A Summary Review

of the

SNOWFLAKE PROPERTY

of

LARAMIDE RESOURCES LTD.

Aspen Grove Area

Nicola M.D., B.C.

92H/15E

I. M. Watson, P.Eng.

August, 1984
Vancouver, B.C.

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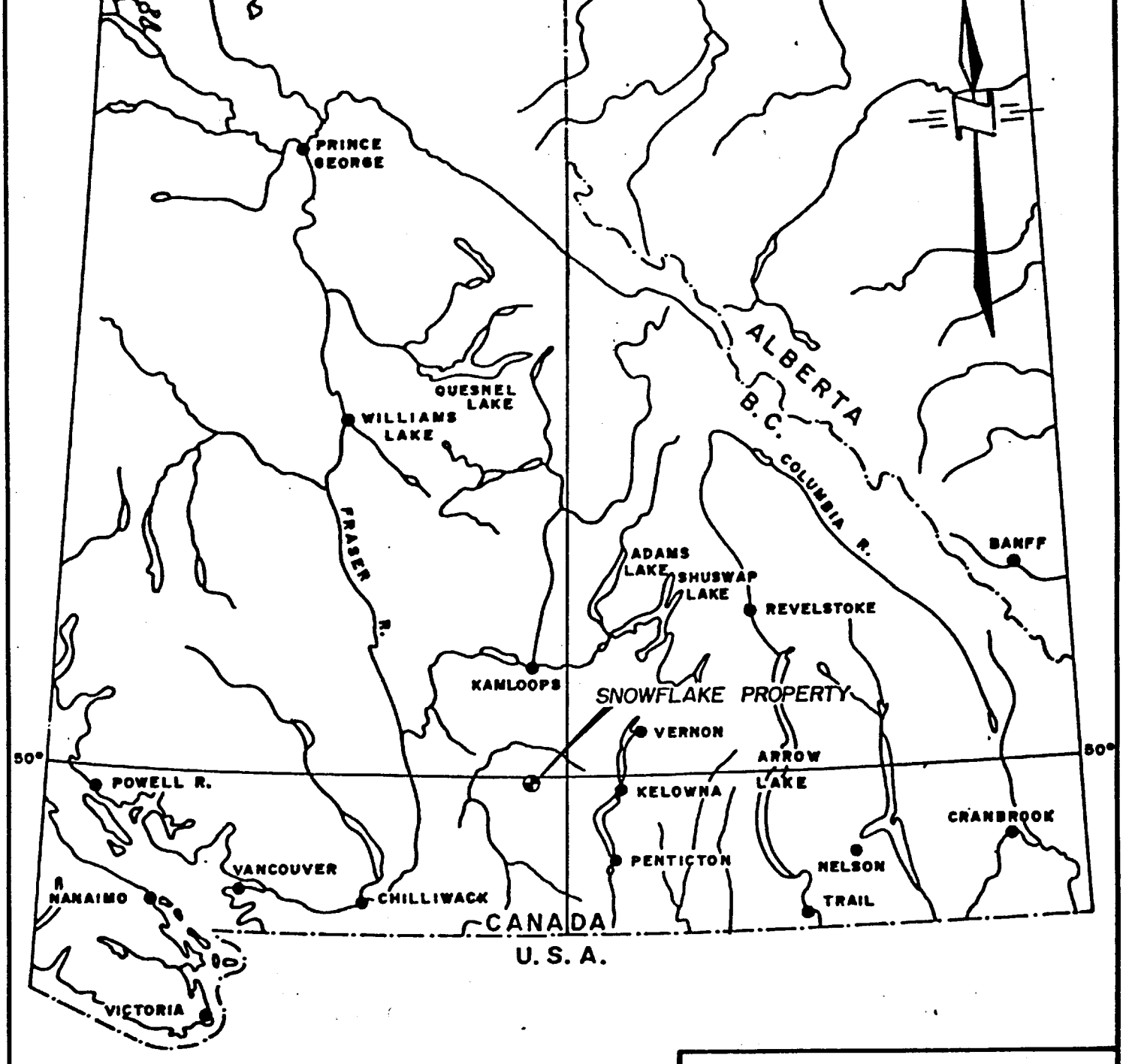


LARAMIDE RESOURCES LTD.

LOCATION MAP

SNOWFLAKE-POT CLAIMS

NICOLA MINING DIVISION, B.C.

I.M. WATSON & ASSOCIATES LTD

~~Date: Feb, 1984.~~	~~Scale: 1" = 64 Miles~~
Dwn by: W.G.	Dwg no. -1

INTRODUCTION

The Snowflake property, in the Aspen Grove area of the Nicola Mining Division, B.C., was optioned by Laramide Resources Ltd. in 1983. Acquisition was prompted by reports of significant gold intersections of up to 0.15 ozs Au/ton over 60', encountered during a 1967 diamond drill programme to test I.P./ magnetometer anomalies.

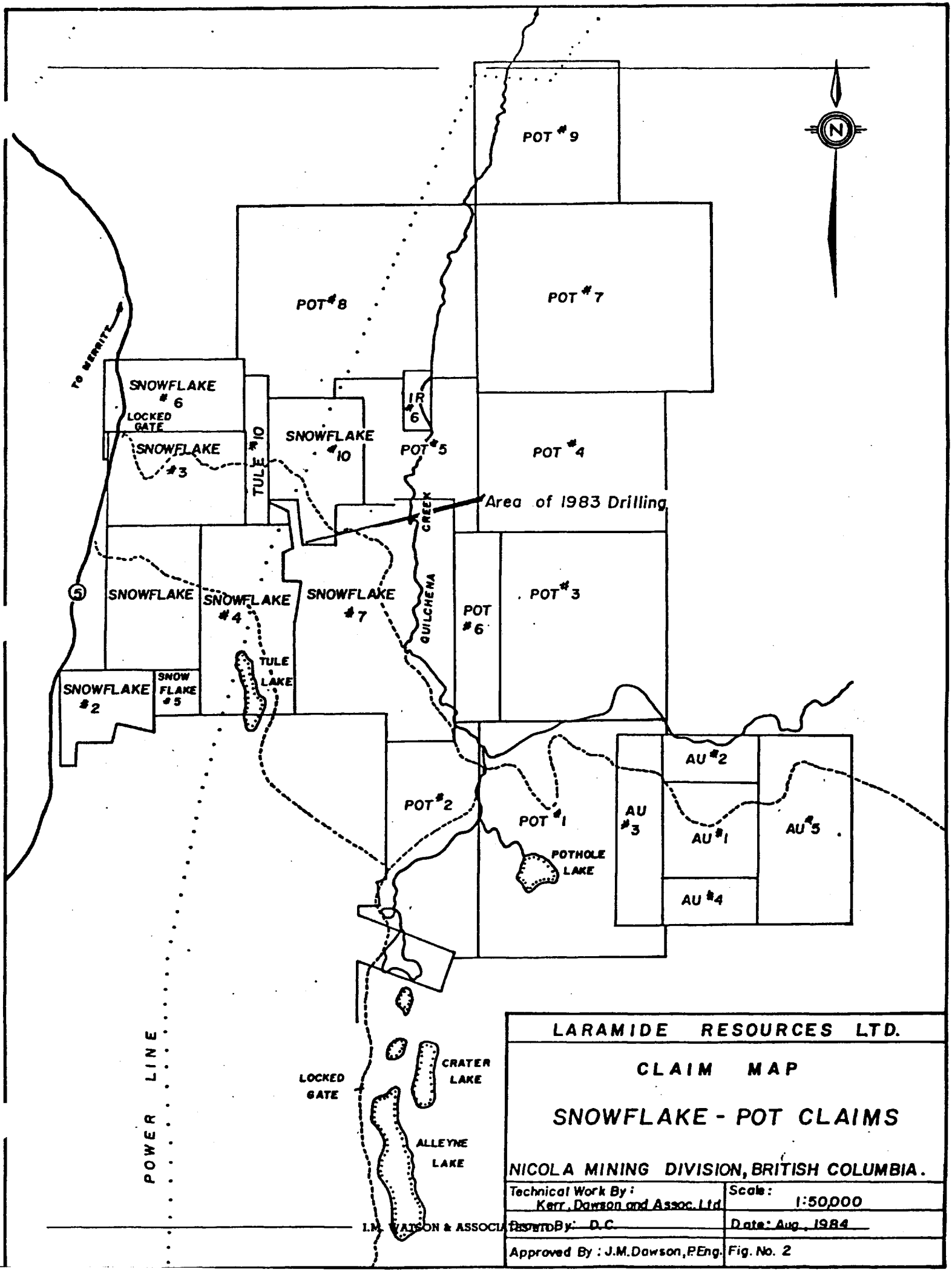
During 1983 Laramide carried out magnetic and I.P. surveys over the area of interest, and tested the resulting I.P. anomaly by a 12-hole, 995.7-metre diamond drill programme. The drilling confirmed the presence of significant gold mineralisation in a structurally and lithologically complex succession of black calcareous argillites, and andesitic flows and pyroclastics.

At this stage, the disposition and control of the mineralisation is not clear, but the geological environment is closely similar to that of the Quesnel area porphyry gold-copper deposits.

This report has three main objectives.

1. To compile and review the Snowflake property data.
2. To compare the geological setting with that of the copper-gold porphyry deposits of the Quesnel area, and, more sepcifically, to compare the Snowflake gold mineralisation with that of gold deposits currently being developed in the Quesnel Belt (e.g. Dome's QR deposit).
3. To propose a programme and budget for
   a) detailed investigation of the Snowflake gold zone, and
   b) general exploration of the property.

Most of the information used has been obtained from the files supplied by Laramide, and was supplemented by an examination of the Laramide drill core and a one-day visit to the property on 14th June 1984.



LARAMIDE RESOURCES LTD.

CLAIM MAP

SNOWFLAKE - POT CLAIMS

NICOLA MINING DIVISION, BRITISH COLUMBIA.

Technical Work By: Kerr, Dawson and Assoc. Ltd.	Scale: 1:50,000
Drawn By: D.C.	Date: Aug., 1984
Approved By: J.M. Dawson, P.Eng.	Fig. No. 2

I.M. WATSON & ASSOCIATES LTD.

FORMAT

Descriptions of the property geology, work history, claims, etc., are contained in some detail in the various company reports and in Preto's excellent bulletin and maps (B.C. MEMPR Bull. 69, 1979); to avoid repetition and for the sake of brevity, only essential basic information is summarised in this report.

Property data is compiled on a 1:5000 geological/topo plan, based on Preto's mapping, complemented by overlays showing the disposition of geophysical and geochemical anomalies, diamond and percussion drilling, and distribution of mineralisation.

PROPERTY

The original property, as described in Dawson's report (1984), was expanded to the north and south by the staking of additional claims during July 1984. The present holdings are as outlined on the accompanying sketch, supplied by Mr. Dawson.

LOCATION

Approximately 20 kms. south of Merritt, immediately east of Highway 5 and just north of Aspen Grove in the Nicola M.D., B.C.

ACCESS

Readily accessible from Highway 5 by dirt roads which cross the property. Gentle topography, open range land with patchy open bush.

HISTORY

Work in the Snowflake property area dates back to the turn of the century. Early Minister of Mines reports refer to about 16 copper occurrences in the 9 km. x 3 km. area between Tule and Kentucky Lakes. A number of old adits and shafts were completed on some of these zones, and at least two (Copper Star; Big Sioux) produced small tonnages.

More detailed accounts of work in the area date from 1958, when assessment work files were started by the government. The following is a chronological summary of the data culled from the Laramide files, and from the B.C. government Minfile and annual reports.

1958	Granby Mines	Magnetometer survey (AR 250)
	Harry Nesbitt	Staked 'Blue Jay' claims (western portion of Snowflake property)
1959	Noranda Mines	EM & magnetometer surveys between Courtney Lake and Tule Lake, followed by diamond drilling, trenching and stripping. (Drilling encountered thin coal beds, thought to be source of a large EM? anomaly.)
1963	Utica Mines Ltd.	50 claims at the junction of Pothole and Quilchena Creeks. Stripping, trenching and mapping.
1964	Harry Nesbitt	Blue Jay 1-4 claims. Surface stripping and 5 drill holes encountered sparse copper mineralisation.
1965	?	CM claims staked.
1966	Vananda Explorations Ltd.	Acquired CM claims. 9 percussion holes, totalling 620'.
1967	Vananda/Merritt Copper Co.	Joint venture. CM claims. I.P. and magnetometer surveys. 3 diamond drill holes (1438') and 1 percussion hole (420') in southwest corner of claim #CM1.

1967 Vananda/Merritt Copper Co. (cont'd.)

DDH1:

Au	Ag	Cu	Width
0.13 ozs	1.15 ozs	0.70%	165'-175' (10')
0.15 ozs	0.48 ozs	0.20%	210'-270' (60')
0.115 ozs	1.68 ozs	0.26%	310'-320' (10')

1968 Ashland Oil — Optioned Blue Jay claims.
Magnetometer survey (40 line miles)

1969 Vananda Exploration — Topographic survey of CM claims.

1970 Bethlehem Copper — DUD claims. at south boundary of present Snowflake property.
Percussion drilling, 10 holes totalling 2700'. Geological mapping.

1971 Rio Tinto — Acquired Blue Jay claims.

1972 Amax Exploration — Halo and Broatch claims at southern boundary of present Snowflake property.
Geological mapping; magnetometer survey (28 miles); I.P. survey (6.3 miles); geochemical soil survey (1,099 samples); percussion drilling 22 holes (6407').

Craigmont Mines — Optioned Blue Jay claims.
Percussion drilling 19 holes, 4000', testing Ashland Oil I.P. anomalies?

1975 F. Gingell & R. W. Yorke-Hardy — Staked the Snowflake claims.
Geochemical and VLF-EM surveys (1976).

Harry Nesbitt — Au Pyramid 20-unit claim, near Pothole Lake on the eastern boundary of the present Snowflake property.
Diamond drilling - 2 holes, 86.4 m.

1976 E. Bomford & M. Weinstein — Acquired the Ted and Chief claims (covering area formerly covered by the CM claims).

1977 Gingell & Yorke-Hardy — Snowflake claims.
Geological mapping.

1978 Cominco Ltd.
1979 " " — Optioned Snowflake property.
Percussion drilling 14 holes, 121 metres (1978).
Magnetometer, I.P. surveys. Percussion drilling, 20 holes, 1643 metres (1979).

1983	Laramide Resources Ltd.	Optioned Snowflake property. I.P. and magnetometer surveys over area of Vananda-Merritt Copper diamond drilling - 12 holes, 995.7 metres.

REGIONAL GEOLOGICAL SETTING

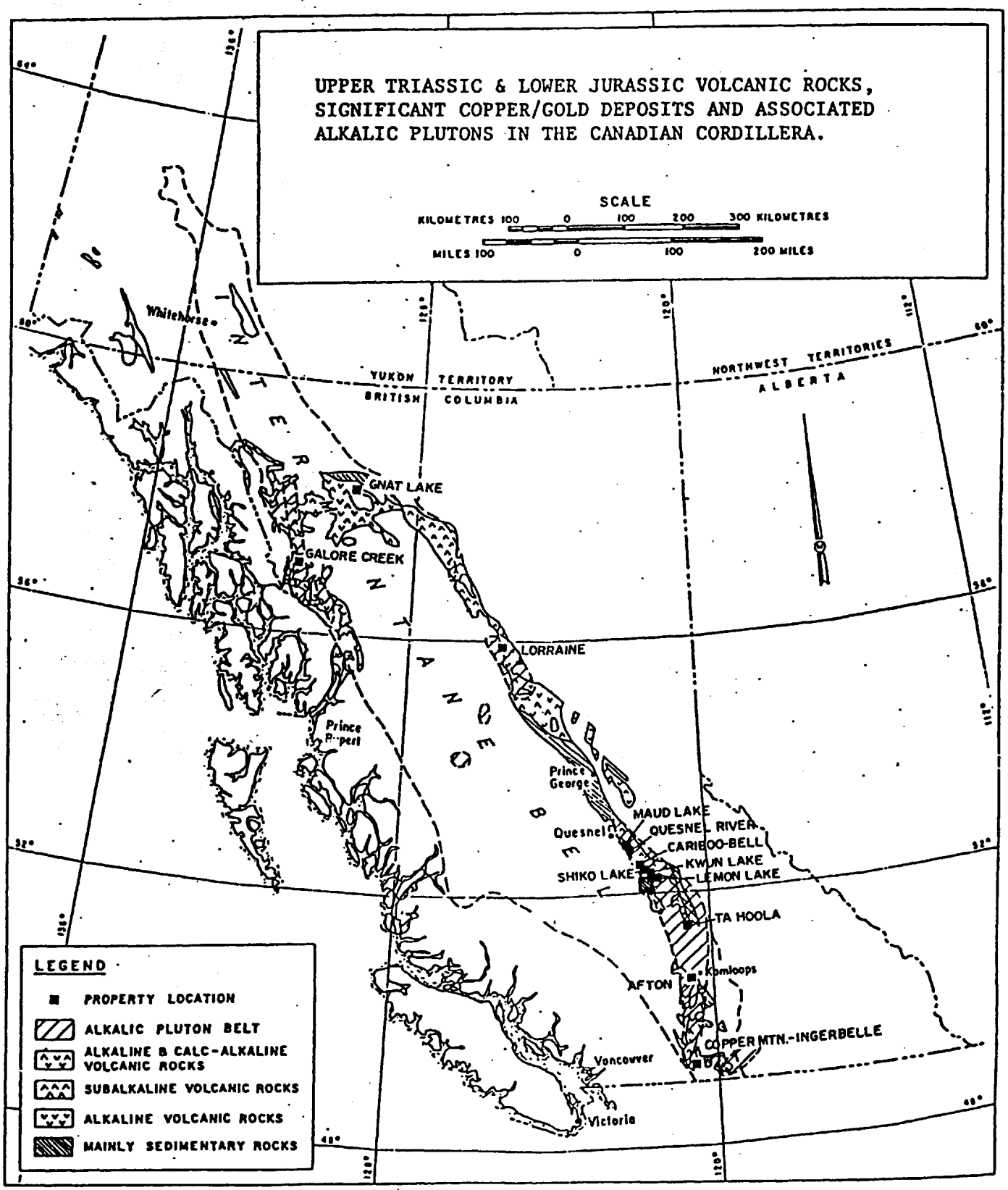
The Snowflake property lies within the Nicola Belt, which forms the southern portion of a northwesterly trending 30-60 kms. wide assemblage of Upper Triassic volcanic and sedimentary rocks, extending from Princeton in the south to the Stikine in the north. The Nicola Belt passes north under Tertiary volcanics and sediments to reappear as the Quesnel Belt or Trough in the Quesnel-Cariboo area.

The volcanics of the Quesnel and Nicola Belts form a mixsd alkaline and calc-alkaline sequence of basalts and derived volcaniclastic monolithic and polylithic breccias and tuffs, and minor sediments.

The volcanic rocks are intruded by comagmatic alkaline plutons, ranging in composition from syenogabbro to alkali syenite. The intrusions appear to be structure related and occur in belts along major lineament and faults. They vary in size from plugs to small batholiths, and have been emplaced into the volcanic centres which produced the abundance of volcanic material (Barr et al, 1976).

In the Aspen Grove area, Preto has delineated three assemblages - a Western Belt of easterly dipping calc-alkaline flows, pyroclastics and sediments; a Central Belt of alkaline and calc-alkaline volcanics and intrusions, and minor sediments; and an Eastern Belt of westerly dipping volcanic sediments, tuffs and alkaline flows associated with small monzonite porphyry stocks. The belts are separated by major north-striking faults.

Preto believes that the Central Belt of dominantly volcanic rocks originates from eruptive centres along the major fault system, and points out the greater concentration of mineral deposits along this belt.



Modified from D. A. Barr et al., C.I.M. Special Volume No. 15, 1976.

The Snowflake property straddles the main fault system and is underlain by Preto's Central Belt flows, tuffs and aggolmerates, intruded by plugs of diorite, monzo-diorite and hornblende porphyry. The intrusions are strongly magnetic and are readily recognizable on the airborne and ground magnetic maps.

ALKALINE SUITE PORPHYRY GOLD COPPER DEPOSITS

The alakaline suite porphyry deposits of the Quesnel and Nicola Belts (e.g. Copper Mountain, Afton, Cariboo Bell) are related to and coeval with the alkaline plutons and their volcanic host rocks. There are characteristically low molybdenum, gold bearing copper deposits, and are distinct from the calc-alkaline class of porphyries which are hosted by the large, differentiated, quartz-bearing, calc-alkaline batholiths, e.g. Highland Valley deposits, Gilbraltar.

Fig. 3 shows the distribution of the known alkaline type porphyry gold-copper deposits.

In general, the deposits occur in breccias within the plutons and in zones of intense faulting, fracturing and alteration in the surrounding volcanics. Hydrothermal alteration is developed around the plutons and is characterised by a zone of potash feldspar and biotite succeeded outwards by chlorite, epidote, carbonate and albite (propylitic zone). Sulphides occur in all zones of alteration; in order of abundance they are pyrite, chalcopyrite, bornite, chalcocite and pyrrhotite (Barr et al, 1976). The common association of magnetite with alkalic intrusions provides a useful exploration guide, and arcuate airborne magnetic highs are often evidence of a pluton's presence.

In the Cariboo area, the Cariboo-Bell Bootjack Lake and the Dome QR deposits are the best known, and provide models for exploration.

The Cariboo Bell deposit was discovered in 1964, during examination of a prominent aeromagnetic anomaly. Exploration has resulted in the delineation

of drill indicated 100 million tonnes grading 0.32% Cu and 0.45 g/tonne (0.013 ozs/ton) Au.

The deposit occurs in breccia zones within and near the top of a complex alkaline laccolith which intrudes the upper part of a thick sequence of Upper Triassic trachybasalts and volcaniclastic rocks (Hodgson et al, 1976). Chalcopyrite and magnetite occur as disseminations and veinlets in the breccias. Pyrite is abundant in a 'halo' above the copper zone. Alteration consists of potash feldspar-biotite-diopside in the breccias, with outer zones of garnet-epidote and epidote.

Exploration of the Cariboo Bell deposit included geochemical, magnetometer, and I.P. surveys. Geochemistry delineated glacially extended copper (200ppm Cu) and gold (30ppb Au) anomalies which peak over the mineralised breccia zones. The ground magnetic survey showed a close correspondence of magnetic highs and mineralised zones. The I.P. survey produced weak anomalies (6% frequency effect) correlating with the pyritic halo but did not clearly distinguish the mineralised breccia.

The QR (Quesnel River) deposit was discovered in 1975, also during investigation of an airborne magnetic anomaly. Preliminary widely spaced soil sampling revealed an isolated gold/copper anomaly (400 ppb Au; 80ppm Cu). Follow-up detailed sampling outlined a strong gold-copper anomaly and subsequent drilling encountered interesting gold assays.

In May 1982, following further drilling, Dome's annual report announced drilled reserves of 950,000 tons grading 0.21 ozs Au/ton (6.53 g/ton) "in a compact near surface deposit".

Information presently available (Fox, 1983) indicates that the gold occurs within the propylitic alteration zone related to a diorite-monzonite pluton. The pluton has intruded a thick and extensive sequence of basaltic rocks and derived sediments, including carbonates and/or carbonatised basalts. Current belief is that the gold was introduced during hydrothermal alteration and was precipitated in the carbonate rich rocks within the pyrite-epidote

propylitic zone. As yet there is no obvious pattern to the distribution of gold within the zone - it is apparently not related to degree of alteration. There appears to be a combination of stratigraphic and hydrothermal controls, and ore shoots crosscut lithological boundaries. Post 'ore' faulting adds to the complexity.

Gold, copper and possibly arsenic have been dispersed in the soils down glacier from the QR zone to the northwest for several hundred metres.

Magnetometer surveys confirmed the airborne anomaly and showed the correlation between the stock and magnetic highs (Fox, 1976; Richardson, 1978).

Strong I.P. chargeability anomalies (up to 60 m/s) correlate well with the pyritised propylitic host rocks, and with the pyritised calcareous argillites above the mineralised zone.

Summary

The Cariboo Bell and QR deposits illustrate two different modes of gold occurrence within the alkaline porphyry environment. Cariboo Bell gold zone is hosted in the brecciated upper portion of the pluton itself, while the QR zone occurs outside the pluton, but within the propylitic zone of that intrusion's alteration halo.

The deposits provide models and guides for exploration. The most successful exploration tools are geochemical soil sampling, airborne and ground magnetics, and I.P. surveys, complemented by geological mapping/interpretation.

Other modes of gold occurrence are possible within the alkaline porphyry deposit environment and the Quesnel-Nicola Belts in general. These include volcanic exhalative or fumarolic deposits that may have been deposited earlier in the volcanic cycle, prior to intrusion of the alkaline stock, and are beyond the influence of the alteration halo. The Ta Hoola (Friendly Lake) deposit may be of this type. Stock-work, vein and contact metasomatic types are also possible.

EXPLORATION RESULTS - SNOWFLAKE PROPERTY

General

Exploration of the Snowflake property area in the past has been concentrated in the western half of the property (old Blue Jay claims) where exposure is good and where attention was drawn to the numerous copper showings in the volcanics adjacent to the magnetically prominent diorite and monzo-diorite intrusions.

Results of this porphyry copper oriented work are graphically summarised in the overlays showing disposition of drill holes, geophysical and geochemical anomalies.

Copper mineralisation, although widespread, is too weak and erratic to be of significance, and apart from geochemical composite sampling of percussion holes by Cominco, there is no evidence of any real past interest in gold

The eastern portion of the property, east of Tule Lake, has attracted less attention, apart from the work done by Vananda-Merritt Copper in 1967, of which there is only passing reference, work by Nesbitt in the Pothole Lake area, and reconnaissance type geophysical coverage by Cominco in 1979.

Laramide Resources

Laramide drilled 12 holes into the I.P. anomaly resulting from the four-line survey. Gold was encountered in four holes - in order of significance SF 83-8; 83-1; 83-9; and 83-12. Assays range from a few hundred ppb Au in hole 12 to 0.426 ozs Au and 5.27 ozs Ag/ton over 15', including a five-foot section assaying 1.05 ozs Au and 12.0 ozs Ag/ton.

The mineralised zones are hosted in limey, pyritic and locally graphitic argillites, close to the contact with underlying andesitic tuffs, and also in the volcanic rocks within a few metres of the argillite/limestone contact. The gold occurs in well defined bleached zones of fracture controlled quartz-carbonate veining, accompanied by minor amounts of sulphides. There is no visible gold, but microscope examination of the sediment hosted mineralisation in hole 8 revealed gold rich eleotrum in fractures in pyrite, accompanied by chalcopyrite, sphalerite and argentite. A. L. Littlejohn of Vancouver Petrographics notes the association of the gold with the chalcopyrite sphalerite stage of mineralisation, and confirms that the host rock is a fine grained limestone.

Drill logs, sections and a small scale model attest to structural and lithological complexity, but the overall interpretation is one of northwesterly strikes and steep to moderate southwesterly dips. This is supported by the trace of the I.P. anomaly which coincides well with that of the limey argillite projected to surface. If this interpretation is correct, only those holes drilled vertically or angled east would fully intersect the favourable zone along the 'footwall' of the limey argillite. In fact, it appears that only three holes were positioned and drilled deeply enough to completely intersect the potential zone of interest (Holes 8, 10 and 12 - all - 90^{o}). Hole #1 was drilled west and appears to parallel the zone, but fortuitously passes through it. Hole 9 (-90^{o}) was collared east of the argillite/limestone 'footwall' and hence did not cut the upper part of the potential zone. Hole #2 was the only hole drilled east, but was stopped in the sediments before reaching the 'target' footwall contact.

DISCUSSION

During 1983-84, the Quesnel Trough was the scene of intense staking activity by over 100 participants, spurred by the recent Dome porphyry gold-copper deposit. The Nicola Belt is the southern extension of the Quesnel Trough and possesses the same general geological character. On the Snowflake property,

the geological environment resembles that of the Dome QR deposit; the most important similarities to the QR deposit are as follows:

1. Thick accumulation of alkaline flows, polylithic green and maroon breccias, tuffs and minor sediments, including distinctive black pyrite calcareous argillite.

2. Presence of monzonite-diorite alkaline intrusions aligned along a major fault system.

3. Porphyry copper style mineralisation with associated epidote, carbonate, and pyritic alteration (propylitic).

4. Occurrence of gold mineralisation at or adjacent to the contact between the calcareous argillites and underlying volcanics.

Personal examination of the Laramide core and of outcrops on the Snowflake property confirm the overall similarity of the geological setting to that of the Quesnel Trough Slide and QR properties.

Some differences exist -

a) The volcanic sequence on the Snowflake property is less basic, more uniform, and 'cleaner' than that in the Quesnel environment.
b) So far there has been no report of gold in the 'argillites' on the QR property.
c) Gold bearing alteration zones in the Laramide core are sharply defined, bleached and contain fracture controlled quartz-carbonate veins. At QR, the gold occurs in variably propylitised zones which are devoid of quartz, and gold content appears to be unrelated to intensity of alteration.
d) Drill hole sampling by Cominco (1979) and Laramide, and geochemical rock sampling by Morrison (1981) suggest a more widespread distribution of gold than at QR, where Fox (1983) reports a sharp and complete cut-off.

Murray?

RECOMMENDATIONS

A concurrent two phase exploration programme is strongly recommended for the Snowflake property.

Phase 1 should be devoted to detailed investigation of the 'Laramide gold zone'.

Phase 2 should be a wider ranging reconnaissance type of programme, with a first priority being the identification of argillite/volcanic environments similar to that hosting the Laramide zone.

Soil and rock geochemistry, magnetic and I.P. surveys, combined with geological mapping and interpretation, are the preferred tools. Because of the depth of overburden in the Laramide gold zone area, doubt has been expressed about the effectiveness of soil geochemistry. It is therefore recommended that test sampling profiles be made over the zone, before embarking upon 'blanket' coverage of the property.

Preto's excellent outcrop map of the geology precludes any full scale mapping programme. Geological work should be confined to detailed investigation of areas of immediate interest and identification of calcareous sedimentary units.

PROPOSED EXPLORATION PROGRAMME

Phase 1 (Laramide Gold Zone)

a) Linecutting - expansion of existing Laramide grid to provide control for I.P., magnetometer, and soil sampling. Lines spaced at 100 m. with 25-m. stations.
Estimate: Approx. 18 kms. (overlay 2B)

Phase 1 Cont'd.)

b) I.P. - to test for extensions of the pyritic calcareous argillite, and for concentrations of sulphides in either or both the sediments and volcanics.
Estimate: Approx. 23 kms. (overlay 2C)

c) Magnetometer survey - to aid interpretation of lithology and structure.
Estimate: Approx. 45 kms. (overlay 2B)

d) Geochemical soil sampling - test profiles over the projected sub-crop of the gold bearing zone(s), followed by full grid coverage, if results are encouraging (100 m. x 25 m. grid). (Test sampling by portable deep sampling tool - e.g. Pionjar.)
Estimate: 200 samples - test profiles (overlay 2D)

e) Diamond drilling - preliminary follow-up, dependent on results of the geophysical and geochemical programme.
Estimate: 1000 metres.

Phase 2

a) Prospecting and examination of all areas underlain by sediments, using Preto's map as a first guide. Particular attention to be paid to the area of sediments (unit 1 g) 1.5 kms. west of the Tule Lake (map 1). Selection of specific areas for more detailed investigation.

b) Linecutting - expansion of the Cominco and Laramide grids for 'reconnaissance' type exploration of selected areas. (200 m. x 50 m. spacing)
Estimate: Approx. 150 kms. (overlay 2B0

Phase 2 (Cont'd.)

c) Magnetometer survey over reconnaissance grid.
Estimate: Approx. 150 kms. (overlay 2B)

d) Geochemical soil survey over reconnaissance grid (dependent in part on results of Phase 1(b)).
Estimate: Approx. 2000-3000 samples (overlay 2B)

e) I.P. survey - reconnaissance - 400-metre spaced traverses; targets - 1) pyritised sediments; 2) sulphide zones in volcanics.
Estimate: Approx. 33 kms. (overlay 2C)

Further work would be dependent on the results of Phases 1 and 2 work.

PROPOSED BUDGET

Phase 1 Approx. 1 month

Administration/supervision	$ 6,000
Communications, freight	1,800
Equipment rental/purchase	2,500
Reproductions, maps	750
Vehicle costs	5,500
Drafting	1,750
Linecutting - est. 18 kms. @ $150.00/km.	2,700
I.P. survey - est. 23 kms. @ $750.00/km.	17,250
Mag. survey - est. 45 kms. @ $50.00/km.	2,550
Soil sampling - i) test profiles -approx. 200 samples	4,000
ii) grid sampling - 800 samples (dependent on test profile results)	11,600
Subtotal	57,000
Diamond drilling - dependent on results of geophysical/geochemical surveys - est. 1000 m. @ $110.00 (overall cost incl. supervision)	110,000
	167,000
Contigencies - 10%	16,700
TOTAL	$ 183,700

PROPOSED BUDGET (Cont'd.)

Phase 2 — Dependent on results of Phase 1 - maximum budget anticipated for full coverage of property.

Administration/supervision	$ 9,500
Salaries - prospector/geologist - 15 days @ $250.00/day	3,750
Communications, freight	600
Equipment rental/purchase	1,500
Reproductions, maps	250
Vehicle costs	2,500
Drafting	800
Linecutting - est. 150 kms. @ $150.00/km	22,500
I.P. survey - recce est. 33 kms. @ $750.00/km.	24,750
Mag. survey - est. 150 kms. @ $50.00/km	7,500
Soil sampling est. 2000 samples @ $14.50/sample	29,000
	102.650
Contingencies 10% rounded	10,200
	$ 112,850

PHASE 1	-	$ 183,700
PHASE 2	-	112,850
TOTAL	-	$ 296,550

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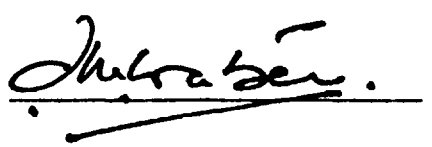
Per: 

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