

**GEOLOGICAL EVALUATION
OF THE 520528
HEN CLAIMS
CARIBOO MINING DIVISION
93A/6E**

**Prepared For
Messrs. Victor Guinet
and Brian Fenwick-Wilson**

By

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1. SUMMARY

The Hen property, consisting of four claims totalling 80 units, staked under the Modified Grid System in 1991, is located about 30 kilometres to the northwest of Horsefly in south central British Columbia. The property is accessible via an all-weather gravel road and thence via a four-wheel-drive vehicle trail to north of Hen Ingram Lake.

The region in which the property occurs is underlain by Upper Triassic rocks which comprise part of the lower sedimentary assemblage of the sedimentary-volcanic succession of the central Quesnel belt. These sedimentary rocks host, elsewhere in the belt, structurally controlled gold deposits such as those of Frasersgold to the southeast and CPW to the northwest. To the west of the property within volcanic rocks of the central Quesnel belt are porphyry copper - gold deposits such as those of Mt. Polley, Kwun Lake and Lemon Lake.

The Hen property is underlain by mainly fine grained epiclastic sedimentary rocks with intercalated tuffaceous horizons, cut by mafic dykes and elongate intermediate to felsic intrusive bodies. Sedimentary rocks have been folded about northwesterly-striking axes and cut by later northeasterly-striking faults and fracture systems. These northeasterly structures are host to auriferous pyrite - pyrrhotite (+/- chalcopyrite) mineralization within zones of silicification and quartz veining.

Exploration of the area of the Hen property first began in 1965 during regional reconnaissance for porphyry copper deposits and included trenching, induced polarisation surveying and diamond drilling. This was followed by an exploration programme, beginning

in 1979, to evaluate the area for its gold mineralization. During this period a grid was established and limited percussion drilling undertaken. Results of this exploration indicated the presence of anomalous gold associated with sulphide mineralization but no systematic work appears to have been carried out to determine its extent. In 1988 the present holders of the property re-established a grid and carried out soil sampling, magnetic surveying and rock chip sampling. A zone of anomalous gold in soils (up to 1.9 ppm gold) parallel to the northeasterly zone of fracturing which hosts the known sulphide mineralization was outlined but remains to be tested by drilling.

The Hen property covers gold - sulphide mineralization which appears to be controlled by a northeasterly - strike fracture zone and which has yet to be systematically tested along its strike extensions. It is considered that good potential exists for the discovery of additional gold mineralization with associated sulphides along this structure and, possibly, along subparallel structures which are interpreted to underlie the property.

2. CONCLUSIONS AND RECOMMENDATIONS

2.1 Conclusions

1. The Hen property is underlain by epiclastic sedimentary rocks with interbedded volcanoclastic horizons, typical of the lower part of the Upper Triassic sedimentary-volcanic assemblage of the central Quesnel belt.

2. Auriferous sulphide mineralization of the Hen property is structurally controlled, hosted by northeasterly - striking fracture zones conformable in attitude with the dominant faulting direction of the central Quesnel belt.

3. Both deformation of the enclosing rocks and ore mineral deposition postdates the emplacement of felsic intrusions which occur in the area. Consequently, it is considered unlikely that gold mineralization is related to these intrusions.

4. Because northeasterly-striking structures of the central Quesnel belt have considerable strike extent (commonly the entire width of the belt) a large exploration target area exists on the Hen property.

2.2 Recommendations

An initial exploration programme designed to evaluate possible auriferous structures and consisting of the following, is recommended.

1. Extend the existing grid to the southwest towards Hen Ingram Lake and to the northeast.
2. Undertake geological mapping at 1:5000 scale with emphasis on the definition of the structural geology.
3. Carry out additional soil sampling to cover the extended grid.
4. If geological and analytical results from the above are encouraging, carry out induced polarization surveying with 25 metre spacings to define possible relatively narrow zones of sulphide mineralization.

3. INTRODUCTION

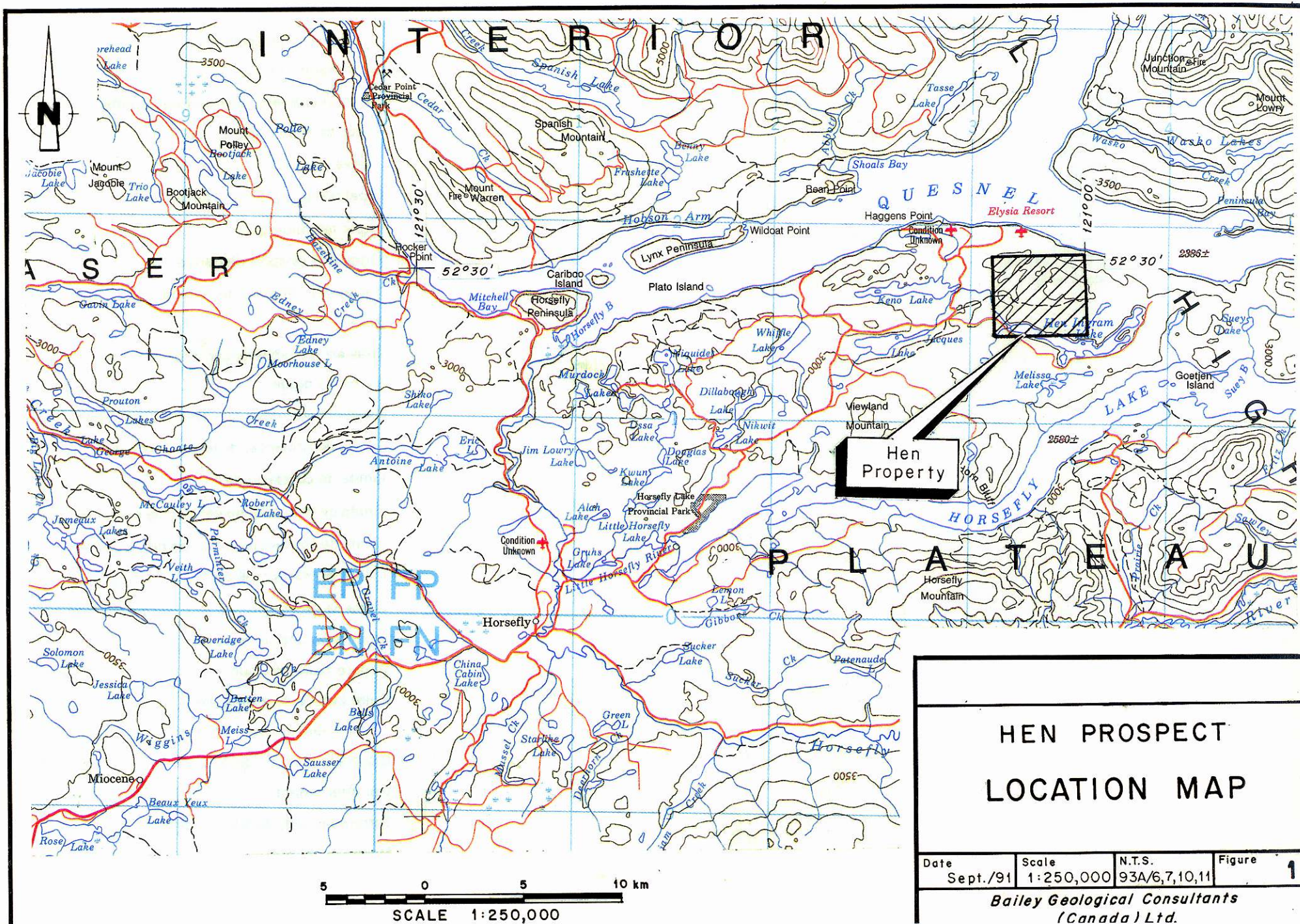
3.1 General

This report is prepared to provide an geological evaluation of the Hen claims in the Quesnel Lake area of the Cariboo Mining Division and a discussion of the potential of the claims to host economic concentrations of gold mineralization. The writer, whose familiarity with the geology of the region has been gained from several years of mineral exploration and geological mapping activities, spent two days examining the property in July, 1991.

The area occurs in a region in which exploration for alkalic porphyry copper- gold deposits has been concentrated since the mid-1960's and it has only been in recent years that exploration has been carried out in the region for deposits in which gold is the primary commodity. Whereas most of the porphyry copper-gold occurrences occur within volcanic rocks of the region, structurally controlled gold-rich deposits occur mainly within sedimentary rocks in the eastern part of the region. Gold mineralization of the Hen property is considered to be an example of this latter type.

3.2 Location and Access

The Hen claims are located to the south of Quesnel Lake, about 30 kilometres northeast of the town of Horsefly, 80 kilometres east of Williams Lake. The claims are reached via an all-weather unsealed road from Horsefly to near Elysia Resort on the south shore of Quesnel Lake and thence by four-wheel-drive vehicle trail to the centre of the property, north of Hen



HEN PROSPECT LOCATION MAP

Date	Scale	N.T.S.	Figure
Sept./91	1:250,000	93A/6,7,10,11	1
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Ingram Lake (Figure 1).

Most parts of the claim group are covered by mature spruce forest except near the shores of Hen Ingram Lake where there are thick stands of cedar.

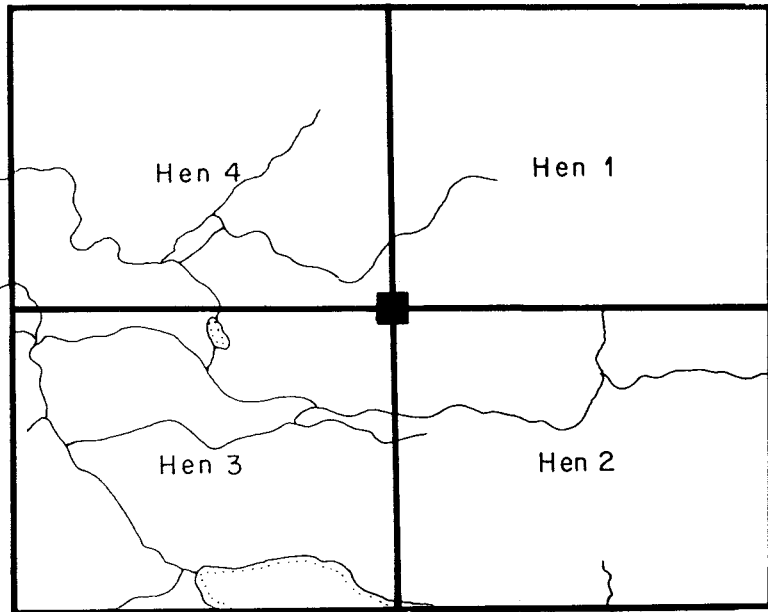
3.3 Mineral Tenements

The Hen 1 - 4 claims (numbers 301509 to 301512) were staked in July, 1991 to replace claims Hen 1 - 5 initially staked in 1984. The claims comprise 80 units, covering an area of 5 x 4 kilometres. The disposition of these claims is shown in Figure 2.

Q U E S N E L
L A K E



Spusks
Creek



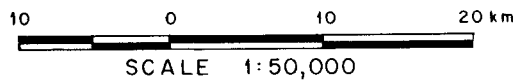
Hen 4

Hen 1

Hen 3

Hen 2

Hen
Ingram
Lake



HEN PROSPECT CLAIM DISTRIBUTION MAP

Date Sept./91	Scale 1:50,000	N.T.S. 93A/6,7,10,11	Figure 2
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4. PREVIOUS EXPLORATION

4.1 General

The area in which the Hen property occurs has been subjected to three periods of exploration since 1965. In this year the property was examined by Helicon Explorations Limited as part of a regional exploration programme for porphyry copper mineralization. During the period 1979 - 1980 the area was staked as the BTEM claims but which were subsequently allowed to lapse after a trenching and percussion drilling programme. In 1984 the property was re-staked as the Hen claims; these claims were abandoned and re-staked as the Hen 1 - 4 claims in 1991.

4.2 1965 Exploration

In 1965 Helicon Explorations Limited carried out work on 212 two post mineral claims staked to include an area of sulphide mineralization exposed in outcrop to the north of Hen Ingram Lake. A programme of geological mapping, induced polarisation surveying, trenching and diamond drilling was carried out, apparently with emphasis being placed on copper mineralization rather than on gold. Because of unencouraging results with respect to copper mineralization, Helicon withdrew from exploration of the property after the 1965 programme and, subsequently the claims were allowed to lapse.

4.3 1979 - 1980 Exploration

In 1979 the area was staked as the BTEM claims by Mr. Dallas Stanley in association with Mr. Brian Fenwick-Wilson who engaged L.S. Trenholme to evaluate the property. A

trench excavated by Helicon in 1965 (Trench 1 (see Figure 4)) was resampled, resulting in the recognition of significant amounts of gold associated with the sulphide mineralization exposed in the trench. The three highest assays ranged from 0.016 to 0.338 oz/ton gold and up to 6.03 oz/ton silver (Trenholme, 1979).

During the following year (1980) a drilling and trench sampling programme was undertaken on behalf of the claim holders by G.A. Noel and Associates. Nine percussion holes were completed in the area of Trench 1 with the best result (Hole P7) being 0.072 oz/ton gold over 1.52 metres. This hole averaged 0.0344 oz/ton over its total length of 9.14 metres. Trench samples taken over 2 to 10 metre lengths averaged 0.0085 oz/ton over 74 metres, the best assay being 0.0216 oz/ton (Jones, 1980).

4.4 Exploration From 1984 to Present

In 1984 the Hen 1 claim was staked by Mr. V. Guinet and the property examined by Welcome North Mines Limited the following year. Of twelve rock samples taken by Welcome North the highest assay was 0.102 oz/ton gold (3.52 g/t).

In 1986 a programme of surveying, rock chip sampling and geological mapping was undertaken on behalf of Mr. Guinet. Analytical results confirmed the gold distribution in the vicinity of the Trench 1 and, in 1988, a grid was established and a soil sampling programme undertaken, mainly to the west of the trench (Figure 4). Gold values greater than 20 parts per billion (ppb) are common in this area and range up to a high of 1430 ppb. Distribution of high values suggests a possible southwesterly trend, i.e. more or less conformable

with the dominant fracture direction (see Figure 4). The extent of this mineralization trend has not yet been defined.

5. GEOLOGY

5.1 Regional Geology and Mineralization

The Hen property occurs within Quesnellia, a terrane extending the length of British Columbia and bordered by the Omineca terrane to the east and Cache Creek and Stikinia terranes to the west. The Quesnellia terrane is characterised by the presence of Upper Triassic to Lower Jurassic alkaline volcanic rocks of shoshonitic affinity which were deposited on fine grained basinal sediments of mainly Upper Triassic age. Although the basal sedimentary rocks are thought to occur throughout Quesnellia, they are best exposed along the eastern margin of the terrane where extensive volcanic rocks are lacking.

In the south central part of Quesnellia, in the Horsefly - Quesnel Lake region (Figure 3) where the Hen property is located, the lower sedimentary rocks are in thrust contact with rocks of the Omineca terrane. Here sedimentary rocks are mainly argillaceous but with a coarser volcanic component which increases in amount towards the top of the sedimentary pile.

Whereas the volcanic rocks of the Horsefly region have undergone only brittle deformation and are relatively unmetamorphosed, the underlying sedimentary rocks, especially towards the eastern margin of the belt, have been subjected to at least two phases of folding and have mineral assemblages characteristic of lower greenschist facies of regional metamorphism. Both the volcanic and the underlying sedimentary rocks are cut by faults which are mainly northeasterly striking.

Mineral deposits of the central Quesnel belt, the Horsefly - Quesnel Lake region, are of three main types:

- i) copper - gold porphyry deposits associated with intermediate to felsic plutons considered to be comagmatic with enclosing volcanic rocks and which mark the sites of Lower Jurassic volcanic centres (e.g. Mt. Polley, Shiko Lake, Kwun Lake, Lemon Lake);
- ii) gold deposits within the lower, dominantly pelitic, sedimentary rocks and in which the primary control of mineralization is structural (e.g. Frasergold, CPW (Spanish Mountain));
- iii) placer gold deposits of Quesnel and Horsefly river systems in which the gold is probably derived from both of the above deposit types. Other, probably less significant, types of mineralization occur within the region, such as base and precious metal mineralization related to the large calcalkaline Takomkane Batholith to the south of Horsefly and possibly to later, Eocene, volcanism whose products occur throughout the Horsefly area.

Of the above deposit types, almost all historical gold production is from placer deposits in the Likely and Horsefly areas. However, significant gold resources exist at Mt. Polley to the west of the town of Likely, an alkalic porphyry deposit at the feasibility stage of development (85 million tonnes at 0.33% copper and 0.015 oz/tonne gold), and at the Frasergold deposit (Figure 3) where about 10 million tonnes at 0.045 oz/tonne gold are contained within structurally controlled veins cutting mainly black shale.

5.2 Geology of the Hen Property

The Hen property is underlain dominantly by sedimentary rocks of Upper Triassic age which comprise part

HEN PROSPECT SIMPLIFIED REGIONAL GEOLOGY

Date	Scale	N.T.S.	Figure
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LEGEND

LOWER JURASSIC

4 Felsic volcanic rocks & associated intrusions

UPPER TRIASSIC

3 Mafic volcanic & sedimentary rocks

2 Sandstone, shale, interbedded tuff

PALEOZOIC

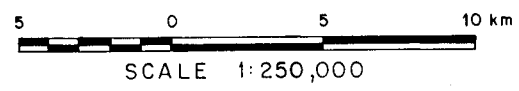
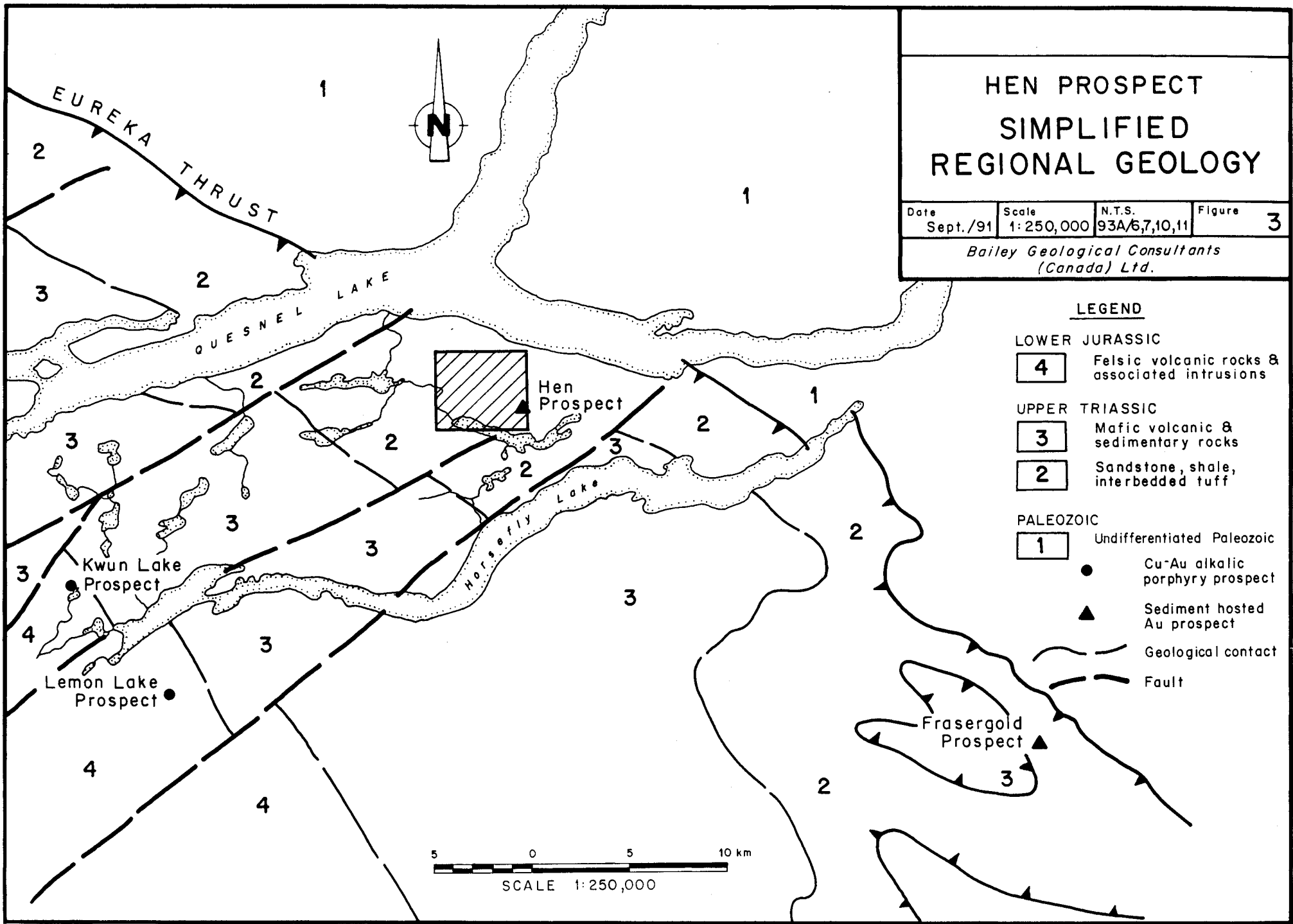
1 Undifferentiated Paleozoic

● Cu-Au alkalic porphyry prospect

▲ Sediment hosted Au prospect

— Geological contact

- - - Fault



of the lower sedimentary succession of Quesnellia. Although commonly referred to as "black phyllite" (Campbell, 1961), these sedimentary rocks range from black shale to coarse volcanic wacke with interbedded tuff. Epiclastic sediments dominate over volcanoclastic rocks. Intruding the sedimentary sequence are numerous small stocks, dykes and bosses of generally fine grained, equigranular texture and which commonly appear to be of dioritic composition. Mafic dykes also occur throughout the property; some of these probably represent feeders to the overlying basaltic rocks which crop out to the west of the property.

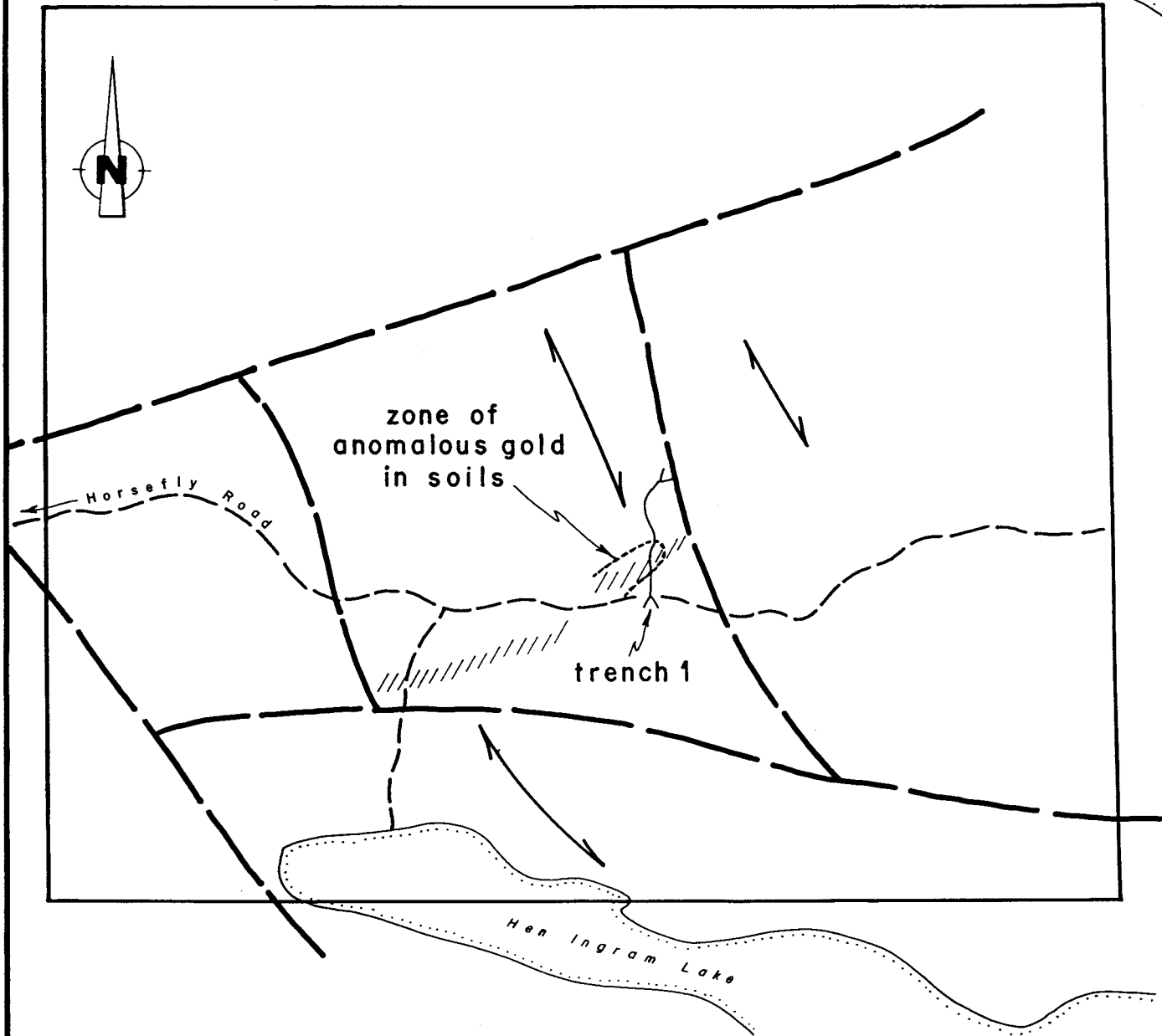
From limited observations of bedding attitudes sedimentary rocks underlying the prospect appear to have undergone large scale folding about northwesterly - trending axes, i.e. subparallel to the margins of the Quesnel belt.

These folds are cut by later shears and fracture zones which strike mainly to the northeast and east, conforming to the dominant direction of faults which have been recognised in volcanic rocks to the west of the prospect. Aerial photograph interpretation also suggests that both northwesterly and northeasterly striking structures are cut by a later fault set exhibiting westerly and northwesterly trends (Figure 4).


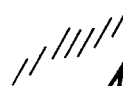

Emplacement of intrusions in the area of the prospect appears to have been controlled by northeasterly structures in that felsic intrusions are common in fracture and shear zones with this orientation and exhibit a parallel orientation with these zones. However, deformation along these zones has also occurred after intrusion emplacement in that dioritic intrusions are also commonly fractured in this direction.

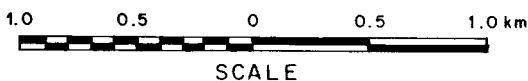
QUESNEL LAKE

Claim Boundary



LEGEND

-  Fault
-  Fracture zone
-  Fold axis



HEN PROSPECT
STRUCTURAL
INTERPRETATION
(SIMPLIFIED)

Date	Scale	N.T.S.	Figure
Sept./91	as shown	93A/6,7,10,11	4

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Regional metamorphism of the sedimentary rocks is of low, greenschist or subgreenschist, grade. Adjacent to intrusions a mild degree of hornfelsing has occurred; in most cases the preservation of primary structures and textures in the sedimentary rocks suggest that metamorphic recrystallisation has not been significant.

5.3 Mineralization of the Hen Property

Exploration of the Hen prospect has indicated the presence of several zones of pyrrhotite, pyrite and chalcopyrite with associated, often highly anomalous, gold. Sulphide mineralization occurs as massive lenses, veins, veinlets and disseminations and is strongly controlled by fracture zones oriented at about 060 degrees. There is a common association of sulphides, silicification and quartz veins. Calcite veining, with or without quartz, also occurs in some areas although the relationship between calcite and sulphides is not yet clear.

Geochemical analyses of samples taken from the main trench (Figure 4) indicate the presence of anomalous cobalt (up to 0.17%), arsenic (up to 0.3%) and silver (to about 0.3 oz/t) in samples with greater than about 0.1% copper and up to 1.9 oz/t gold. Highest gold values appear to occur in areas of greatest sulphide concentration.

6. DISCUSSION

The Hen prospect covers an area underlain by epiclastic and volcanoclastic sedimentary rocks of the lower part of the sedimentary - volcanic sequence of the central Quesnel belt. In the region several gold showings are known as well as the gold prospects of CPW (Spanish Mountain) and Frasersgold (Eureka Peak) for which reserve calculations have been made. Both of these deposits occur in a similar stratigraphic position to the mineralization of the Hen prospect and both are strongly controlled by structures which formed some time after deposition of the sediments themselves. In the case of the Frasersgold deposits, gold mineralization occurs within quartz veins which are semiconformable with bedding, occurring on fold limbs and hinge zones where, in places, the veins may be described as saddle reefs. The CPW deposits, on the other hand, clearly crosscut earlier structures, the gold occurring in both quartz veins and in quartz stockworks which extend out into the host rocks from the veins.

Both the Frasersgold and CPW deposits are considered to have formed during, or shortly after, metamorphism and deformation of the lower sedimentary assemblage of the Quesnel belt, in turn related to thrusting of the belt on to the Omineca Crystalline Belt. Metamorphic dehydration reactions and dewatering is a plausible explanation for the origin of the hydrothermal solutions, leaching gold from originally carbonaceous sediments and depositing it in dilational structures at a higher crustal level.

On the Hen property auriferous sulphide mineralization is controlled by a northeasterly - striking fracture zone,

conformable with the main direction of faulting in the central Quesnel belt (Bailey, 1990). These structures usually have considerable strike extent and thus present, in the geological environment of the Hen property, significant targets for gold exploration. Similar sulphide mineralization to that exposed in Trench 1 (Figure 4) occurs about 600 metres to the southwest. Anomalous gold in soils in the area between the two exposures suggests that there is a good possibility of gold enriched sulphide mineralization occurring along the interpreted structure between the two exposures, possibly offset (from aerial photograph interpretation) by later northwesterly faults.

Intermediate to felsic intrusions which are common in the area of the Hen property do not appear to have played a significant role in the localisation of gold mineralization in that the northeasterly structures which host the mineralization cut both the sedimentary assemblage and the intrusions. In the case of intrusion related porphyry mineralization of the central Quesnel belt these structures cut both the sulphide deposits and host intrusions and volcanic rocks.

Further work is warranted on the Hen property to define the extent of the northeasterly structure which hosts auriferous sulphide mineralization exposed in the main trench, as well as to define possible similar structures elsewhere on the property.

7. REFERENCES AND BIBLIOGRAPHY

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APPENDIX 1
CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

I, David Gerard Bailey of 4759 Mapleridge Drive, North Vancouver, British Columbia, hereby certify that:

1. I am a geological consultant with offices at Suite 510, 409 Granville Street, Vancouver;

2. I hold a B.Sc.(Hons.) degree in geology from Victoria University of Wellington, New Zealand (1973) and a Ph.D. degree in geology from Queen's University, Kingston, Ontario (1978);

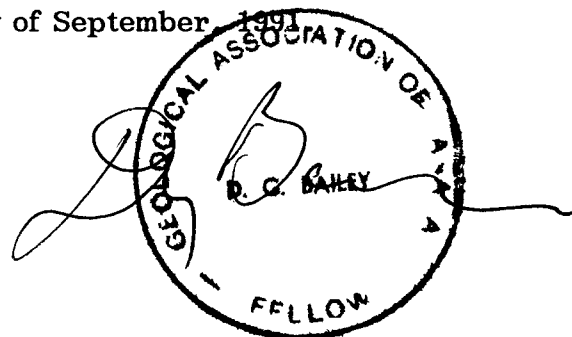
3. I have practised the profession of geologist continuously since graduation;

4. I am a Fellow of the Geological Association of Canada;

5. Information for this report is based on published and unpublished exploration and geological survey reports covering the area of the Hen claims, from an examination of the property and from discussions with Mr. V. Guinet;

6. Neither myself, nor Bailey Geological Consultants (Canada) Limited, hold any interest, either directly or indirectly, in the Hen property discussed in this report.

Dated at Vancouver this seventeenth day of September 1991



David G. Bailey