Feb 1985 indicated on map.

Property File

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PROPERTY GEOLOGY

Introduction

The Frasergold property is situated along the northeast limb of the northwest trending Crooked Lake Syncline. Within the area being tested by diamond drilling by Amoco Canada, stratigraphy dips at 40° to the southwest while further to the southeast dips became steeper and eventually the syncline becomes overturned. The axis of the syncline plunges gently ($\approx$ 10°-15°) to the northwest.

The Proterozoic to Lower Paleozoic Kaza Group forms the base of the Crooked Lake Syncline. The Kaza Group is structurally overlain by the Mississippian Antler Formation. A unit informally named Black Phyllite of Upper Triassic age overlies the Antler Formation, with Upper Triassic to Lower Jurassic Takla Group rocks forming the core of the syncline.

Proterozoic-Lower Paleozoic: Kaza Group

Kaza Group rocks underlie the northeast corner of MAC 7, MAC 8 and ALPHA 2 mineral claims. Within this area the group includes a light-coloured banded gneiss, biotite-muscovite schist and feldspar-augen gneiss. The schist and feldspar-augen gneiss occur along the southern margin of the group and has a distinct cataclastic texture. A strong foliation trending southeast and steeply dipping to the northeast is noted on MAC 8

and ALPHA 2 claims. This trend and dip corresponds with the overturned portion of the Perseus Anticline to the northeast.

Mississippian: Antler Formation

The Antler Formation has been correlated with mafic rocks of the Slide Mountain Group and has been traced southeasterly from the Quesnel River to the Bonaparte Lake map area, a distance of over 100 km.

On the Frasergold property, the Antler Formation consists of a sequence of foliated greenstone, chlorite schist and minor serpentinized ultramafic rocks. The unit is folded and stratigraphically overturned within a portion of the Perseus Anticline. Foliation is well developed with a northwest trend similar to that in the Black Phyllite. In places, the greenstone is so strongly folded that the feldspars and amphiboles have segregated into light and dark bands giving the rock a gneissic appearance.

Upper Triassic: Black Phyllite Unit

This informal name describes the dominant lithology on the Frasergold property. The Black Phyllite Unit consists of a thick sequence of metasedimentary and meta-volcanic rocks. A lower phyllite/greenschist sequence which unconformably overlies the Antler Formation, grades upward into alkaline augite-porphyry flows, tuffs and breccias. A thick coarse-grained mafic sill occurs along

the south edge of the property and is inferred to be coeval with the overlying volcanics.

The lower phyllite/greenschist sequence can be divided into three members: a lower transitional zone, a middle zone and an upper transitional zone.

Lower Transitional Zone

The lower zone, noted on both MAC 8 and ALPHA 2 claims, consist of interbedded dark grey to black phyllite, greenschist and quartz-sericite schist. This zone is 50 meters to 250 meters wide and forms a transitional zone between the Antler Formation and the black phyllites above.

Middle Zone

The middle zone is characterized by dark grey to black lustrous phyllite with minor intercalcated lenses of limestone. The phyllite contains abundant lenses and veins of translucent to milky white quartz, which appear to be the product of regional metamorphism. The quartz veins and lenses are generally conformable with the strike of foliation. On a 10 centimeter to 2 meter scale, some of the quartz veins are noted to be isoclinally folded with a gentle northwest plunge of 5^{o} - 15^{o}. Down to a depth of 5 - 10 meters, sulphides associated with quartz veins are strongly oxidized, below which the veins may contain up to 10 - 15% pyrite and pyrrhotite with 5 - 20% ankerite.

The area studied by Amoco during the 1983 and 1984 field seasons is confined to a portion of this middle zone. The units of phyllite encountered either from outcrop or diamond drilling listed in order from the assumed base to the top of the middle zone are as follows: (a) black phyllite; (b) black banded phyllite with siliceous sediment; (c) black banded phyllite with black calcareous phyllite; (d) black banded phyllite $\pm$ black carbonaceous phyllite and siliceous sediment; (e) black knotted phyllite; (f) siliceous sediment-marker horizon and (g) black phyllite.

The strike of these phyllites is generally 130^{o} - 140^{o}, however, locally strike may vay as much as 40^{o}. Stratigraphy always dips to the southwest and can vary between 35^{o} and 75^{o}, however, 40^{o} - 45^{o} is the most common dip and the one used in all interpretations. Parasitic folds reflecting regional structure are noted on a scale of 10 centimeters to several meters.

(a) Black Phyllite

The base of this sequence as known consists of foliated and crenulated black phyllite with up to 2% pyrite as blebs and stringers. This unit is suspected to have a thickness of several hundred meters and has not been intersected in the drilling performed to date.

(b) Black Banded Phyllite with Siliceous Sediment

This black phyllite grades upward into a mixture of black phyllite, black banded phyllite with 0% - 30% siliceous

sediment. These units have sections of well developed minor folding with folds on a 10 to 50 centimeter scale. Folded sections vary in width up to 30 meters and are separated by non or weakly folded sections of similar width. Crenulations on a 5 millimeter scale are often associated with these minor folds. Contacts between the light to medium grey siliceous sediment (which occur in bands varying in width from 1 mm to 50 cm.) and the phyllite are well preserved and are subparallel to foliation. The phyllite has less than 5% quartz in veins. These veins contain only minor pyrite and up to 15% ankerite. A few of the veins contain trace amounts of chalcopyrite, sphalerite and galena. The phyllite generally contains 2% - 5% pyrite and pyrrhotite as blebs and stringers elongated parallel to foliation. The siliceous sediment has less than 2% sulphides often occurring as disseminations. No anomalous gold values have been encountered in these units.

(c) Black Banded Phyllite with Black Calcareous Phyllite

Overlying this unit is black banded phyllite, an informal name given to a mixture of units with black banded phyllite predominating. The base of the BBP (up to 40 meters thick) contains 10% - 50% calcareous phyllite. The calcareous phyllite is fine-grained and dark grey in colour. It occurs as thin bands interbedded with black phyllite. Bands are generally less than two centimeters wide, but can be up to 30cm. wide. Contacts of individual bands of the calcareous phyllite are quite sharp, however the upper and lower contacts are gradational. This calcareous phyllite has very little sulphides less

than 1% and usually pyrite while the interbanded black banded phyllite has 2% - 5% pyrite and pyrrhotite. Quartz veining is generally weak in the calcareous rich sections usually less that 5%. When veins are present, they contain weak pyrite and pyrrhotite with abundant (up to 20%) calcium carbonate as irregular white concentrations within the vein. In quartz veins in any other unit, ankerite, and not calcium carbonate, is present. No gold values of interest have been found in the calcareous phyllite.

(d) Black Banded Phyllite ± Black Carbonaceous Phyllite and Siliceous Sediment

Overlying this calcareous base, the black banded phyllite is composed of a mixture of black banded phyllite, black carbonaceous phyllite, siliceous sediment and minor knotted phyllite. Upper contact is gradational. The total thickness of the black banded phyllite can be as much as 100 meters. Although the black banded phyllite is the predominant member, any of the other members can be dominant for intervals up to 20 meters.

The black banded phyllite is a fine-grained phyllite with narrow (less than 2 mm. wide) bands of discontinuous stringers of pyrrhotite and pyrite parallel to foliation. This phyllite generally has between 3%-7% sulphides.Except in FBC-84-11,gold values generally greater than 0.05 oz Au/ton are not noted in the black banded phyllite. In FBC-84-11, an interval from 280.5 meters to 285.0 meters assayed 0.144 oz Au/ton. It is interesting to note that this interval contained less than 1% quartz as veins.

The black carbonaceous phyllite is fine-grained soft, and contains abundant disseminated carbon. Regional metamorphism has recrystallized some of the carbon to form a graphitic coating on fracture surfaces. Remobilization or recrystallization of carbon is also strongly developed adjacent to many of the quartz veins. As with the black banded phyllite, the black carbonaceous phyllite contains considerably more pyrrhotite and pyrite than any other unit. Sulphide content is generally 3%-5% with short intervals containing upto 7%-10% pyrrhotite and pyrite.

Within the black banded phyllite and generally towards the base of the unit is one or more units of very fine-grained, medium grey siliceous sediment. These siliceous sediment units are composed of bands of BBP with 60%-80% siliceous sediment. Individual

bands vary in thickness up to several meters. The siliceous unit is generally less than 20 meters thick, and appears to lens out along strike.

In the west (L 54+00E) this siliceous unit is stratigraphically above the calcareous phyllite while by L 56+00E, the siliceous unit is below the calcareous horizon and by L 64+00E, the siliceous unit is again above the calcareous phyllite.

(e) Black Knotted Phyllite

The black banded phyllite is overlain by at least 200 meters of black knotted phyllite with 1% to 15% interbedded siliceous sediment. The siliceous sediment occurs in bands from less than 1 cm. to greater than 50 cm. The knotted phyllite contains 10%-30% 4-7 millimeter oval to subangular knots. Petrographic analysis indicates the knots to be carbonate rich (siderite and ankerite) with qtz., tourmaline and albite ? inclusions. The knots are a product of metamorphism. However, whether they are original porphyroblasts or were formed by the replacement of pre-existing prophyroblasts such as those of garnet or albite has yet to be resolved. The knots were present prior to the last phase of metamorphism since many of the knots are seen rotated out of their original position. Fine-grained disseminated sulphides are noted in some of the knots. From surface to a depth of -5 meters, the knots are so strongly altered that no mineral other than limonite can be identified.

Within the knotted phyllite, two percent to twenty percent quartz occurs as veins and lenses parallel to or subparallel to foliation. These veins have 2%-10% ankerite and 1%-10% pyrrhotite and pyrite. Occasionally, trace amounts of chalcopyrite, galena and sphalerite are noted. The majority of the quartz vein zones encountered by diamond drilling occur within this zone as do many of the gold intersections. See figure 6, pages 24 - 25.

(f) Siliceous Sediment(Marker Horizon)

Occurring approximately 100 m. above the base of the knotted phyllite unit is a 10-20 meter thick unit of siliceous sediment with only minor interbedded knotted phyllite. This siliceous sediment is light to medium grey, very fine-grained to cryptocrystalline. Siliceous bands vary in width up to two meters and are separated by varying widths (usually less than 0.5 meters) of knotted phyllite. Quartz and sulphide content are generally low in the siliceous horizons.

Above this siliceous horizon, there are approximately 150-200 meters of black knotted phyllite with only trace intercalated siliceous sediment. Where observed, the upper contact of the knotted phyllite is gradational. The knotted phyllite above the siliceous unit has considerably lower sulphide content (often less than 0.5%). Although quartz veining may be as abundant as below, sulphide content of these veins is appreciably lower.

Only rarely is there anomalous gold values in the knotted phyllite above this siliceous horizon.

(g) Black Phyllite

Overlying the knotted phyllite is a continuation of black phyllite. This unit has an unknown thickness, but it is expected to be up to several hundred meters thick. These black phyllites would mark the top of the middle zone.

Upper Transitional Zone

The upper zone consists of interbanded black phyllite, greenschist and quartz-sericite-chlorite schist. This sequence was recognized south of the grid between Line 50+00East and Line 55+00East. These units which are regionally extensive, form a transition zone between the middle zone and the overlying, predominantly metavolcanic sequence.

Upper-Triassic - Lower Jurassic Rocks:

A mafic sill unit occurs along the southwestern edge of the property. This sill is at least 500 meters thick, conformable with the regional strike of the phyllites and has been traced northwest for a distance of nine kilometers. The mafic sill consists of a variety of very coarse-grained, quartz poor, calcic plagioclase to pyroxene rich mafic intrusives. This sill is probably Upper Triassic in age and is inferred to be coeval with the overlying basic alkali volcanic sequence.

The overlying volcanic and sedimentary sequence consists of black, limey, phyllitic siltstones interbedded with fine-grained greenstones. Both rock types are locally primary breccias. This interbedded clastic and volcanic member is 300 meters thick and is overlain by 1800 meters of pyroxene porphyry breccia, crystal tuff and flows.

Tertiary Basalts:

A small, isolated remnant of Tertiary valley basalt is preserved in the MacKay Valley on the MAC 9 claim. This fine-grained medium-grey basalt forms a rounded knob about 25 meters high and 500 meters long.

STRUCTURE

The Frasergold property is situated on the eastern margin of the Quesnellia Tectonostratigraphic Terrane. Rocks on the property together with older rocks of the Omineca Crystalline Belt have been metamorphosed and deformed into a northwest plunging fold system. This fold system consists of the Perseus Anticline to the northeast, the Crooked Lake Syncline underlying the property and the Boss Mountain Anticline to the southwest. These major folds have a wavelength of approximately 8 kilometers. Geological evidence indicates that none of the rocks have undergone a major folding event before or after the formation of these large-scale folds.

The project area lies on the northeastern limb of the northwest plunging Crooked Lake Syncline, whose axial trace lies along the southwest edge of the property. The Pre-Tertiary rocks in the Crooked Lake Syncline are strongly deformed and display a penetrative crenulation foliation. This crenulation foliation strikes northwest and dips at 60^{o}-80^{o} to the southwest.

The Crooked Lake Syncline displays a change in altitude along its strike to the southeast. Within the property, axial planes of folds are steeply dipping but upright, while southeast of the property, axial planes dip steeply to the northeast and are overturned.

Information gathered from diamond drilling and surface mapping indicates there are several folded zones. The folded zones consist of a number of parasitic folds on a scale from a few centimeters to several meters. Vergence is always to the northeast and this indicates that rock units are not structurally inverted.

Some of the parasitic folds are recumbent. These are best recognized when they are associated with quartz structures. Often a three - ten centimeter quartz vein can be seen to be recumbently folded, producing a core of phyllite with a knot of quartz in the hinge of the fold. Noted in outcrop is a distinct 5^{o}-15^{o} plunge to the northwest for these folded quartz veins.

Three predominant fold zones with quartz structures are noted: (1) at the boundary between the knotted phyllite and the Black Banded Phyllite; (2) just above the main drill access road L63 + 00E 4+50S and (3) about half-way in between one and two. The bottom two zones are associated with anomalous rock channel sample results. However, these results are generally less than 0.03 oz Au/ton. The upper zone is not associated with any zone of anomalous rock channel samples. The "A" zone which has the most consistent gold values and the best potential to be continuous is not associated with a recognizable fold zone. However, this zone does have a strong quartz structure which has been boudinaged.

Continuity of this vein structure with depth is uncertain. From the limited drilling to-date, (two down dip holes have been drilled), there doesn't appear to be any continuity. Both holes failed to intersect similar quartz structures or gold mineralization. The best down dip intersection is in hole FBC-84-11 which assayed 0.031 oz/Au/ton for a 1.5 meter sample. Further drilling is required to determine if in fact there is no down dip extension of the "A" zone or whether the two holes drilled to-date intersected an anomalously weak part of the structure. Hole FBC 84-11 did intersect at 280.5 m, a 4.5 meter interval assaying 0.144 oz Au/ton. The interval is approximately 50 meters stratigraphically below the "A" zone. The significance of this intersection is not known, nor can this intersection be extrapolated to adjacent drill holes.

GOLD MINERALIZATION

Previous exploration by what is now Eureka Resources Inc. have noted that gold, silver and base metals occur in a variety of geological environments on the Frasergold property.

(i) Gold and silver are associated with Upper Triassic Black Phyllites and synmetamorphic quartz veins;

(ii) Disseminated copper has been noted in the mafic sill unit;

(iii) Porphyry-style copper mineralization occurs in fine-grained alkalic rocks, such as at the nearby Eureka Peak prospect;

(iv) Copper has been noted within late-stage quartz veins.

Amoco's exploration activity during 1983 and 1984 was restricted to evaluating gold mineralization within the Upper Triassic Black Phyllites and associated quartz veins. Surface soil and rock sampling in 1983 outlined an area extending south from the baseline to the main drill access road between L52+00E and L61+00E as having the best potential for gold mineralization. During 1983, Amoco tested this area with five drill holes totalling 1,644.1 meters. Amoco continued to test this area and its eastward extension during 1984 with a total of 2,874.7 meters of diamond drilling in nine holes.

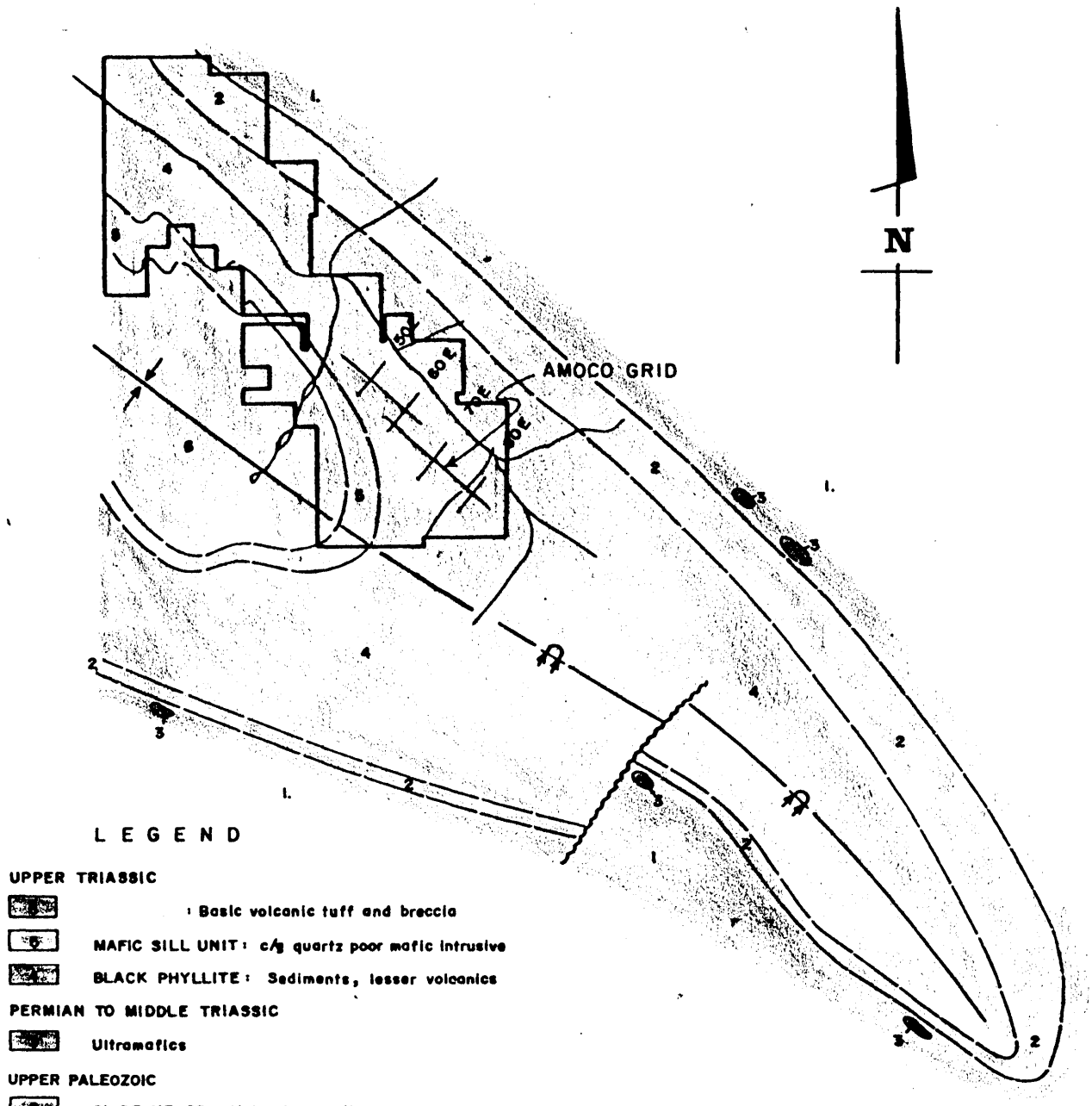
As with the 1983 diamond drilling, the 1984 diamond drilling intersected a number of zones containing an abundance of quartz veins subparallel to stratigraphy. These quartz vein systems contain varying amounts of pyrite, pyrrhotite (up to 20 percent) and generally 5%-30% ankerite. The majority of both the sulphides and ankerite occur in the vein as a selvage. The phyllite adjacent to the vein often has strong carbonaceous development. The majority of gold intersections greater than 0.04 oz Au/ton are associated with quartz veining. A few intersections such as the interval 280.5 - 285.0 meters in hole FBC 84-11 which returned an assay of 0.144 oz Au/ton for the 4.5 meters has less than 1.0% quartz as veins associated.

No specific stratigraphic horizon was noted to contain evaluated background values for gold, which could act as a source for the reconcentration of gold into favourable quartz structures. There is a concentration of higher gold values adjacent to the gradational contact between the knotted phyllite with interbedded siliceous sediment and the interbedded black banded phyllite, black carbonaceous phyllite and siliceous sediment. This area is also occupied by a series of parasitic folds which often have boudinaged quartz structures accompanying them. The wavelength of individual folds is usually less than two meters with less than one meter amplitude. The width of any of these fold zones is not certain but is probably less than 10 meters.

Between the upper siliceous horizon (located just north of the main drill access road) and the contact described above are a number of zones of gold mineralization ranging in width from 1.5m to 10.5m. The majority of these intersections have average grades less than 0.05 oz Au/ton. There is, however, one zone (the "A" zone) which is located approximately 50 meters to the north of this siliceous horizon which persistently has high gold values. Based on 100 meter to 200 meter spaced diamond drill holes, this zone can be traced from L52 + 00E east to L62 + 50E, a distance of 1,050 meters. The width of this zone varies from 1.5 meters to 7.5 meters and the grade from 0.068 oz Au/ton to 0.316 oz Au/ton. The average width of the nine intersections in this zone is 3.5 meters with an average grade of 0.101 oz Au/ton (see figure 31, page 38-39). The zone is often marked by a larger than average quartz vein (0.5 - 2.0 meters) or several closely spaced 10 - 30 centimeter wide quartz veins. Visable gold is always within quartz veins with or without sulphides. Ankerite is always present. The strike of the structure is interpreted to be subparallel to foliation and dipping to the southwest at 60^{o}, again subparallel to the dip of foliation. Two holes have been drilled to test a down dip extention of the "A" zone. Results for the "A" zone from both holes were not encouraging. The best value was in hole FBC-84-11 drilled below FBC-84-7 on L59 + 00E. Here, in the assumed location for the down-dip extension of the "A" zone, a 1.5 meter interval assayed 0.031 oz. Au/ton. Hole FBC - 83 - 5,

drilled below FBC 83-2 on L55+00E failed to encounter any anomalous values in the area predicted. From the widely spaced drilling performed to-date, (100 m - 200 m separation) the "A" zone appears to be continuous. However, we do know the "A" zone is closely associated with a quartz structure. Similar quartz structures on surface are pinched and swelled. Even large veins can pinch out in 10 to 20 meters. These vein structures may also be en echelon along strike, and can be expected to pinch and swell down dip and well. Therefore, it would require considerably detailed drilling before any tonnage can be outlined for the "A" zone.

Only a few examples of cross-cutting quartz veins were noted in drill core, none of which appear to have any effect on the concentration of gold. Scattered throughout the stratigraphic sequence are quartz veins which contain varying amounts of base metals and possibly silver or arsenic. The trace amounts of base metals occur as disseminations of chalcopyrite, sphalerite and galena. The silver or arsenic mineral is much rarer and occurs as isolated specks in a few quartz veins. Some silver may also be associated with the galena, however, no studies have been conducted to confirm this since the amounts present have no economic significance.



LEGEND

UPPER TRIASSIC

5 : Basic volcanic tuff and breccia

6 MAFIC SILL UNIT : c/g quartz poor mafic intrusive

3 BLACK PHYLLITE : Sediments, lesser volcanics

PERMIAN TO MIDDLE TRIASSIC

4 Ultramafics

UPPER PALEOZOIC

2 SLIDE MT. GP : Volcanics, sediments

HADRYNIAN

1 KAZA GP. : Metasediments

Geological contact

Fold axis

Synclinal axis : fold upright

Synclinal axis : overturned

0 1 2 3 4 5 KM

AMOCO CANADA PETROLEUM CO. LTD.

MINING DIVISION

FRASERGOLD PROJECT

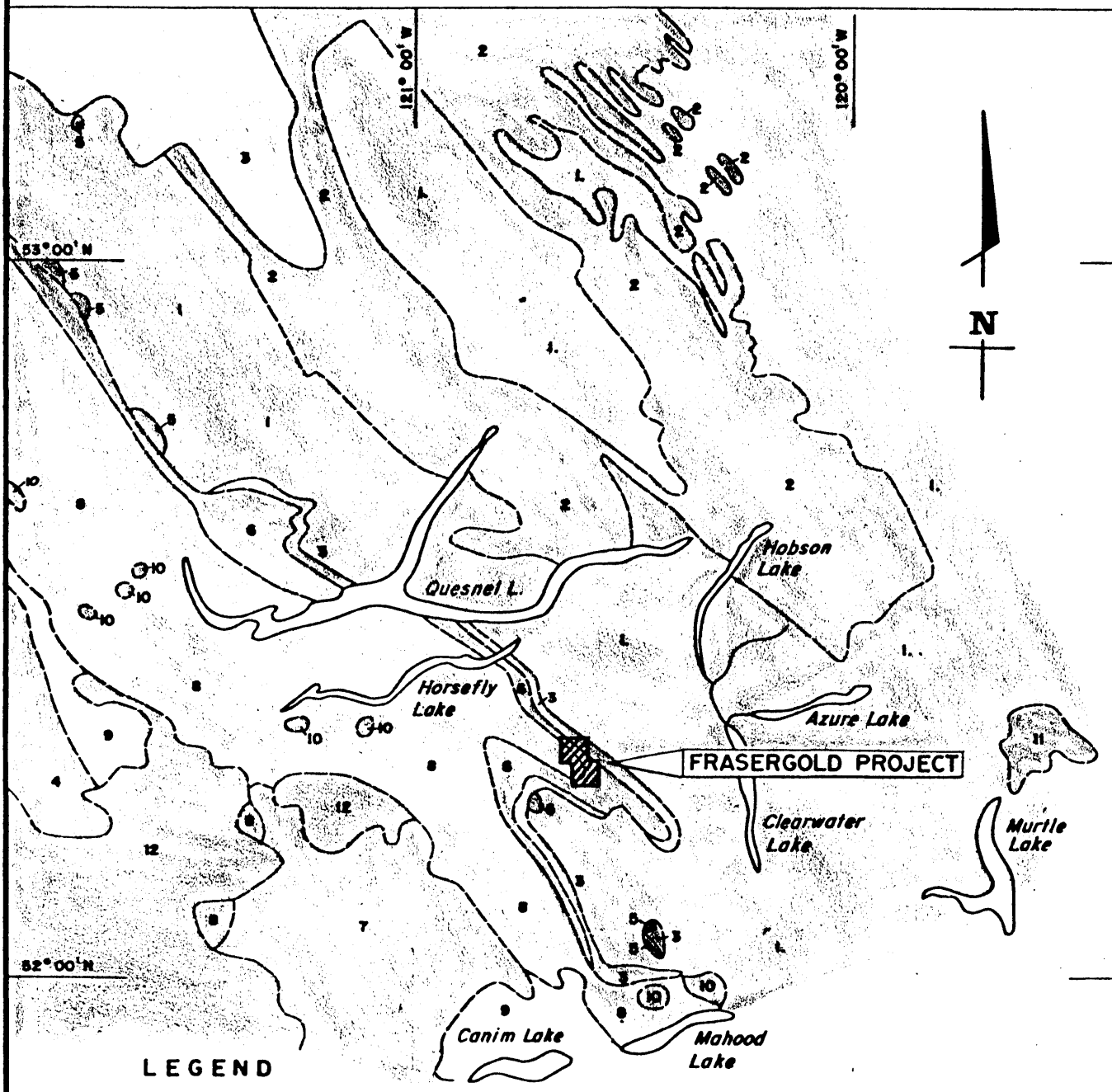
GEOLOGY

1 : 125,000

FEB. 1984

FIGURE 5

REGIONAL GEOLOGY - FRASERGOLD PROJECT



LEGEND

RECENT TO TERTIARY

Recent volcanics - overburden

CRETACEOUS TO TERTIARY

Granodiorite - quartz diorite

CRETACEOUS

Syenite - quartz monzonite

JURASSIC

Sediments

UPPER TRIASSIC TO LOWER JURASSIC

TAKLA GP. Volcanics - sediments

UPPER TRIASSIC

TAKOMKANE BATHOLITH : Granodiorite - quartz monzonite.

UPPER TRIASSIC

BLACK PHYLLITES : Sediments - lesser volcanics

PERMIAN TO TRIASSIC

Ultramafics

UPPER PALEOZOIC

CACHE CREEK GP : Sediments - lesser volcanics

SLIDE MT. GP : Volcanics - sediments

HADRYNIAN TO ORDOVICIAN

Sediments

HADRYNIAN

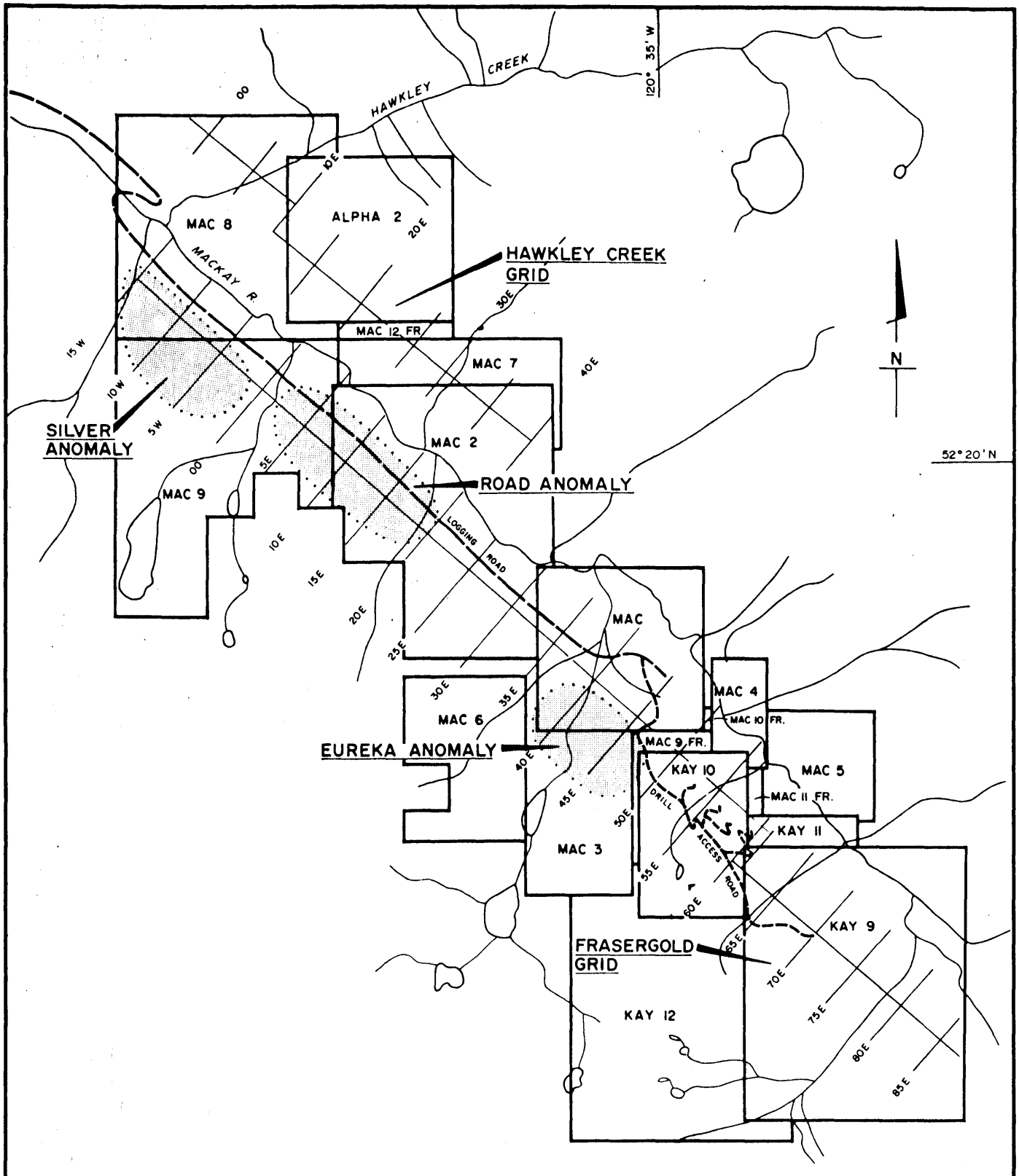
KAZA GP : Metasediments

0 10 20 30 40 50 KM

1:1,000,000

FEB. 1984

FIGURE 4



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FRASERGOLD PROJECT

CLAIM MAP WITH GRIDS

Drawn By	d.o's	Scale	1:50,000
Date	March 1985	Project Nº.	83C-004

FIGURE 3