suggests an early felsic volcanic center of Stuhini age. The main alteration and veining of the Stuhini rocks may have occurred at this time. Scattered pyrrhotite-rich massive sulfides exposed in rubblecrop on top of the ridge between Mt. Lester Jones and Red Cap Mt. may be volcanogenic in origin (Jerry Cloutier, Omni geologist, pers.comm.). In this model, the later diorite-syenodiorite intrusion would have cut through the altered rocks, and may have acted as a heat source to remobilize some of the metals and concentrate them in late quartz veins (Cu and Mo). Alternately, the intrusion may be more closely related in origin to the alteration and veining; the sulfides and alteration minerals (quartz, K-feldspar, magnetite) may represent the outer zone of a buried porphyry system, with the intrusion being a late-stage magmatic pulse in that event.

The similarities between the Red Cap and Joly-Jak deposits are as follows:

1) similar age of host (Upper Triassic)
2) approximately same stratigraphic level in section (Joly Jak is slightly lower in the section)
3) similar composition and texture of intrusive rocks (ages unknown)
4) similar intense alteration and sulfide vein stockworks (compare section through creeks northeast of Red Cap Creek with the zone low down on Jak Creek)
5) similar texture and mineralogy of late-stage? sulfide veins containing arsenopyrite, pyrite, sphalerite, and galena, with locally abundant stibnite and locally significant Ag and Au contents.

b) Red Crater

Four km southeast of the Joly-Jak property is a prominent red-brown weathered zone in thinly laminated mudstones and siltstones of the King Salmon formation? and in dacite porphyry of the Sloco group. Moderately dipping, moderately warped King Salmon formation rocks are unconformably overlain by or in fault contact with flat-lying Sloco conglomerate and felsite welded tuff and flows. The structure suggests that the Sloco rocks were emplaced in a downfaulted graben in the older rocks; the erosion pattern gives the mountain the appearance of a crater as viewed from the northwest. In the center of the "crater" is the zone of strongest alteration, which affects both the older, generally hornfelsed laminated sediments and the Sloco rocks. Intruding the core of the alteration zone are two small plugs of medium to coarse grained biotite-hornblende diorite to granodiorite. These are partly altered and are cut by a few quartz veins. The alteration zone contains 2-3% disseminated pyrite and/or pyrrhotite with common secondary sericite. One assay of the most strongly altered zone in the Sloco group dacite yielded the following: Au - less than 5 ppb, Ag - 0.2 ppm.

The presence of alteration in the Sloco group rocks and of the intrusions in the center of the altered zone suggests that the intrusions in this deposit are younger than the Sloco rocks, and may be related to them as a sub-volcanic intrusion. This suggests the possibility that the other intrusions in this belt are of similar age.

c) Northwest of Sutlahine River

The ridges northwest of Sutlahine River on the trend southeast from Red Cap through Joly-Jak contain broad zones of weak to moderate Fe-staining associated with diorite to syenodiorite intrusions similar to those at Red Cap and Joly-Jak. On the ridge just northwest of Sutlahine River, altered rocks are mainly felsites of the Stuhini group, and on the next ridge to the northwest, the host rocks belong to the Takwahoni formation.

d) Rose Claims (formerly Thorn Claims, Souther, 1971)

A large zone in a steep-sided valley system contains strongly altered rocks and abundant disseminated pyrite. Au values have been reported from the property and a moderate amount of work has been done. The host rocks include Stuhini volcanic rocks to the southwest and Sloco volcanic rocks to the northeast, with intrusions of quartz-feldspar porpyry in the main river valley and to the southeast of the Sloco outcrop zone. The alteration zone contains a stockwork of quartz veins from which are reported chalcopyrite, tetrahedrite, stibnite, and enargite. The zone probably is similar to the one on Red Crater, with block faulting associated with the formation of the Sloco group rocks. This would account for the fact that Stuhini group rocks outcrop all the way up the mountainside southwest of the property, and Sloco group rocks occur low on the mountain to the northeast.

Summary and Conclusions

1. The Joly-Jak prospect is one of a series of deposits with a similar geological setting along a northwest trending belt. The belt extends from north of Mt. Dirom in a southeast direction to the Rose(Thorn) property southeast of the Sutlahine River, a distance of 60 kilometers.

2. The deposits occur in rocks ranging from Upper Triassic to Tertiary in age with the main host in each listed below:

   a) Red Cap — Stuhini group felsite, felsite breccia (Upper Triassic)
   b) Joly-Jak — King Salmon formation metasediments (Upper Triassic)
   c) Red Crater — King Salmon formation metasediments and Sloco volcanic rocks (Tertiary)
   d) Sutlahine River — a) Stuhini group felsite, felsite breccia
      b) Takwahoni formation conglomerate, mudstone (Jurassic)
   e) Rose(Thorn) — Stuhini group felsite, Sloco felsite

3. Deposits are spatially and possibly genetically related to small, commonly sub-siliceous stocks, mainly diorite to syenodiorite. The stocks show varying degrees of alteration from fresh to strongly altered.

4. The host rocks are strongly fractured, with certain fracture sets predominant in each property. At Joly-Jak the two main fracture sets are steeply dipping and trending 090 and 130-150^{o}. At Red Cap the main zones trend 040 and 090^{o} and dip steeply.

5. The Red Cap and Joly-Jak deposits contain fracture-controlled veins, which locally contain abundant sulfides, mainly pyrite, arsenopyrite, sphalerite, and galena, with lesser stibnite, pyrrhotite, and chalcopyrite. As well, at both deposits are zones of intense fracturing, veining, and alteration. At Red Cap, veins are predominantly pyrite-chlorite, with some zones containing abundant magnetite. At Joly-Jak, veins are predominantly pyrite-chlorite. At Red Cap, late quartz veins, generally with centerlines, contain clots of chalcopyrite and of molybdenite; these may represent metals remobilized during intrusion of the diorite-syenodiorite.

6. Assays show some veins to contain economically important amounts of Ag and Au at Joly-Jak, Red Cap, and Rose.

7. Geochemical anomalies in soil and stream sediment samples occur over a broad zone at Red Cap and a smaller zone at Joly-Jak in Cu, Pb, Zn, Ag, As, and Mo (R.C.).

8. The deposits, especially those at Red Cap and Joly-Jak, may fit a porphyry Cu or Cu-Mo model, with the pyritic veins and alteration zones representing the upper and outer parts of the hydrothermal system. The Cu-Mo-bearing core is exposed locally at Red Cap, and is buried at Joly-Jak.

RECOMMENDATIONS

1. Further exploration on the Joly-Jak property should include the following:

   1) preparation of a topographic base map from aerial photographs. The scale of the map should be 1:5000, and features such as gullies and outcrop boundaries should be plotted to aid in location of stations from the 1980 study. This map should be made during the winter of 1980-81.

   2) the grid on which geochemical samples were taken on Jak Creek should be extended to cover more of the property where outcrops are absent, and should concentrate on a zone trending about 120°. This zone covers the main area of interest along the contact of the diorite-syenodiorite intrusion.

   3) Follow-up geochemical surveys and prospecting should be done to try to locate the sources for the anomalies in the northern part of the property.

   4) An I.P. survey should be run on the strongly altered area and possible extensions in Jak Creek on the same grid used for geochemical sampling.

   5) The data should be compiled and interpreted in terms of the possibility of a porphyry environment. At present the strongly altered zone in Jak Creek seems the most likely target for this type of deposit.

   6) Drilling should be done in any target zones outlined by the above procedures. If the target is a porphyry, drill holes will probably have to be between 500 and 1000 feet (160 and 300 meters) long in the first stage of drilling.

John G. Payne,
October, 1980.

STOKES EXPLORATION MANAGEMENT CO..LTD.,
713-744 West Hastings Street,
Vancouver, B.C., V6C 1A5

ENGINEER'S CERTIFICATION.

I, John G. Payne, PhD., of North Vancouver, British Columbia, do hereby state:

1. I am a consulting geological engineer. I graduated from Queen's University, Kingston, Ontario in 1961 with a BSc., degree in Geological Engineering. I received a PhD degree in Geochemistry from McMaster University in 1966.

2. My address is 877 Lillooet Road North Vancouver, B.C. V7J 2H6.

3. I have practiced geology since graduation for 14 years, mainly in the North American Cordillera.

4. I have no direct or indirect interest in the Joly-Jak Property, Atlin Mining Division.

5. This report may be used in a Statement of Material Facts or Prospectus for public financing.

Dated: Vancouver, British Columbia, February 11, 1981.

John G. Payne, PhD.,
Consulting Geological Engineer.

COST STATEMENT - JOLY JAK

J. Payne, PhD.:	August 8 - 10/1980 3 days @ $300.00	$ 900.00
J. Nelson, MSc:	August 8 - 10/1980 3 days @ $200.00	600.00
G. Gosson, BSc:	August 8 - 10/1980 3 days @ $200.00	600.00
Helicopter Support:	6 hours @ $335.00	2010.00
Camp Support:	3 man days @ $48.00	144.00
TOTAL		$4254.00

Note: More work has been done in the field but the above has been applied.
Additional work includes report preparation.