EUREKA RESOURCES, INC.

DOREEN PROPERTY

CARIBOO MINING DIVISION, B.C.

GEOLOGY AND PROPOSAL FOR EXPLORATION

JANUARY 1988

CAMPBELL & ASSOCIATES
GEOLOGICAL CONSULTANTS

ARIS SUMMARY SHEET

District Geologist, Prince George   Off Confidential: 89.02.11

ASSESSMENT REPORT 17089   MINING DIVISION: Cariboo

PROPERTY: Dor
LOCATION: LAT 52 18 00   LONG 120 57 00
UTM 10 5796167 639788
NTS 093A07W
CLAIM(S): Dor 1
OPERATOR(S): Eureka Res.
AUTHOR(S): Campbell, K.V.
REPORT YEAR: 1988, 50 Pages
COMMODITIES
SEARCHED FOR: Gold
GEOLOGICAL
SUMMARY: The claims are underlain by northeasterly dipping Triassic-Jurassic andesitic volcanic rocks and argillite intruded by an early Jurassic(?) plug of quartz diorite north of Doreen Lake. Massive, locally gold-bearing pyrrhotite occurs in east-west shear zones. Argillites are hornfelsed and along with andesitic rocks are silicified.

WORK
DONE: Geological,Geochemical
GEOL 15.0 ha
Map(s) - 1; Scale(s) - 1:1000
MNGR 6 sample(s)
PETR 20 sample(s)
ROCK 20 sample(s) ;ME
Map(s) - 1; Scale(s) - 1:1000
SOIL 32 sample(s) ;ME
Map(s) - 1; Scale(s) - 1:5000

RELATED
REPORTS: 10118,11905,13172
MINFILE: 093A 117

2|19

SUMMARY

The Doreen Lake property of EUREKA RESOURCES, INC. consists of 2 mineral claims located in the Quesnel Trough of central British Columbia, about 85 km east of Williams Lake.

The type of mineralization sought is gold-bearing pyritic stockworks and disseminated pyrite in propylitized andesitic rocks, similar to that at the QR deposit, some 70 km northwest in the same geological belt. The source of gold mineralization in the volcanic rocks of the region are early Jurassic plutons of intermediate chemistry.

The property is underlain by andesitic volcanic rocks and argillites which have been sericitized and silicified to varying degrees and intruded by at least one quartz diorite plug or stock. Mineralizations found to date are massive sulphides in crosscutting shear zones, disseminated pyrite and pyrite stringers in the andesitic rocks. The massive sulphides carry sporadic (but locally high grade) gold values. Of greater exploration interest are gold values to 0.186 oz/ton in the pyritic, silicified andesites.

Previous exploration programs have identified geophysical and geochemical anomalies. Massive sulphides in a shear zone(s) are considered to be the source of an EM conductor anomaly. Near this geophysical anomaly is a well defined gold geochemical anomaly in soils. The soil anomaly is not thought to be related to the massive sulphides, but to be caused by pyritic gold-bearing andesites found in the vicinity.

A two stage program is recommended to explore the possibility of the Dor claims to host a QR type of deposit. Stage I is geological mapping, additional geophysical surveys and a limited diamond drilling at an estimated cost of $145,000. Stage II is a more extensive drilling program estimated to cost about $367,000.

REPORT ON THE GEOLOGY AND PROPOSAL FOR EXPLORATION OF THE DOREEN LAKE PROPERTY

Doreen Lake Area
Cariboo Mining Division, British Columbia
N.T.S. Map Area 93A/7W
Latitude 52° 17' 30"N Longitude 120° 77'W

for

EUREKA RESOURCES, INC.
837 East Cordova Street
Vancouver, B.C.
V6A 3R2

by

K.V. Campbell, Ph.D.

January, 1988

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1 INTRODUCTION

This report reviews mineral exploration findings on the Dor claims of Eureka Resources, Inc., located in the Quesnel Gold Belt of central British Columbia. The purpose of the review is to examine the potential for gold mineralization in light of the geological setting and comparison to other occurrences of a similar nature elsewhere in the gold belt.

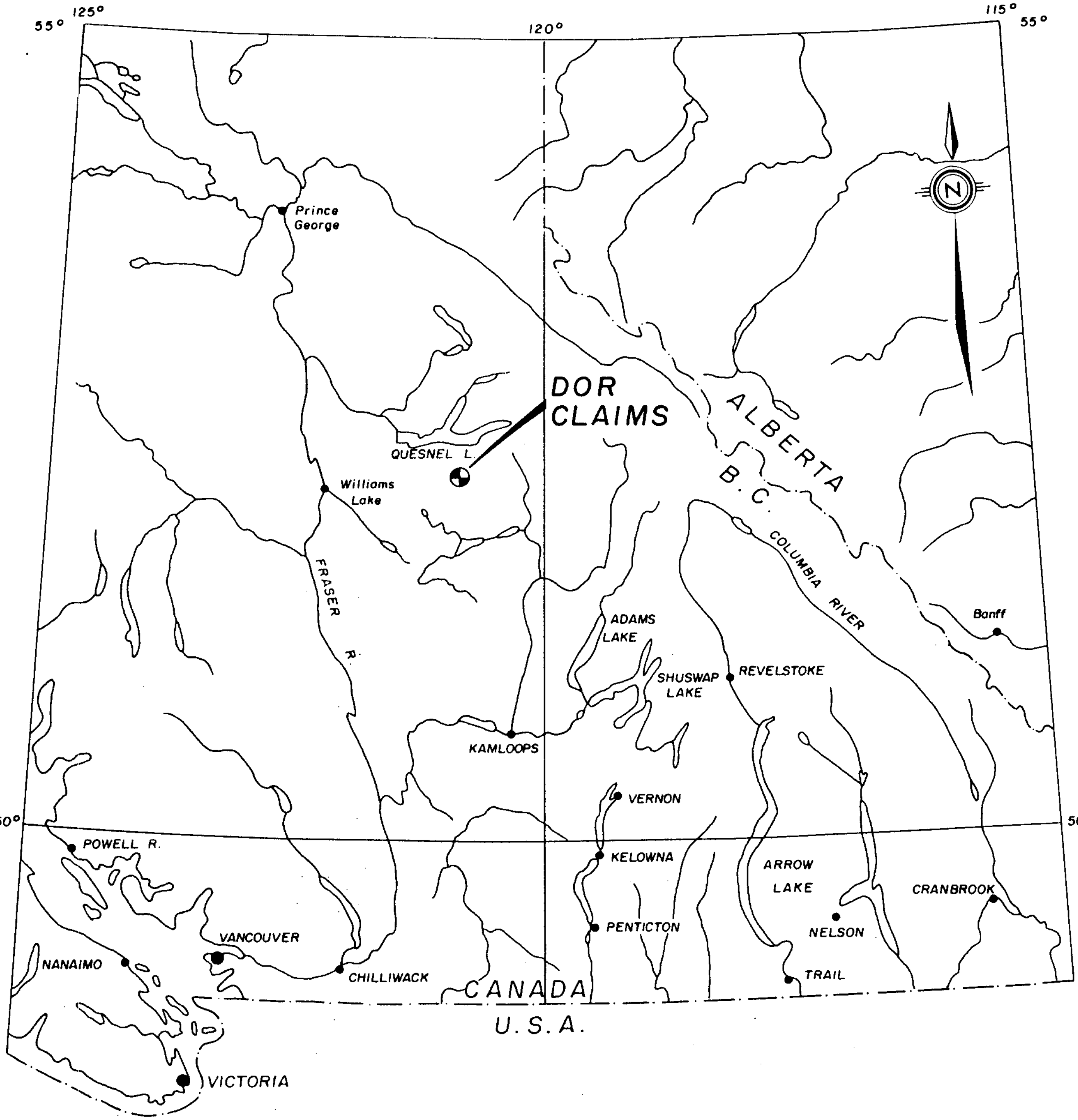
The property was visited by the author on September 17 and 18, 1987, during which time rock and soil sampling was undertaken for the purposes of examining petrography and geochemistry. In addition, a number of structural observations were made.

1.1 Location, Access and Topography

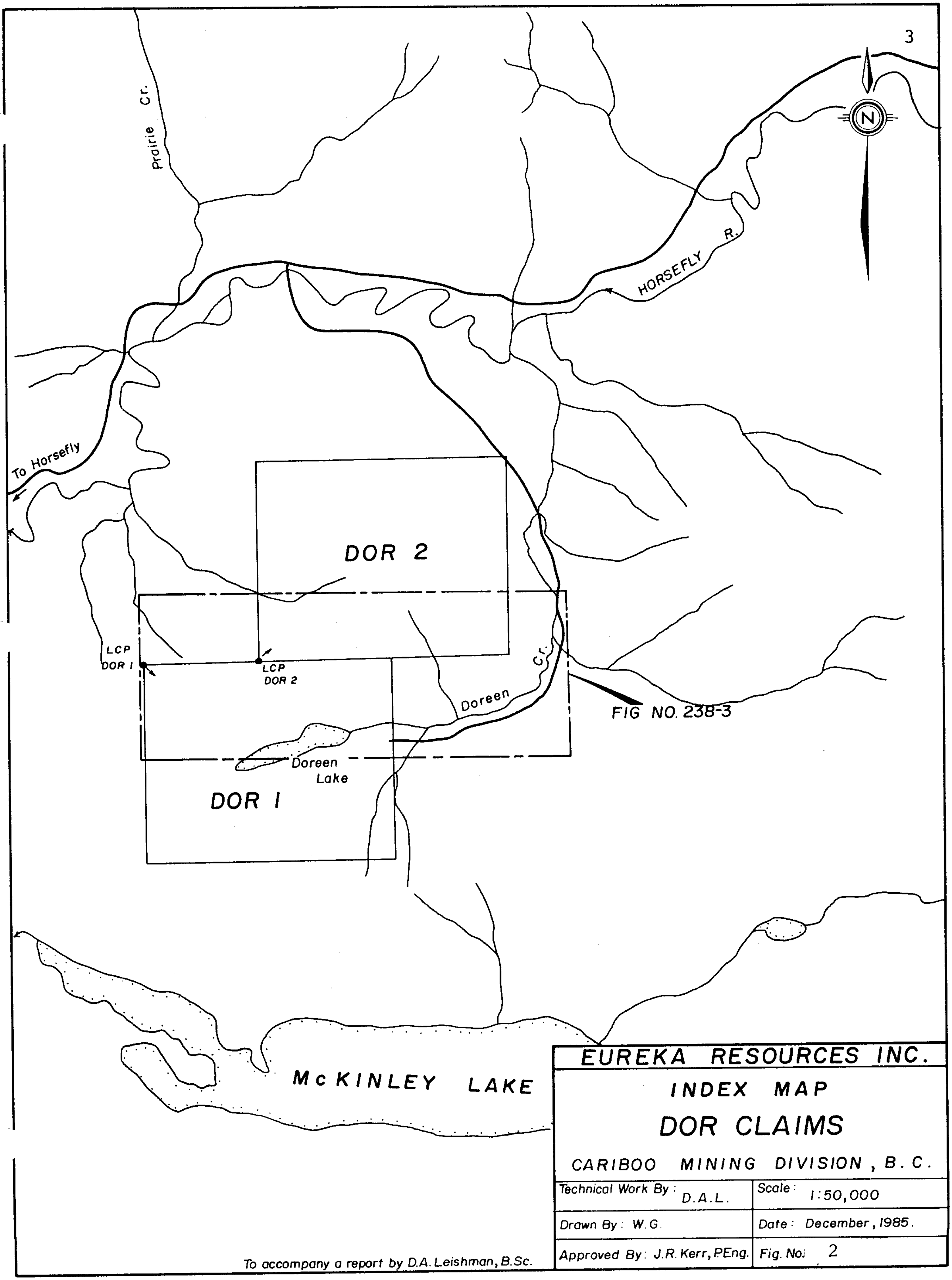
The Dor claims are situated some 85 km east of Williams Lake, within National Topographic System area 93 A/7W, and are centered at 120° 57'W longitude and 52° 17'30"N latitude (Figure 1).

Road access to the property is east for 55 kilometers on the paved road from 150 Mile House to Horsefly, then northeasterly along an all-weather logging road following the Horsefly River for about 30 km to a branch road that goes south up Doreen Creek to Doreen Lake (Figure 2).

The south-facing slope north of the east end of Doreen Lake has been burned and logged. A network of old skid trails and recent bulldozer trails built by Eureka Resources, Inc. reaches the south-central part of the Dor 2 claim where most of the exploration work has been done.



EUREKA RESOURCES INC.		
LOCATION MAP **DOR CLAIMS** CARIBOO MINING DIVISION, B.C.		
Technical Work By: D.A.L.	Scale: 1:2,500,000 (1cm=25km)	
Date: Dec. 1985	Drawn By: W.G.	Fig. No. 1



EUREKA RESOURCES INC.	
INDEX MAP	
DOR CLAIMS	
CARIBOO MINING DIVISION, B.C.	
Technical Work By: D.A.L.	Scale: 1:50,000
Drawn By: W.G.	Date: December, 1985.
Approved By: J.R. Kerr, P.Eng.	Fig. No. 2

To accompany a report by D.A. Leishman, B.Sc.

The claims area covers moderately dissected, rolling hills near the transition between the Interior Plateau on the west and the Cariboo Mtns. on the east. Relief is about 500 m, from Doreen Lake (950 m elev.) to the hill on the north (1,550 m elev.). Overburden is thin in the eastern part of the claims but increases in depth to the west.

Forests of cedar, fir, balsam and spruce cover the eastern and southern claims area. These have been logged in part recently. A large burn covers the remainder of the claims, and it has light to moderate second growth.

1.2 Ownership and Claim Status

The Dor property consists of two claims owned by Eureka Resources, Inc. (Figure 2).

Claim Name	Units	Record No.	Expiry Date
Dor 1	20	3261	March 27, 1988
Dor 2	20	4091	October 15, 1988

2 GEOLOGICAL OVERVIEW OF MINERALIZATION IN QUESNEL GOLD BELT

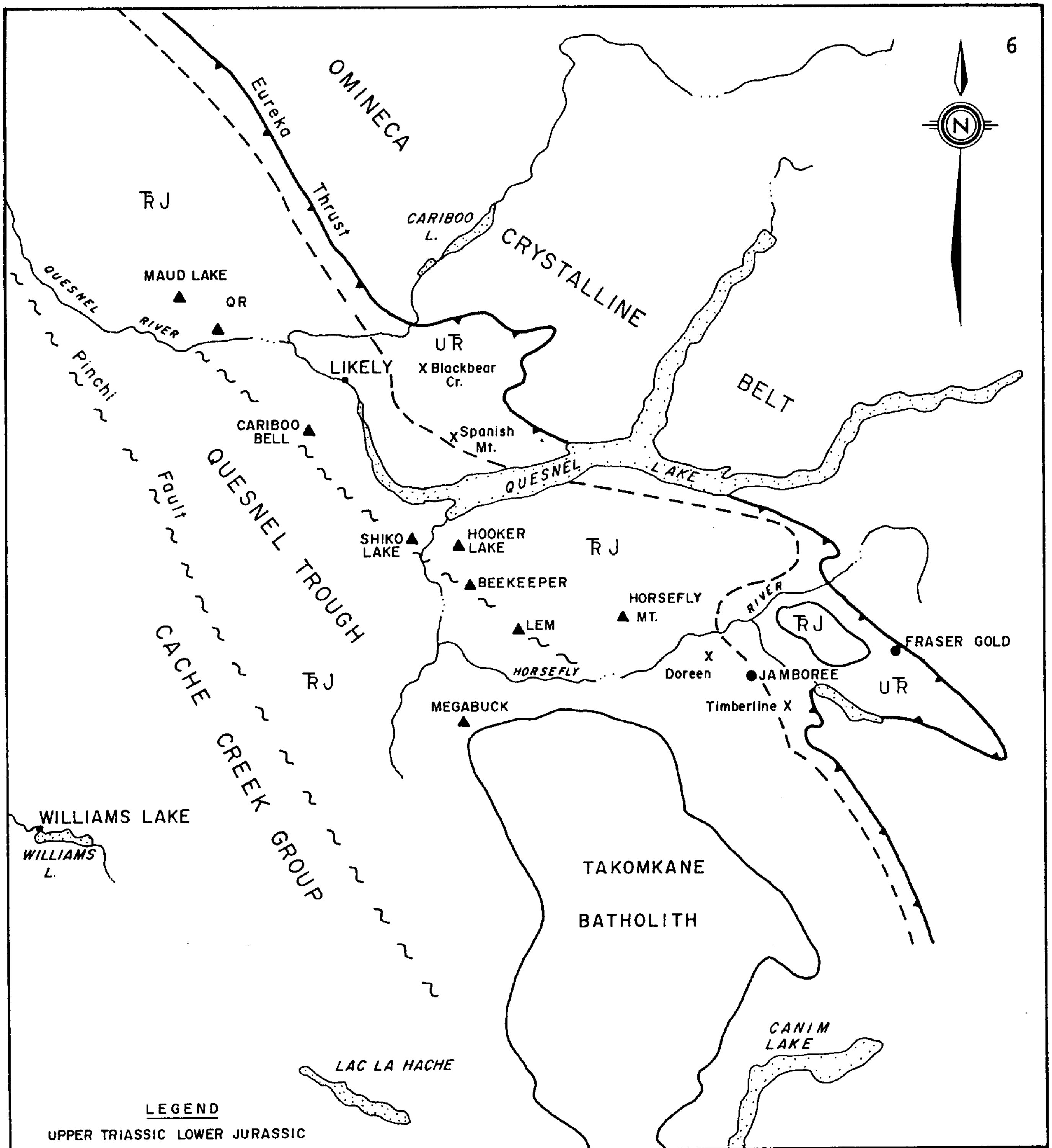
2.1 Regional Geology

The area referred to as the Quesnel Gold Belt lies within the Quesnel Trough, a linear belt of early Mesozoic volcanic and sedimentary rocks lying between the Omineca Crystalline Belt (early Paleozoic and Precambrian metasedimentary rocks) on the east and the Pinchi Geanticline (Paleozoic Cache Creek Group) on the west. Figure 3 (from Saleken and Simpson, 1984) is a sketch of the major geological features along with principal gold occurrences. The Doreen occurrence shown is that on the Dor claims.

The Quesnel Trough in this region is composed of alkalic volcanics, volcaniclastics and sedimentary rocks intruded by comagmatic stocks and dike complexes (Campbell, 1978). The basal unit of the Trough is of Upper Triassic black argillite, located along the eastern boundary of the Trough and representing a back arc basinal facies.

Above the argillite unit lie a succession of augite porphyry breccias and flows with subordinate interbedded argillites. These are in turn overlain by volcaniclastics and argillites of Upper Triassic and Lower Jurassic age.

Several volcanic centers emerged in the Lower Jurassic. These are recognized by subaerial volcanic flows and composite lenses of sandstone, grit and conglomerate (Saleken and Simpson, 1984). Between Horsefly Lake and Horsefly River, Panteleyev (1987) considers that felsic-clast conglomerates mark a series of small grabens, which may be part of a series



LEGEND

UPPER TRIASSIC LOWER JURASSIC

Ʀ J	Basaltic breccias, minor flows, tuff, sandstone, conglomerate & limestone; includes comagmatic alkalic stocks, sills & dykes.

UPPER TRIASSIC

U Ʀ	Argillite; augite-porphyry breccia, basaltic to andesitic tuff possible dykes & sills

GOLD OCCURRENCES

- ▲ Cu-Au Porphyry
- ● Au Stratabound
- X Au Bearing Veins

KILOMETRES
0 5 10 15 20

(from Saleken, Simpson, 1984)

EUREKA RESOURCES, INC.			
DOR CLAIMS CARIBOO MINING DIVISION, B.C.			
MAJOR TECTONIC FEATURES GOLD OCURRENCES			
PROJECT 87-115	DRAWN	DATE DEC. 1987	FIGURE 3
Revised		N.T.S. 93A	
K.V. CAMPBELL & ASSOCIATES LTD.			

of larger, northwesterly trending grabens along the medial axis of a volcanic arc. This same structural zone could have controlled emplacement of volcanic centers.

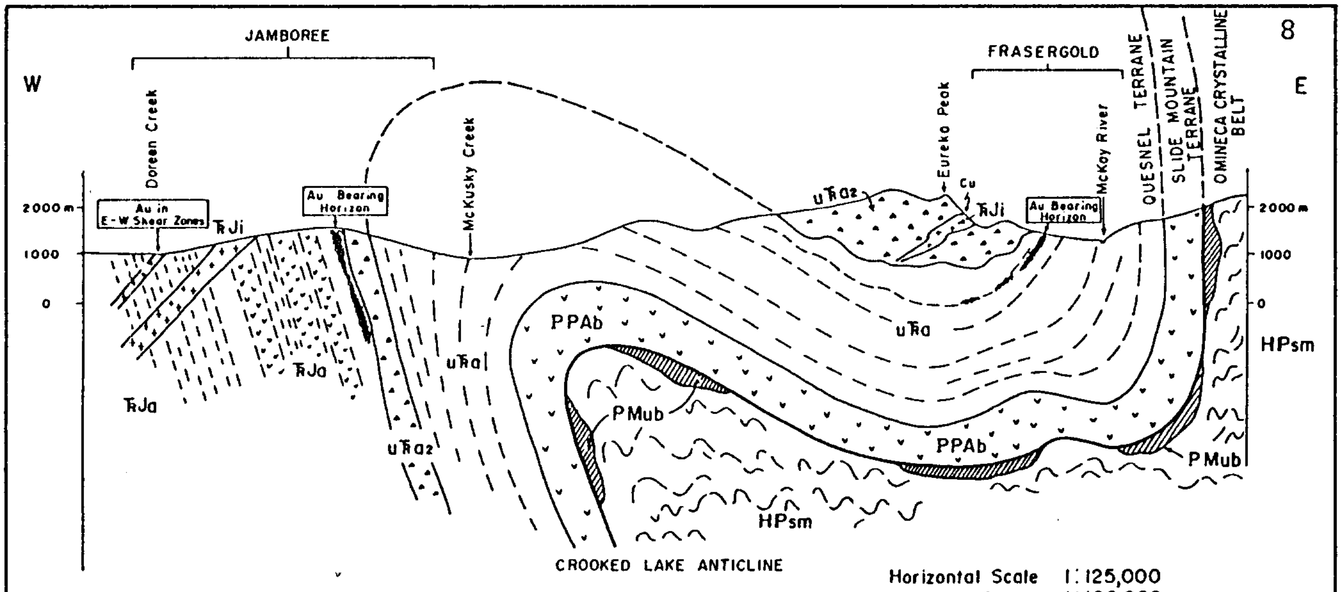
2.2 Mineral Deposits

Three general types of gold deposits are shown in Figure 3; gold-bearing veins, stratabound occurrences and copper-gold porphyry type deposits. This classification is simplistic, but forms a starting point in the discussion. Figure 4 is an east-west cross section from Saleken and Simpson, located in Figure 3. Figure 5 is a diagrammatic cross section through the Quesnel Trough, illustrating the mineralization model of Saleken and Simpson.

Upper Triassic black argillites and phyllites host most of the gold-quartz veins along the eastern margin of the Quesnel Trough, as for example, the Frasergold occurrence (stratigraphically controlled, gold-bearing quartz veins and segregations) and similar occurrences in the Spanish Mtn. area.

The Doreen occurrence is classed in Figure 3 as a vein type. There are crosscutting vein-like bodies of massive pyrrhotite and pyrite in the area, some parts of which do carry gold. However, there is a scarcity of megascopic quartz veining and the Doreen occurrence should not be confused with the gold-quartz veins in the Upper Triassic rock units to the east.

The largest and most developed gold deposits are associated with the early Jurassic plutons; namely the Cariboo-Bell deposit and the QR deposit. The Cariboo-Bell deposit, 9 km



Horizontal Scale 1:125,000
Vertical Scale 1:100,000

INTRUSIVE ROCKS

Jurassic, Cretaceous

PMub	Peridotite, Serpentinite

Triassic Jurassic

TR Ji	Diorite, Granodiorite

(After Campbell, 1978)
GSC OF 574

VOLCANIC & SEDIMENTARY ROCKS

Triassic & Jurassic

TR Ja	Basaltic tuff and breccia, argillite, chert

Upper Triassic

uTR a	Black phyllite, argillite
uTR a2	Augite porphyry breccia, amphibolite

Upper Paleazoic

PPab	Slide Mt Group (Antler Fm)

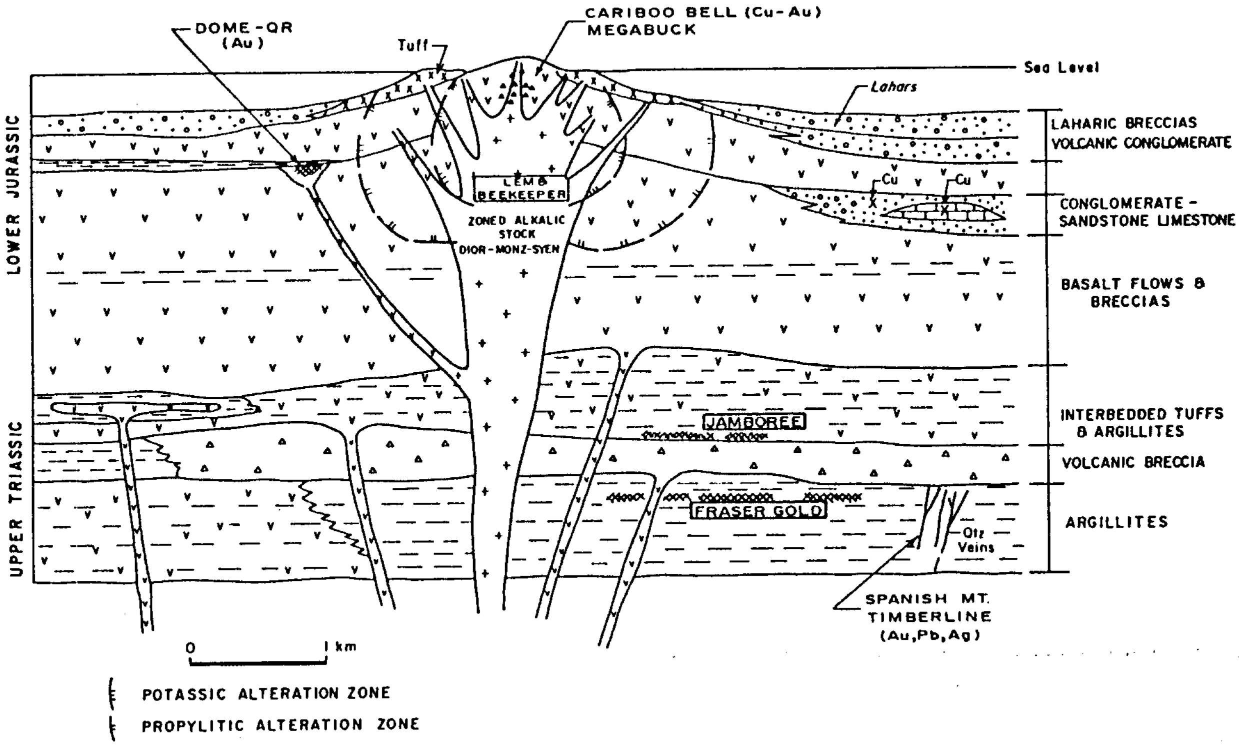
Proterozoic

HPsm	Snowshoe Fm.

Km 5 0 5 Km.

(from Saleken, Simpson, 1984)

EUREKA RESOURCES, INC.			
DOR CLAIMS CARIBOO MINING DIVISION, B.C.			
E-W CROSS SECTION (SEE FIGURE 3)			
PROJECT 87-115	DRAWN	DATE DEC., 1987	FIGURE 4
Revised		N.T.S. 93A	
K.V. CAMPBELL & ASSOCIATES LTD.			



(from Saleken, Simpson, 1984)

EUREKA RESOURCES, INC.			
DOR CLAIMS CARIBOO MINING DIVISION, B.C.			
DIAGRAMMATIC CROSS-SECTION THROUGH MODEL OF VOLCANIC COMPLEX IN QUESNEL TROUGH			
PROJECT 87-115	DRAWN	DATE DEC. 1987	FIGURE 5
Revised		N.T.S. 93A	
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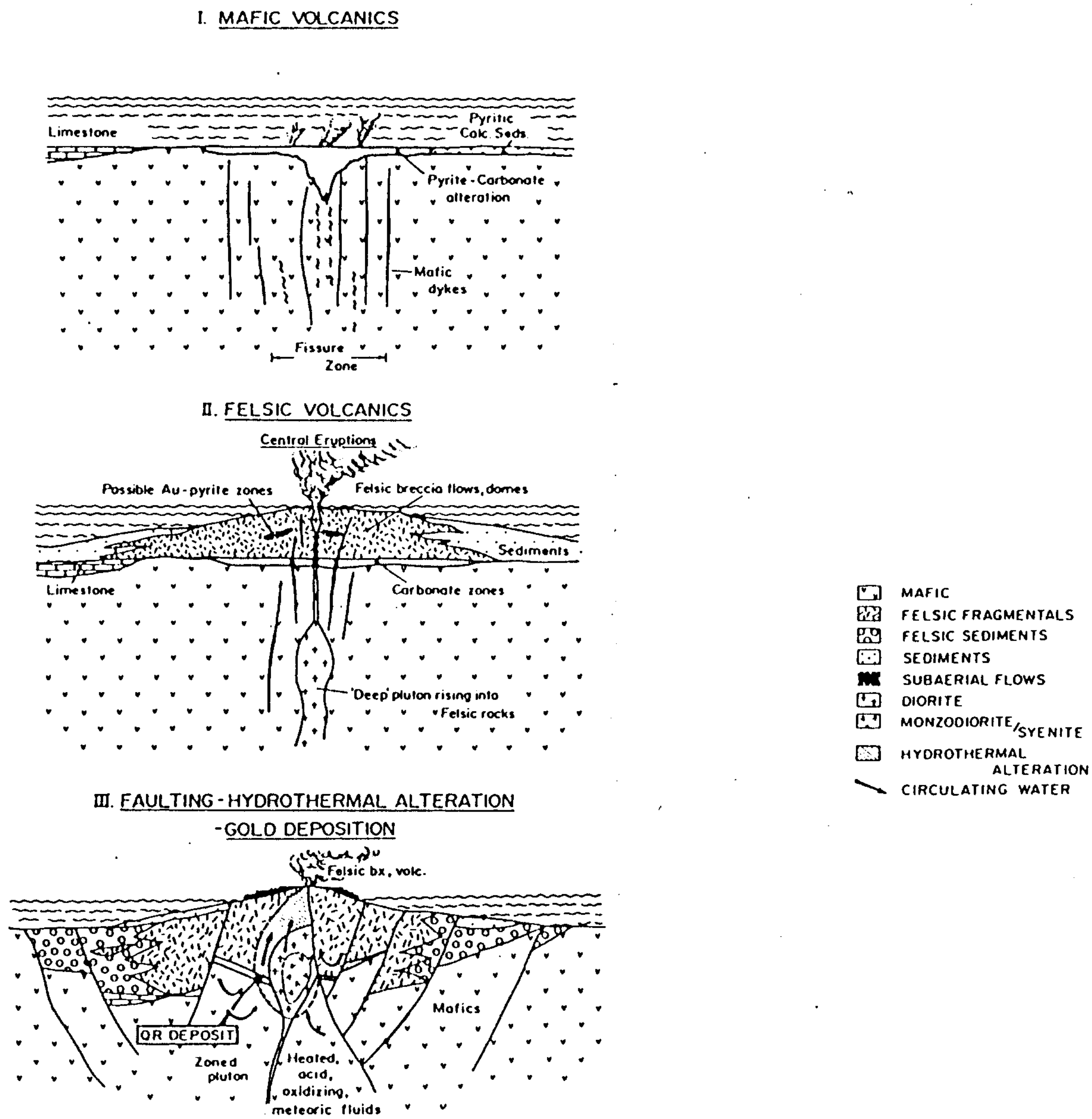
southwest of Likely, has mineable reserves of 117 million tons grading 0.31% Cu and 0.012 oz Au/ton. Mineralization is mainly confined to high level, intrusive breccia zones within an alkalic laccolith of early Jurassic age emplaced at the site of an Upper Triassic eruptive center (Saleken and Simpson, 1984).

The QR deposit, 15 km northwest of Likely, has a mineral inventory of about 1.1 million tons grading 0.2 oz Au/ton. Gold mineralization is located within a 300 m wide alteration halo about the QR stock in volcaniclastics, blocky basaltic conglomerate and breccia, and hornfelsed sediments. The QR stock has a diorite margin and monzonite core (Fox et al, 1986).

There are two types of ore present at the QR deposit; pyritic stockworks in propylitized basalts and disseminated pyrite in massive, propylitized basaltic tuffs. The alteration assemblage includes variable amounts of pyrite, chlorite, fine grained disseminated epidote, epidote-rich selvages on pyrite-carbonate veinlets, and thin pyrite-epidote coatings on fractures (Fox et al, 1986).

Figure 6 illustrates the model Fox et al have proposed. These authors have summarized the events as follows. They are repeated in full, as they could be directly applicable to an understanding of the mineralization on the Dor claims. The three stages are depicted in Figure 6.

1) 'Mafic submarine volcanics of shoshonitic (alkalic) composition are deposited from fissure style eruptions. No textural zoning within the basaltic pile is present to indicate any central volcanic center. During waning stages of the mafic phase, a brief volcanic hiatus allows



(from Fox et al, 1986)

EUREKA RESOURCES, INC.			
DOR CLAIMS CARIBOO MINING DIVISION, B.C.			
GEOLOGICAL MODEL QR DEPOSIT			
PROJECT 87-115	DRAWN	DATE DEC., 1987	FIGURE 6
Revised		N.T.S. 93A	
K.V. CAMPBELL & ASSOCIATES LTD.			

development of shelf-like limestones and calcareous sediments. Remnant heat flow from the mafic volcanics or perhaps the initial development of the central volcanic centers present during the subsequent felsic volcanic phase results in local fumarolic activity. This activity results in pyrite-carbonate alteration of basaltic units near the top of the pile. Pyrite precipitates forming fine grained framboidal, colloform masses and bedded textures accompanied by sparry calcite cement. Traces of chalcopyrite in this horizon and local beds of massive pyrite suggest that massive sulphide deposits may have formed at this time. Gold is not present at this stage.

2) Rapidly rising, differentiating, silica-poor diorite stocks begin to intrude the volcanic pile. Felsic breccias and flows are erupted from central volcanoes. Fragments of the stock and the surrounding basaltic rocks are often taken up in eruptive breccia flows. Felsic rocks quickly grade outward from volcanic centers into distal volcaniclastic and epiclastic equivalents. Possible auriferous exhalative horizons may form at this time within proximal felsic strata.

3) Eventually the alkalic stock, now strongly differentiated, intrudes its own volcanic extrusives. Possible caldera collapse provides a plumbing system for a convection system of heated, acidic, oxidizing meteroic and/or magmatic fluids. Gold is taken into solution from the surrounding rock mass or contributed directly from magmatic fluids. When gold-laden solutions encounter the pyrite-carbonate horizon, formed in Stage 1, the strong pH-Eh barrier precipitates gold at the reaction front. Higher in the convective system no favorable host rock is present and the system diffuses into a large, low grade

porphyry copper deposit.'

It follows from the above descriptions and models presented that gold exploration in the Quesnel Gold Belt should then focus on semi-conformable, stratabound mineralization hosted by permeable volcaniclastic or sedimentary rocks, preferably calcareous tuffs and siltstones, and developed in propylitic alteration zones about alkalic plugs, stocks and dikes. Major faults could have played a part in the mineralization, in so far as volcanic centers could be preferentially developed in grabens along a volcanic axis.

3 REVIEW OF PREVIOUS EXPLORATION

The exploration history of the Dor claims has been well reviewed by Leishman (1985) and the following is mostly based on his summary.

In 1974 Newmont Mining and Dome Mines reported the occurrence of porphyry copper mineralization in a small altered quartz diorite stock, the 'Doreen' occurrence (B.C. Ministry of Mines, G.E.M., 1974).

In 1981 a government geochemical release (Regional Geochemical Survey, Geological Survey of Canada, B.C. Ministry of Energy, Mines and Petroleum Resources, N.T.S. 93A) identified prominent geochemical anomalies in silts and which touched off a staking rush in the area. The Dor claims were staked by Keron Holdings Ltd. at this time.

1981 - 1983 Keron Holdings Ltd. and Eureka Resources Ltd.

Keron Holdings Ltd. completed a soil survey over the claims in 1981, collecting 330 samples. Anomalous gold values were not abundant, however a correlation between anomalous copper and gold values was noted. In 1983 Eureka Resources Ltd. undertook soil sampling (887 samples), geological mapping, rock chip sampling, a limited VLF-EM survey and access road construction.

Figure 238-3 (Appendix I) is a compilation plan from Leishman's 1985 report, illustrating the soil geochemical anomalies found in 1983. A broad zone, greater than 45 ppb Au, parallels the base line from 14E to 26E.

Zones of ferricrete (re-cemented talus and soil with sulphide fragments) were found near the main gold geochemical anomaly. These carried from 0.022 to 0.155 oz Au/ton, and were thought at that time to indicate near surface mineralization.

1984 Noranda Exploration Co. Ltd.

In the early part of the 1984 field season Noranda undertook, geological mapping, geophysical and geochemical surveys, and drilled two short diamond drill holes.

Most of the work was along the base line in the area of the main geochemical anomaly. A HLEM and magnetometer survey were completed over most of the area shown in Figure 238-4 (Appendix II, from Leishman's 1985 report). An EM conductor, shown in Figures 238-3 and 4, was outlined, and which coincided with the eastern end of the soil geochemical anomaly. However, over most of its length the conductor lies some 50 m north of the geochemical anomaly. Test lines of induced polarization indicated an extensive and highly polarizable unit (pyrite and pyrrhotite). Baerg and Bradish (1984) concluded that the HLEM and IP anomaly source could possibly be a mineralized shear or narrow alteration zone.

Figure 238-4 shows the results of the geochemical sampling by Noranda. Rock chip samples were also taken. One sample of float carried 12.5 ppm Au.

Two holes were spotted to test the EM conductor. Massive sulphides were intersected but these carried negligible gold. However, later re-sampling of the core by Eureka reported a value of 0.026 oz Au/ton over 2.1 m of highly altered andesite with a low sulphide content in hole NDL-84-1.

1984 - 1985 Eureka Resources, Inc.

Eureka then performed trenching, soil and rock chip sampling. The trenching was concentrated in the area of Noranda's drill holes. Values to 0.132 oz Au/ton were reported (Figure 238-4). A narrow band of brecciated massive pyrrhotite and pyrite was uncovered near 22+60E, 2+00N but no gold values were reported.

One sample of massive sulphide float collected by B. Kahlert carried 68 ppm Au.

Further trenching and chip sampling by Eureka in 1985 uncovered two more zones of massive sulphides, both of which carried insignificant values of gold and silver. One sample of andesite west of NDL-84-1 returned with 0.186 oz Au/ton over 2 m. The steep topography precluded trenching, however.

4 GEOLOGY

4.1 Lithology

The Dor claims are underlain by Upper Triassic - Lower Jurassic interbedded andesitic volcanics and argillites which have been intruded by at least one small plug of quartz diorite north of Doreen Lake. Samples collected in 1987 are described in Appendix V.

The black argillites have been hornfelsed into hard, flinty material which is highly shattered, sheared and brecciated. Fine laminations are discernible in a few places and a fine fracture cleavage filled with quartz was noted in one case. Iron oxide coatings are common and some outcrops are thickly coated with gossan. The argillites have locally been bleached to light gray and in some places show partial silicification. Fine quartz stringers are common but not pervasive, as are iron oxide and fine pyrite-filled fractures. Where both quartz and pyrite stringers are present pyrite crosscuts quartz.

The volcanic rocks are predominantly hornblende andesite with subordinate hornblende - pyroxene andesite. All those seen by the author in the main work area are flows, breccias or possibly volcaniclastics. In most cases the groundmass was either so fine grained, glassy and opaque or so altered that the rocks could not be readily classified. Some did have the appearance of being dike rock (slightly coarser grained, less porphyritic) with a texture intermediate between typical flows and intrusives.

Feldspar is extensively saussuritized and sericitized. The groundmass has been variously altered to an assemblage of carbonate, chlorite, iron oxides, and less commonly, minor epidote. Some rocks have been silicified, with abundant crystocrystalline light gray quartz and quartz-filled stringers. Fine pyrite is ubiquitous, coating joint surfaces, forming irregular blebs to ½ cm, disseminations and filling fine fractures.

An X-ray diffraction study of six andesite samples was done by Cominco Exploration Research Laboratory in Vancouver (Appendix VI). The results are listed in Table 1.

The X-ray study revealed that quartz is present in four of the six samples. It is considered to be the result of silicification, both of the groundmass and through the introduction of quartz stringers. Chlorite is a large component of some samples. Both calcite and pyroxene were detected but are rare. Epidote is not abundant.

I would not describe the rocks as being extensively propylitized, due to the abundance of relatively unaltered amphibole and pyroxene and the fact that the cores of the plagioclase grains have not been replaced by epidote. No stringers or coatings of epidote were seen.

The quartz diorite to the north of Doreen Lake is of fine to medium grained, pale green pyroxene set in a feldspar groundmass that includes some intergranular quartz. A few ragged, inclusion-filled, subhedral hornblende prisms are present and these have been partly replaced by epidote. It would be useful to know the extent of the plug or stock and if the mineralogy or alteration is zoned.

Table 1 Summary of X-ray results

Sample No.	Rock Description	X-ray Results
Dor 5	Pyroxene - hornblende andesite	Abundant feldspars (plagioclase), amphibole, lesser pyroxene, some quartz. Possible minor epidote.
Dor 6	Andesite	Abundant feldspars (plagioclase), lesser amphibole. Mica also identified. Possible minor epidote.
Dor 9	Hornblende andesite	Significant amphibole, plagioclase and quartz.
Dor 11	Altered andesite	Abundant chlorite, significant plagioclase and amphibole with lesser calcite and quartz.
Dor 15	Hornblende andesite	Abundant amphibole, lesser plagioclase and chlorite. Minor epidote.
Dor 16	Hornblende andesite	Abundant amphibole and plagioclase, lesser quartz.

4.2 Structure

The structure has been mapped as interbedded volcanic and sedimentary rocks striking about 040° (Figure 238-4, Appendix II). The few bedding measurements made by myself confirm this general strike and indicate a dip of 50-60° to the northeast. I am not confident of the map pattern shown in Figure 238-4 due to the lack of exposure and difficulty in tracing any one layer or unit.

A preliminary study of the fractures indicates the following:

1) cross joint set; strike 070°, dip 90°, right angles to bedding, filled with quartz

2) shear joint set; strike 040°, dip 70° northwest

3) dilation joint set; strike 050°, dip 50° southeast

4) shear joint set; strike 340°, dip 55° east-northeast, subparallel to bedding

5) quartz-filled fractures dipping moderate angles to north and north-northeast

6) a single shear zone striking 110°, dip 74° north-northeast, cuts quartz-filled cross joints (Set 1 above)

7) Baerg and Bradish (1984) reported that massive sulphides occur in east-west trending shear zones, as indicated on Figure 238-4. Other evidence for east-west structures includes the east-west trends of the conductivity and geochemical anomalies and a parallel

major fracture zone in the valley of Doreen Lake and extending at least as far west as the Horsefly River.

Baerg and Bradish reported that their magnetometer survey appeared to be mapping the stratigraphy. However, their magnetometer map (Figure 10 of their report) shows magnetic trends of N60°W, some 20° west of the lithological trends shown on the geology map.

4.3 Mineralization

Baerg and Bradish reported that four types of mineralization occur:

1) small isolated pods of semi-masive to massive pyrrhotite-pyrite-chalcopyrite in chloritic altered volcanics,

2) semi-massive to massive pyrrhotite, +/- pyrite, +/- chalcopyrite in east-west shear zones within andesitic volcanics

3) small chalcopyrite-rich zones in chloritic siliceous volcanics, and

4) isolated massive sulphide float in ferricrete.

I would add:

5) fine pyrite-filled fracures in andesite, and

6) disseminated pyrite in andesite.

The location of significant assays are shown in Figure 238-4 (Appendix II). Gold mineralization occurs in the following areas:

1) Massive pyrrhotite and pyrite; to 68,000 ppb Au. Gold values in these rocks are very variable and I do not believe they constitute a prime target for gold mineralization. Drilling by Noranda verified that massive sulphides are the probable cause of the conductivity anomaly. However, these sulphides are not thought to have much to do with the geochemical anomaly to the south.

2) Ferricrete; assays to 0.155 oz Au/ton and 12.55 ppm Au. The ferricrete consists of fragments of sulphides, bleached argillite and altered volcanics cemented with iron oxides. It occurs near and downslope of the massive sulphides exposed in the trenches and is considered to be a surficial deposit related to groundwater flow. Gold is a common consituent of such iron oxides, and in this case is most likely derived from any gold-bearing sulphides in the massive sulphide occurrences. The ferricrete is not considered to be a gold exploration target but it is a useful prospecting phenomena.

3) Rocks mapped as andesite 20 m west of NDL-84-1; assays of 0.132 and 0.186 oz Au/ton. The rocks in this area are silicified, chloritic andesites. These rocks are a worthy exploration target. They lie upslope of the gold geochemical anomaly in soil, but their location does not explain the east-west trend of the soil anomaly.

5 RESULTS 1987 SAMPLING

Figure 7 locates the rock and soil samples collected in September, 1987. Analyses, by ACME Analytical Laboratories Ltd., are given in Appendix III and the analytical procedures are listed in Appendix IV.

5.1 Rock Chip Sampling

Apart from samples of massive sulphide float (Dor 8,12), which carried 520 and 330 ppb Au respectively, the representative samples collected had little gold. The fine grained clastic rocks carried 1 to 14 ppb Au and the andesitic rocks carried 1 to 16 ppb Au. One of the more interesting rocks was a quartz-hornblende veinlet in a northwest trending shear zone in andesite located at 22+50E, 1+50N. It carried 265 ppm Mo, 4397 ppm Cu, 2.3 ppm Ag and 26 ppb Au.

5.2 Soil Sampling

The soil samples were collected from poorly developed B and C horizons above the road cut. The purposes of the sampling were to see which, if any, pathfinder elements could be used in any future geochemical sampling, and to test whether or or not the gold anomaly was expressed by elevated Mo, Cu, Co, Ag, Fe, V and Pb, as the soil anomalies are at the QR deposit (Fox et al, 1986).

The gold values are shown in Figure 7 and clearly illustrate the increased gold in soils near the anomaly mapped by Noranda (1984) and Kerr (1985). The highest value was 6.25 ppm Au (Dor 117).

Plots of various elements against gold demonstrate that there is a good positive correlation between Au and Ag, Fe, Mo and Cu. Of these Cu and Fe show the best correlation. No such correlation can be shown for Pb, V or Co. This would suggest that the geochemistry of the Doreen occurrence is not the same at that at the QR deposit.

6 DOR MINERALIZATION MODEL

The following geological factors that could be part of an mineralization model are:

1) presence of interlayered andesitic volcanics and argillites; permeable due to their inherent volcaniclastic and clastic textures and brecciated aspect.

2) presence of quartz diorite plug or stock; the possibility of other bodies being present should be explored, as these could be the source of gold-bearing fluids, as at other occurrences in the region.

3) situation of east-west structure(s) which at this time are considered to be shear zone(s) and to control massive sulphide deposits. They could explain the subparallel gold geochemical anomaly.

Geological factors critical to mineralization at the QR deposit that have not yet been found on the Dor claims are:

1) pervasive propylitic and potassic alteration,

2) calcareous tuffs and sediments, and

3) pyrite-carbonate alteration whose location subsequently determines where gold precipitates.

It remains to be determined if gold mineralization detected in the andesites near the geochemical anomaly is the source of that anomaly. It may very well be that there is an underlying east-west structure that extends westwards as far as the quartz diorite plug. If that is so, then the Dor mineralization model would include a source of gold (the diorite), a conduit (the east-west structure), and host rock (permeable, brecciated, slightly altered andesitic volcanics and shattered argillites).

In summary, the Dor claims have some geological similarities to the situation at the QR deposit, but as yet, a propylitic alteration halo or zone has not been found. It is possible that such alteration lies in the mostly covered area between the eastern boundary of the claims, in the vicinity of the geochemical anomaly, and the quartz diorite plug north of Doreen Lake, or alternatively, at depth below the geochemical anomalies. Further mapping and prospecting will be necessary to detemine this.

7 RECOMMENDATION FOR FURTHER EXPLORATION

7.1 Recommendations

I recommend that Eureka Resources, Inc. proceed with exploration on the Dor claims and commence a two-stage program.

Stage I would include geological mapping, geophysical surveys and three diamond drill holes. Combined magnetometer and VLF-EM surveys over all of the Dor 1 claim north of Doreen Lake and the south part of the Dor 2 claim would assist in determining the extent of the diorite plug and in locating structures. Some of the work would fill-in the magnetometer survey already done by Noranda. Concurrent to these surveys I recommend three diamond drill holes, to a depth of about 250 m, beneath the geochemical anomalies. The purpose of the drilling is to test for mineralization in the andesites (similar to that found on surface there) and to determine the nature of alteration at depth.

Stage II, contingent upon the results of Stage I, would be the drilling of structures and anomalies interpreted from the geophysical surveys and follow-up drilling of mineralization or alteration found by the initial diamond drilling. Depending upon the sucess of the reverse circulation drilling is Stage I, a combination of diamond and reverse circulation drilling might be recommended. For the time being, 1000 m of diamond drilling and 3000 m of reverse circulation drilling are suggested.

7.2 Estimated Costs

Stage I Geophysical Surveys, Drilling

Magnetometer, VLF-EM surveys; 100 line km @ $100/km	$	10,000
Grid establishment; 100 line km	$	3,500
Diamond drilling; 750 m @ $130/m	$	97,500
Assays; 1000 assays @ $15	$	7,500
Drill site preparation	$	4,000
Program managment and supervision	$	5,000
Data compilation and reporting	$	5,000
Vehicle rental, fuels	$	5,000
Travel	$	2,500
Camp costs	$	5,000
Accomodation (field); 7 men, 30 days @ $50/man day	$	10,500
Total Stage I	$	145,000

Stage II Drill Program

Diamond drilling; 1000 m of NQ @ $130/m	$	130,000
Reverse circulation drilling; 3000 m @ $45/m	$	135,000
Program management and supervision	$	8,000
Surveys	$	3,000
Analyses; 2600 samples @ $15	$	39,000
Data compilation, reporting	$	10,000
Vehicle rental, fuels	$	8,000
Travel	$	3,500
Accomodation (field); 10 men, 45 days @ $50/man day	$	22,500
Camp costs	$	8,000
Total Stage II	$	367,000
Total Estimated Cost	$	512,000
Contingency (10%)	$	51,200
Allow	$	575,000

8 BIBLIOGRAPHY

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9 ITEMIZED COST STATEMENT

SALARIES AND FEES

K.V. Campbell; 2 days @ $400/day ...	$ 800.00	
40½ hours @ $50/hour .	$ 2,025.00	
J. Monroe; 2 days @ $85	$ 170.00	
		$ 2,995.00

IN-HOUSE CHARGES

4x4 rental; 2 days @ $50	$ 100.00	
Report binding, assembly	$ 50.00	
		$ 150.00

DISBURSEMENTS

Meals, groceries	$ 30.55	
Gas	$ 35.81	
Accomodation (field)	$ 75.60	
Freight	$ 20.80	
Airfare	$ 81.00	
Thin section preparation	$ 185.25	
X-ray diffraction study	$ 90.00	
Air photos	$ 35.24	
Analyses; 32 soils, 20 rocks, 30 element ICP, Au by AA	$ 617.00	
Drafting	$ 325.16	
Reprographics	$ 84.79	
X-Ray diffraction	$ 90.00	
		$ 1,581.30
10% over-ride on disbursements		$ 158.13
Total		$ 4,884.43

10 CERTIFICATE

I, KENNETH VINCENT CAMPBELL, resident of Wells, Province of British Columbia, hereby certify as follows:

1. I am a Consulting Geologist with an office at the corner of Blair and Dawson Avenues, Wells, B.C.

2. I graduated with a degree of Bachelor of Science, Honours Geology, from the University of British Columbia in 1966, a degree of Master of Science, Geology, from the University of Washington in 1969, and a degree of Doctor of Philosophy, Geology, from the University of Washington in 1971.

3. I have practiced my profession for 21 years. I am a Fellow of the Geological Association of Canada (F0078).

4. I have no direct, indirect, or contingent interest in the shares or business in the property of EUREKA RESOURCES, INC. nor do I intend to have any interest.

5. This report, dated November 30, 1987 is based on my field examinations on September 17 and 18, 1987 and examination of available reports, drill hole results and analyses.

6. Permission is given by the author to use this report dated January 21, 1988 in any Prospectus or Statement of Facts of EUREKA RESOURCES, INC.

DATED at Wells, Province of British Columbia
this 21st day of January, 1988.

K.V. Campbell, Ph.D.
Geologist

APPENDIX I

Figure 238-3

Leishman, 1985

APPENDIX II

Figure 238-4

Leishman, 1985

APPENDIX III

Geochemical Analyses

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-SOIL P2-ROCK AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: SEPT 23 1987 DATE REPORT MAILED: Oct 5/87 ASSAYER. [illegible] ..DEAN TOYE. CERTIFIED B.C. ASSAYER

K.V. CAMPBELL PROJECT-DOR File # 87-4477 Page 1

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU* PPB
DOR-101	22	447	21	146	.3	25	14	449	12.53	19	5	ND	4	24	1	4	2	134	.45	.196	7	32	.61	60	.14	3	4.22	.03	.06	1	37
DOR-102	9	274	14	230	.1	37	21	562	7.98	20	5	ND	3	43	1	2	3	121	.76	.095	6	29	.80	92	.13	4	4.08	.04	.08	1	14
DOR-103	8	361	14	152	.1	31	20	575	8.97	11	5	ND	4	48	1	2	2	124	.65	.082	6	28	.76	83	.14	2	4.22	.04	.07	1	26
DOR-104	17	663	22	187	.6	48	38	798	11.19	82	5	2	5	39	1	2	3	118	.71	.103	11	36	.99	83	.13	4	4.20	.04	.07	1	1020
DOR-105	16	355	15	151	.5	27	16	628	10.79	23	5	ND	4	39	1	2	3	122	.62	.143	9	35	.68	121	.14	3	3.52	.04	.12	1	940
DOR-106	42	304	16	183	1.1	22	20	667	9.95	27	5	ND	3	47	1	2	2	143	.65	.138	11	30	.63	107	.14	2	3.03	.03	.08	1	164
DOR-107	15	523	20	230	.4	44	34	572	8.79	22	5	ND	5	41	1	2	3	116	.52	.080	11	32	1.03	77	.14	2	4.39	.04	.06	1	125
DOR-108	7	305	16	168	.3	41	33	907	9.50	11	5	ND	3	65	1	2	2	124	.59	.086	7	22	.81	86	.11	3	4.27	.04	.08	1	50
DOR-109	7	222	17	200	.4	33	22	457	9.58	13	5	ND	4	66	1	3	2	104	.50	.142	8	26	.57	62	.12	4	4.53	.03	.07	1	28
DOR-110	6	459	16	166	.3	33	27	598	8.09	10	5	ND	5	95	1	2	2	100	.67	.061	10	22	1.05	67	.09	2	4.01	.04	.07	1	320
DOR-111	7	330	25	254	.8	31	26	1177	7.95	28	5	ND	4	47	2	2	3	91	.64	.111	9	24	.71	123	.10	5	3.29	.03	.08	1	112
DOR-112	6	173	25	386	1.0	28	27	1166	7.29	14	5	ND	2	53	2	2	4	101	.61	.107	7	25	.59	116	.11	3	3.23	.03	.07	1	131
DOR-113	4	170	22	349	.6	41	22	558	7.13	10	5	ND	3	32	1	2	3	106	.58	.079	7	32	.81	72	.14	5	3.70	.04	.07	1	135
DOR-114	3	152	19	376	.4	36	22	902	6.81	17	5	ND	3	38	2	2	3	105	.64	.108	6	31	.87	101	.13	3	3.48	.03	.08	1	139
DOR-115	5	264	16	190	.5	40	24	720	8.00	21	5	ND	3	75	1	2	4	111	.61	.101	8	32	1.17	113	.11	4	3.35	.04	.10	1	137
DOR-116	9	415	18	343	.7	37	38	557	10.71	60	5	ND	4	54	1	2	6	102	.50	.100	7	25	.91	70	.13	2	3.37	.03	.08	1	940
DOR-117	18	505	24	204	4.7	25	22	655	12.76	21	5	3	4	32	1	2	43	120	.38	.115	8	33	.80	117	.16	2	3.29	.03	.10	1	6250
DOR-118	4	264	17	302	.7	50	30	564	9.51	17	5	ND	4	42	1	2	5	103	.62	.101	7	35	.81	76	.15	3	3.58	.04	.10	1	161
DOR-119	3	251	13	168	.9	46	26	565	6.70	7	5	ND	3	51	1	2	4	119	.73	.062	6	34	1.04	62	.15	3	3.97	.04	.07	1	154
DOR-120	30	601	25	127	9.8	6	12	684	23.73	16	5	3	4	26	1	2	54	93	.31	.183	5	13	.20	94	.10	2	1.50	.02	.06	1	810
DOR-121	12	430	24	150	3.0	12	14	976	18.07	28	5	ND	3	44	1	2	27	141	.69	.168	4	25	.53	112	.15	3	2.69	.03	.12	2	670
DOR-122	3	249	14	207	.5	32	26	656	10.57	21	5	ND	3	31	1	2	5	129	.57	.076	6	38	.66	72	.18	2	3.43	.04	.05	2	340
DOR-123	3	160	15	157	.5	32	22	832	6.42	28	5	ND	2	37	1	2	2	107	.70	.072	6	29	.77	119	.16	3	3.38	.04	.08	2	66
DOR-124	2	94	14	193	.6	35	22	664	5.72	11	5	ND	3	39	1	2	2	107	.66	.060	7	28	.86	117	.18	3	3.68	.04	.08	1	31
DOR-125	3	88	10	204	.4	35	18	483	4.90	5	5	ND	3	38	1	2	2	90	.58	.049	6	28	.76	95	.16	2	3.12	.03	.07	1	50
DOR-126	1	41	10	181	.5	26	13	433	3.54	5	5	ND	3	33	1	2	2	70	.48	.071	8	29	.60	95	.14	2	2.29	.03	.08	1	4
DOR-127	2	50	11	213	.4	27	15	416	4.02	8	5	ND	3	40	1	2	2	75	.54	.074	7	26	.68	86	.14	2	2.61	.03	.07	1	1
DOR-128	2	59	11	197	.3	30	14	405	4.38	10	5	ND	4	36	1	2	2	78	.51	.092	9	31	.76	106	.14	3	2.77	.03	.06	1	7
DOR-129	2	52	12	293	.5	26	16	773	4.59	13	5	ND	3	37	1	2	2	79	.66	.253	7	29	.64	102	.12	2	3.48	.03	.08	1	1
DOR-130	2	53	12	207	.6	24	14	593	4.66	11	5	ND	3	39	1	3	2	91	.57	.123	8	32	.73	93	.14	5	3.20	.03	.07	1	7
DOR-131	2	64	14	219	.5	30	16	423	4.64	11	5	ND	4	32	1	2	2	89	.50	.050	8	35	.83	76	.15	5	3.01	.03	.07	1	28
DOR-132	2	64	15	148	.4	28	15	755	4.47	11	5	ND	2	37	1	3	2	86	.62	.076	7	30	.83	119	.14	4	2.78	.03	.06	1	4
STD C/AU-S	18	57	38	131	6.9	67	26	1028	3.93	37	22	7	37	49	17	17	21	55	.49	.082	37	58	.87	173	.08	36	1.82	.08	.14	13	50

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU* PPB
DOR-001	1	26	5	40	.1	9	7	463	2.22	9	5	ND	1	33	1	2	2	48	.83	.034	3	15	.72	46	.13	5	1.05	.04	.08	1	8
DOR-002	8	76	16	234	.3	20	10	1035	6.32	11	5	ND	2	111	1	2	2	93	3.48	.107	10	22	.99	86	.30	3	1.95	.04	.12	1	2
DOR-003	2	21	2	19	.5	5	3	2539	1.23	4	5	ND	1	933	1	2	3	13	31.30	.025	9	3	.25	25	.05	3	.37	.01	.04	1	4
DOR-004	2	124	10	95	.5	24	16	967	5.18	8	5	ND	1	340	1	2	2	173	6.88	.087	4	85	2.23	42	.24	2	3.24	.07	.16	1	11
DOR-005	1	139	7	33	.2	6	13	324	3.07	2	5	ND	2	34	1	2	2	51	1.60	.089	9	4	.50	27	.13	6	1.33	.09	.14	2	1
DOR-006	2	116	2	23	.1	21	17	250	3.11	2	5	ND	1	29	1	2	2	67	2.34	.092	4	21	.60	36	.24	17	2.02	.07	.09	1	1
DOR-007	6	476	15	69	2.0	2	6	1241	16.47	6	5	ND	3	8	1	2	2	108	.05	.053	4	24	.88	21	.04	2	2.32	.01	.11	3	74
DOR-008	5	1166	15	135	4.3	49	48	250	14.38	7	5	ND	2	14	2	2	2	72	1.56	.061	6	23	.44	24	.12	14	1.59	.05	.07	1	520
DOR-009	57	299	6	15	.2	19	13	195	3.96	5	5	ND	2	22	1	2	2	76	1.90	.102	10	25	.38	24	.14	16	1.49	.07	.13	1	4
DOR-010	265	4397	12	55	2.3	37	84	326	12.81	4	5	ND	6	9	1	2	2	119	.96	.043	89	9	.87	11	.07	2	1.40	.03	.02	1	26
DOR-011	2	91	5	103	.1	9	12	1335	4.25	4	5	ND	1	166	1	2	2	107	3.96	.124	7	10	1.50	22	.14	4	2.86	.09	.08	1	1
DOR-012	488	6264	35	72	5.8	21	264	124	28.56	5	5	ND	9	21	1	3	2	36	.32	.060	109	2	.23	18	.04	2	.45	.02	.04	1	330
DOR-013	11	192	3	26	.4	10	6	497	3.65	3	5	ND	3	15	1	2	2	180	1.04	.081	9	25	1.17	39	.25	2	2.03	.06	.09	1	8
DOR-014	6	213	34	63	1.4	12	7	231	8.82	2	5	ND	3	20	1	2	2	38	.15	.062	11	16	.13	213	.08	2	.37	.01	.21	2	10
DOR-015	1	143	4	41	.3	28	17	403	3.62	2	5	ND	1	53	1	2	2	75	2.39	.143	6	23	.99	39	.18	2	1.91	.11	.15	2	4
DOR-016	1	69	7	53	.3	11	10	358	2.87	6	5	ND	1	22	1	2	2	85	4.76	.076	4	20	.67	16	.23	6	3.90	.04	.03	2	16
DOR-017	4	98	8	85	.6	8	7	1112	7.29	20	5	ND	3	91	1	2	2	123	1.47	.074	5	24	1.07	54	.23	3	3.94	.04	.18	1	14
DOR-018	2	124	6	53	.6	11	9	693	5.03	5	5	ND	2	23	1	2	2	105	4.22	.113	8	33	.60	7	.13	3	3.62	.04	.03	1	36
DOR-019	12	151	14	96	.5	28	12	388	3.07	2	5	ND	1	19	2	2	2	115	2.47	.073	4	21	.89	28	.17	2	2.73	.05	.07	1	1
DOR-020	1	132	2	58	.2	4	16	547	4.57	2	5	ND	2	89	1	2	2	160	2.03	.173	12	1	1.05	23	.22	9	2.36	.05	.13	1	1
STD C/AU-R	18	57	37	131	7.2	67	26	1019	3.87	37	21	7	38	49	17	18	21	55	.49	.082	37	59	.86	174	.08	32	1.80	.08	.13	12	485

APPENDIX IV

Analytical Procedures

Analytical Procedures

1. Rock samples are crushed, dried and pulverized to minus-100 mesh.

2. A 0.50 gram portion of the sample is digested with 3 mls of 3:1:2 Hcl-HNO_3-H_2O at 95°C for one hour and is diluted to 10 ml with water. This leach is near total for base metals, partial for rock-forming elements and very slight for refractory elements.

3. Inductively coupled argon plasma (ICP) technique was used.

4. Gold geochemical analysis used a 10 gm sample ignited at 600°C, digested with hot aqua regia, extracted by MIBK, analysed by graphitic furnace AA. The detection limit is 1 ppb.

APPENDIX V

Sample Descriptions

PETROGRAPHIC DESCRIPTIONS

Doreen Claims

Dor 1 Quartz Argillite Breccia

Sharply angular black argillite fragments set in fine grained, white quartz matrix. Argillite fragments rimmed by fine radiating quartz crystals. Quartz in matrix shows flow banding.

Dor 2 Argillite

Rusty weathering, black to dark gray, finely laminated siltstone, crosscut by a few vuggy quartz and limonite-filled fractures. Some joint surfaces coated with pyrite.

Dor 3 Quartz - Calcite vein

Light gray, coarsely crystalline calcite vein cutting, fine grained, subequigranular quartz - feldspar wacke (?).

Dor 4 Hornblende Andesite

Medium gray, fine to medium grained hornblende andesite. Medium grained phenocrysts of pale green-brown hornblende set in very fine grained groundmass, which is partly carbonatized. Rock is also partly chloritized.

Dor 5 Pyroxene - Hornblende Andesite

Pale greenish gray, fine grained, porphyritic pyroxene - hornblende andesite. Feldspar phenocrysts replaced by sericite and saussurite. Common brown-green hornblende and green pyroxene relatively fresh. Aphanitic groundmass nearly isotropic. Few % fine, disseminated pyrite.

Dor 6 Andesite

Rusty weathering, pale greenish gray, phyric andesite crosscut by quartz and Fe-oxide filled fractures. Andesite is bleached alongside fractures. A few fine (.25 mm) stringers of pyrite which both subparallel and crosscut wider quartz-filled fractures and coat joint surfaces. Fine grained groundmass of hornblende, plagioclase, opaques, Fe-oxides.

Dor 7 Ferricrete Breccia

Light gray, oxidized siltstone fragments cemented with red-orange-brown Fe-oxides.

Dor 8 Massive Sulphide (pyrrhotite)

Weakly color banded massive pyrrhotite.

Dor 9 Hornblende Andesite

Yellowish green on weathered surface, greenish gray, subequigranular hornblende andesite. Saussuritized plagioclase with ragged, green-brown, inclusion-filled (magnetite) hornblende prisms. Handspecimen clearly shows silicification with abundant cryptocrystalline, light gray quartz. Pyrite occurs in blebs, disseminated (5%) and in fine fractures parallel to joint surface.

Dor 10 Quartz - Hornblende Vein

Thick gossan-coated, fine grained quartz with coarse hornblende along margin. Fine disseminated pyrite and chalcopyrite (?) in vein. Vein occurs in a brecciated shear zone in andesite.

Dor 11 Altered Andesite

Fine grained, greenish andesite. Chloritized, carbonatized, sericitic, andesite with minor epidote. Irregular blebs to 4 mm of pyrite.

Dor 12 Massive Sulphide (pyrrhotite)

Distribution of quartz inclusions indicates internal laminations in sulphide. Fine grained pyrrhotite crosscut by <1 mm stringer of chalcopyrite. Host is of altered andesite in part silicified. The siliceous parts have a brecciated aspect with sulphide infilling between fragments of andesite and intruding along fractures.

Dor 13 Andesite - Argillite Breccia

Thick rust coated, greenish andesite with dark gray siltstone clasts. Crosscut by open gashes and fractures filled with fine quartz and hornblende. Appears andesite has invaded argillite, with fluids moving along fractures in latter, bleaching argillite outwards from fractures and from contact.

Dor 14 Altered Argillite (?)

Rusty, sulphur stained, brecciated, sericitized, carbonatized, silicified fine grained clastic (?). Fractures filled with Fe-oxides.

Dor 15 Hornblende - Pyroxene Andesite

Fine grained, subequigranular, dark gray, hornblende - pyroxene andesite. Includes stringer of hornblende and quartz.

Dor 16 Hornblende Andesite

Thick, vuggy gossan-coated, greenish gray, fine grained, hornblende andesite cut by quartz stringers. Andesite is bleached alongside stringers.

Dor 17 Siltstone

Black siltstone with rust-filled fractures, sheared and brecciated. Partly silicified with fine disseminated pyrite and fine pyrite stringers crosscutting fine grained white quartz patches.

Dor 18 Altered Andesite Tuff (?)

Rusty, brecciated, light gray, bleached andesitic tuff with Fe-oxide filled fractures. Contains 3-5% fine pyrite in irregular blebs and fine stringers.

Dor 19 Argillite

Gossan-coated, black, finely laminated argillite and siltite. Partly silicified. Crosscut by fine fracture cleavage filled with fine grained quartz. Pyrite-coated joint surfaces.

Dor 20 Diorite

Pale green pyroxene phenocrysts set in dark groundmass that includes some intergranular quartz. Contains a few ragged, inclusion-filled, green hornblende subhedral phenocrysts partly replaced by epidote. Some augite crystals replaced by magnetite and chlorite.

APPENDIX VI

X-ray Diffraction Study

Cominco Ltd./Exploration Research Laboratory/1486 East Pender Street
Vancouver, B.C./Canada V5L 1V8/Tel. (604) [redacted]/Telex 04-507730
665-3032

Exploration
Research Laboratory

K.V. Campbell and Associates
#8 - 84 Lonsdale
North Vancouver, B.C.
V7M 2E6

21 January 1988

Dear Sir:

Six samples were submitted for x-ray diffraction study with particular reference to certain primary and secondary minerals. Each sample was milled, mounted and then x-rayed between 5 and 60° 2θ. The interpretation of the x-ray diffractogram is presented herein:

Sample DOR5 is seen to contain abundant feldspars (plagioclase), amphibole, lesser pyroxene and some quartz. No other mineral phase is identified in the x-ray trace. Possible minor epidote.

Sample DOR6 contains abundant feldspars (plagioclase) and lesser amphibole. A mica is also identified. Possible minor epidote.

Sample DOR9 contains significant quantities of amphibole, plagioclase and quartz.

Sample DOR11 contains abundant chlorite, significant plagioclase and amphibole and lesser calcite and quartz.

Sample DOR15 contains abundant amphibole and lesser plagioclase and chlorite. Minor epidote identified.

Sample DOR16 contains abundant amphibole and plagioclase and lesser quartz.

Overall the x-ray traces do not produce particularly strong patterns. This may be as a result of dilution of the sample by amorphous (glass!) phases.

Surprisingly, quartz is present in many samples. This might be caused by silicification or siliceous alteration. Chlorite is identified and is a large component of some samples. Both calcite and pyroxene are detected but are rare. Epidote was not abundant.

I am enclosing the x-ray traces for your records.

Yours truly.

J.A. McLeod.
Supervisor, E.R.L.

JAM/skw

Encl.

GEOLOGICAL BRANCH
ASSESSMENT REPORT
17,089
N
5000
4500
4000
4500
4000
3500
L.C.P
DOR 1
L.C.P
DOR 2
BASELINE
5+00 E
10+00 E
15+00 E
20+00 E
25+00 E
30+00 E
35+00 E
NDL 84-2
NDL 84-1
TAKLA METASEDIMENTS
AND VOLCANICS
INTRUSIVE
DIORITE
DOREEN LAKE
LEGEND
4500 TOPOGRAPHIC CONTOUR IN FEET (A.S.L.)
CREEK, LAKE
CLAIM BOUNDARY AND LEGAL CORNER POST (L.C.P.)
GRID LINE
ROAD, DRILL ACCESS ROAD + TRENCHES (1984/85)
AXIS OF H.L.E.M. CONDUCTOR
NDL 84-1 DIAMOND DRILL HOLE (NORANDA, 1984)
> 20 PPB (GOLD IN SOILS)
> 45 PPB (GOLD IN SOILS)
GEOCHEM LOW
To accompany a report by D.A. Leishman, B.Sc.
EUREKA RESOURCES INC.
COMPILATION PLAN
DOR CLAIMS
CARIBOO MINING DIVISION, B.C.
Technical Work By: D.A.L.
Scale: 1:5,000
0 50 100 meters 200
Drawn By: W.G.
Date: December, 1985.
Approved By: J.R. Kerr, P. Eng.
Fig. No. 238-3

101:937
9:4
102:14
103:26
104:1020
105:940
106:164
10:26
107:125
11:1
108:50
109:28
12:330
110:320
17:14
18:36
111:112
112:131
113:135
114:139
115:137
116:940
117:6250
118:161
7:74
119:154
120:810
121:670
122:340
123:66
124:31
125:50
126:4
127:1
128:7
129:1
130:7
131:28
132:4
13:8
14:10
15:4
16:16
19:1
8:520
22+00 E
23+00 E
24+00 E
25+00 E
26+00 E
1+50 N
1+00 N
0+50 N
Baseline 0+00
Road to Doreen Lake
N
1987 SAMPLING
101:37 SOIL SAMPLES (101-132) Sample number : Gold in ppb
15:4 ROCK SAMPLES (1 to 20) Sample number : Gold in ppb
FLOAT
BEDDING
JOINT
QUARTZ STRINGER
LEGEND
ROAD OUTLINE
AREA OF TRENCHING
GRID LINE (EUREKA DETAIL WORK - 1984)
DIAMOND DRILL HOLE LOCATION AND INCLINATION
GOLD VALUE IN ROCK SAMPLES; KERR, DAWSON - 1983
GOLD VALUE IN ROCK SAMPLES; KERR, DAWSON - 1984
GOLD VALUE IN ROCK SAMPLES; NORANDA - 1984
ROCK SAMPLES - AMOCO, 1984 (D - SERIES)
ROCK SAMPLES - EUREKA 1985
SOIL ANOMALY - NORANDA (1984) - (>50 PPB Au)
SOIL ANOMALY - KERR, DAWSON (1984) - (>100 PPB Au)
AXIS OF H.L.E.M. CONDUCTOR
GEOLOGIC CONTACT (AFTER NORANDA GEOLOGY - 1984)
SOIL PROFILE - NORANDA - 1984
GEOLOGY
INTRUSIVE (TRIASSIC - JURASSIC)
1 HORNBLENDE DIORITE, HORNBLENDE QUARTZ DIORITE
VOLCANICS - SEDIMENTS
2 ARGILLITE, VERY FINE GRAINED GRAY TO BLACK WITH INTERBEDDED CHERTS
3 ANDESITE, HORNBLENDE ANDESITE, FINE TO MEDIUM GRAINED, WITH BRECCIAS
SULPHIDE ZONE
GEOLOGICAL BRANCH
ASSESSMENT REPORT
17,089
EUREKA RESOURCES, INC.
DOR CLAIMS
CARIBOO MINING DIVISION, B. C.
RESULTS OF 1987 SAMPLING
SCALE 1:1,000 0 10 20 m
DATE JAN. 20, 1988
NTS 93 A 7/ W
CAMPBELL & ASSOCIATES
GEOLOGICAL CONSULTANTS
FIGURE 7
To accompany a report by D.A. Leishman, B.Sc

GEOLOGICAL BRANCH
ASSESSMENT REPORT

17,089

LEGEND

- ROAD OUTLINE
- AREA OF TRENCHING
- GRID LINE (EUREKA DETAIL WORK - 1984)
- NDL-84-1 -45° — DIAMOND DRILL HOLE LOCATION AND INCLINATION
- x 370 ppb — GOLD VALUE IN ROCK SAMPLES; KERR, DAWSON - 1983
- • 4800 ppb — GOLD VALUE IN ROCK SAMPLES; KERR, DAWSON - 1984
- o 300 ppb — GOLD VALUE IN ROCK SAMPLES; NORANDA - 1984
- ⊗ 68000 ppb — ROCK SAMPLES - AMOCO, 1984 (D - SERIES)
- ◆ — ROCK SAMPLES - EUREKA 1985
- SOIL ANOMALY - NORANDA (1984) - (>50 PPB Au)
- SOIL ANOMALY - KERR, DAWSON (1984) - (>100 PPB Au)
- AXIS OF H.L.E.M. CONDUCTOR
- GEOLOGIC CONTACT (AFTER NORANDA GEOLOGY - 1984)
- ◉ — SOIL PROFILE - NORANDA - 1984

GEOLOGY

INTRUSIVE (TRIASSIC - JURASSIC)

1	HORNBLENDE DIORITE, HORNBLENDE QUARTZ DIORITE

VOLCANICS - SEDIMENTS

2	ARGILLITE, VERY FINE GRAINED GRAY TO BLACK WITH INTERBEDDED CHERTS
3	ANDESITE, HORNBLENDE ANDESITE, FINE TO MEDIUM GRAINED, WITH BRECCIAS
(shaded)	SULPHIDE ZONE

EUREKA RESOURCES INC.

COMPILATION PLAN

DOR CLAIMS

CARIBOO MINING DIVISION, B.C.

Technical Work By: D.A.L.	Scale: 1:1,000 (0 5 10 metres 20 30)
Drawn By: W.G.	Date: December, 1985.
Approved By: J.R.K.	Fig. No. 238-4

To accompany a report by D.A. Leishman, B.Sc.