

84-1270-13598

10/85

GEOLOGICAL REPORT ON  
RINA I AND ELNORA 1 TO 6  
CLAIMS

Nanaimo Mining Division  
NTS 92F/14W  
Latitude 49°47'N Longitude 125°21.5'W

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

13,598

Report Prepared For  
IRON RIVER RESOURCES LTD.  
1919 Galerno Road  
Campbell River, B.C.

by  
K.E. NORTHCOTE AND ASSOCIATES LTD.  
AGASSIZ B.C.

December 8, 1984

K.E. Northcote Ph.D., P.Eng.

## TABLE OF CONTENTS

|   |        |
|---|--------|
| SUMMARY FOR G.E.M.                          | Page 1 |
| INTRODUCTION                                | 2      |
| LOCATION AND ACCESS                         | 2      |
| MINERAL CLAIMS                              | 3      |
| HISTORY OF EXPLORATION                      | 4      |
| 1984 PROGRAM                                | 4      |
| GENERAL GEOLOGY                             | 5      |
| MINERAL POTENTIAL OF AREA                   | 6      |
| GEOLOGY OF THE RINA AND ELNORA CLAIMS       | 10     |
| MINERAL POTENTIAL OF RINA AND ELNORA CLAIMS | 10     |
| RESULTS OF THE 1984 PROGRAM                 | 11     |
| CONCLUSIONS                                 | 13     |
| RECOMMENDATIONS                             | 14     |
| COSTS FOR ASSESSMENT                        | 15     |
| REFERENCES                                  | 16     |
| CERTIFICATE                                 | 17     |

|        |   |  |
|--------|---|--|
| FIGURE | 1 | LOCATION OF FORBIDDEN PLATEAU PROPERTY           |
| FIGURE | 2 | FORBIDDEN PLATEAU CLAIM MAP                      |
| FIGURE | 3 | GEOLOGY OF FORBIDDEN PLATEAU AREA                |
| FIGURE | 4 | MINERAL PROPERTIES OF THE FORBIDDEN PLATEAU AREA |
| FIGURE | 5 | ELNORA SHOWING SKETCH                            |
| FIGURE | 6 | PROSPECTING AND SAMPLE MAP ( 1/5000 )            |

|       |     |   |
|-------|-----|---|
| TABLE | I   | RINA ELNORA CLAIMS                        |
| TABLE | II  | MINFILE PROPERTIES FORBIDDEN PLATEAU AREA |
| TABLE | III | ASSAY FROM ELNORA SHOWING                 |
| TABLE | IV  | HEAVY MINERAL ANALYSES                    |

|          |   |                                       |
|----------|---|---------------------------------------|
| APPENDIX | A | CLAIM DATA                            |
| APPENDIX | B | ASSAY DATA ELNORA VEIN                |
| APPENDIX | C | MINERALOGRAPHIC STUDY                 |
| APPENDIX | D | PROSPECTING REPORT ( L.V. BERKSHIRE ) |

REPORT ON THE GEOLOGY  
OF RINA I AND ELNORA 1 to 6 GROUP OF CLAIMS  
Nanaimo Mining Division

SUMMARY FOR GEM 1984  
by K.E. Northcote

CLAIMS The Rina-Elnora property consists of three 20 unit, RINA 1 to 3 claims and six 2-post ELNORA 1 to 6 claims

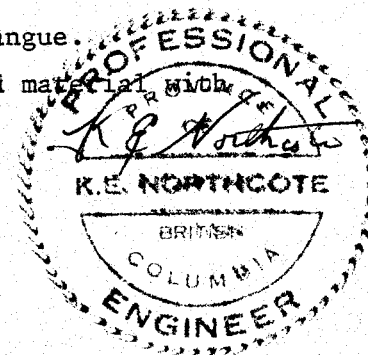
LOCATION The Rina-Elnora property is located approximately 26 kilometres south-southwest of Campbell River on Vancouver Island, Latitude 49°47'N, Longitude 125°21.5'W, NTS 92F/14W. The claims are situated on the main part of Piggott Creek and its southeasterly branch.

WORK DONE 1984  
Extensive prospecting was done by D. Berkshire on the Rina 1,2 and 3 claims. The Elnora vein was sampled, assayed and a mineralographic study was completed.

GEOLOGY

The RINA and ELNORA claims are underlain by block faulted Karmutsen Formation unconformably overlain by Nanaimo Group sediments which, just to the southwest of RINA 1 claim, are intruded by Tertiary plutons and possibly diatremes.

The main showing, the Elnora showing, crops out in Piggott Creek near the boundary of the Elnora 3 and 5 claims. The showing conforms to the gently dipping Karmutsen bedding, is at least 0.6 m thick, and is a brecciated, siliceous (drusy quartz), carbonatized (ankeritic) breccia which is mineralized by scattered 1 to 2 cm irregular pods of galena, sphalerite, with lesser chalcopryrite, anglesite, very minor tetrahedrite, with traces tennantite, argentite, covellite and native silver. One grain of gold .03 mm (unconfirmed) was visible in gangue. Assays range from .08 to 48.60 oz Ag/ton in selected material with -.003 to .141 oz Au/ton.



REPORT ON THE GEOLOGY  
OF RINA I AND ELNORA 1 TO 6 GROUP OF CLAIMS  
NTS 92F/14W, Nanaimo Mining Division B.C.

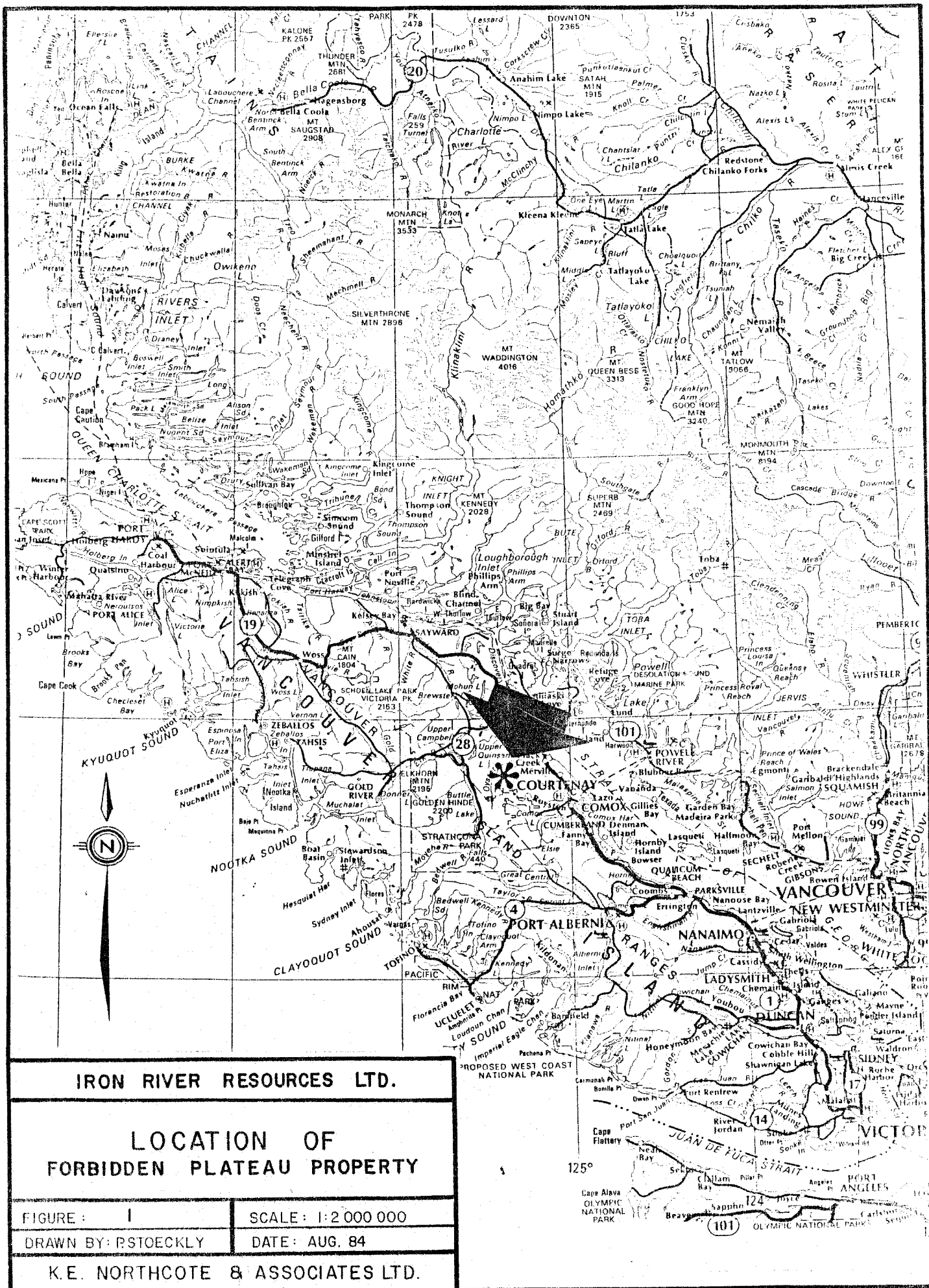
INTRODUCTION

K.E. Northcote and Associates Ltd. was contracted by Iron River Resources Ltd. to examine the Rina-Elnora Property, to sample and assay known mineral occurrences, sample placer material in order to comment on possible source and to outline a program covering EAGLE GORGE, ELNORA, RINA and JOE ANNE claims comprising Iron River Resources Forbidden Plateau Mining Property. This work was done in the period May 1 to October 24, 1984.

LOCATION AND ACCESS

The Rina-Elnora Property is located approximately 26 kilometres south-southwest of Campbell River and 26 kilometres northwest of Courtenay on Vancouver Island, Latitude 49°47'N, Longitude 125°21.5'W, NTS 92F/14W. See Figures 1 and 2. The claims are situated on the main part of Piggott Creek and its southeasterly branch. Elevations range from 500 metres in streambeds to about 1050 metres on the west flank of Mt. Washington. Logging roads which pass through the claims provide excellent access from Campbell River, a road distance of about 36 kilometres. Piggott Creek traverses the claim group in a northerly trending gorge which may attain depths of up to 200 metres.

Mineral exploration and development can be carried out throughout almost the entire year with most of the snowfall occurring during December and January.



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LOCATION OF FORBIDDEN PLATEAU PROPERTY

|                                  |                     |
|----------------------------------|---------------------|
| FIGURE : I                       | SCALE : 1:2 000 000 |
| DRAWN BY: PSTOCKLY               | DATE: AUG. 84       |
| K.E. NORTHCOTE & ASSOCIATES LTD. |                     |

## MINERAL CLAIMS

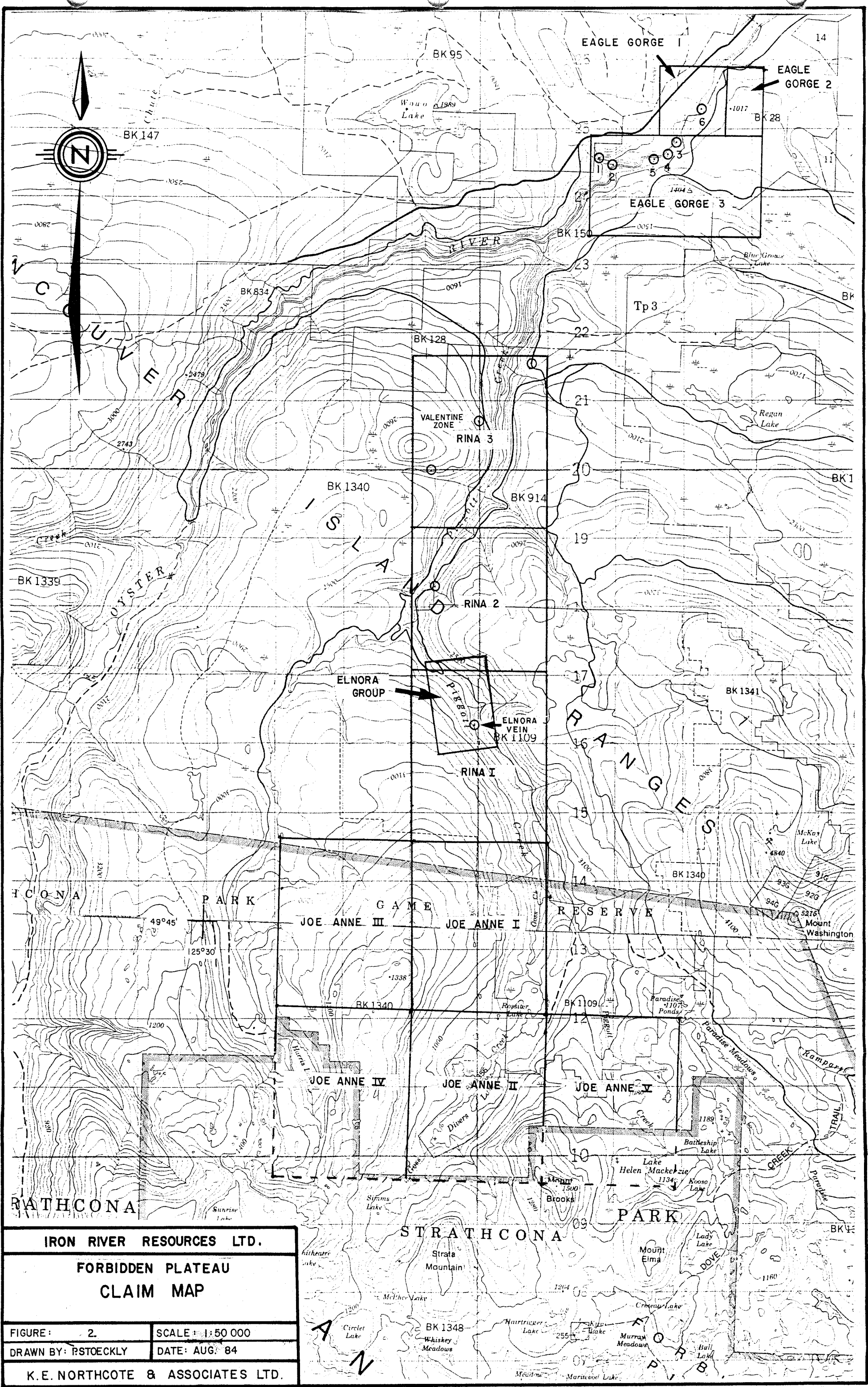
The Rina-Elnora groups of claims are comprised of RINA 1, 2, and 3 and ELNORA 1 to 6 claims. The claim groups are shown on Figure 2 and contain a total of 66 units (including 6 - 2 post claims). The legal corner posts and location posts of these claims were not examined to determine that they were set in accordance with the Mineral Act. It is noted however that those posts that were observed during the course of mapping and sampling appeared to be legally set and the location lines are well marked. Legality and maintenance of the claims by filing assessment work is the responsibility of Iron River Resources Ltd.

TABLE I  
RINA - ELNORA CLAIMS

| CLAIM    | UNITS                       | RECORD NO. | ANNIVERSARY DATE  |
|----------|-----------------------------|------------|-------------------|
| RINA 1   | 20                          | 1594 (10)  | October 18, 1984  |
| RINA 2   | 20                          | 1624 (12)  | December 2, 1984  |
| RINA 3   | 20                          | 1625 (12)  | December 2, 1984  |
| ELNORA 1 | 1 two post                  | 490 (11)   | November 21, 1984 |
| ELNORA 2 | 1 " "                       | 493 (11)   | "                 |
| ELNORA 3 | 1 " "                       | 491 (11)   | "                 |
| ELNORA 4 | 1 " "                       | 494 (11)   | "                 |
| ELNORA 5 | 1 " "                       | 492 (11)   | "                 |
| ELNORA 6 | 1 " "                       | 495 (11)   | "                 |
| TOTAL    | 66 units and 2 post claims. |            |                   |

The Rina 1 Group is comprised of RINA 1 and ELNORA 1 to 6 claims. ELNORA 3 to 6 and the southern 2/3 of ELNORA 1 and 2 are contained within RINA 1. ELNORA 1 and 2 lap into RINA 2 which with RINA 3 are contiguous to the north.

Because these claims lie within the E&N Land Grant area the RINA-ELNORA claims may give rights only to the gold and silver with the holder of base metals rights to be researched.



**IRON RIVER RESOURCES LTD.**

**FORBIDDEN PLATEAU CLAIM MAP**

|                    |                 |
|--------------------|-----------------|
| FIGURE: 2.         | SCALE: 1:50 000 |
| DRAWN BY: PSTOCKLY | DATE: AUG. 84   |

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## HISTORY OF EXPLORATION

Although the Oyster-Piggott area has had intermittent prospecting since the lowland area to the east was settled in the 1800's there are no lode occurrences listed in MEMPR's Minfile for the area of the RINA-ELNORA claims. The Elnora vein is a recent discovery.

Coarse gold was recovered from a placer operation in the Oyster-Piggott drainage in the 1920's to 1940's. Some iron pipes and other hydraulic sluicing equipment remains in evidence of this old operation. MEMPR Bulletin No. 28 gives production figures only for the period 1936 to 1945 totalling 125 ounces with fineness ranging from 880 to 890. Although Oyster River and Piggott Creek are not Designated Placer Areas, a pre-existing placer lease is located immediately to the east of the EAGLE GORGE claims at Strawberry Flats.

## 1984 PROGRAM

The area of the RINA 1, 2 and 3 and ELNORA 1 to 6 claims was extensively prospected by D.P. Berkshire during the 1984 field season. This work was beneficial to the over all program by improving trail access and facilitating examination of specific mineralized occurrences.

Three days, including travel, were spent by K.E. Northcote in company with D.P. Berkshire examining and sampling showings particularly the Elnora showing in Piggott Creek. Heavy media samples were collected by D. Berkshire from Piggott Creek above and below the Elnora showing. This work was done July 5 and September 7, 1984. Subsequently mineralographic work was done on the Elnora showing.

This work forms part of the initial stage of an overall program for Eagle Gorge, Rina, Elnora and Joe Anne claims groups on Iron River



Resources Forbidden Plateau property the bulk of which is to be carried out during 1985.

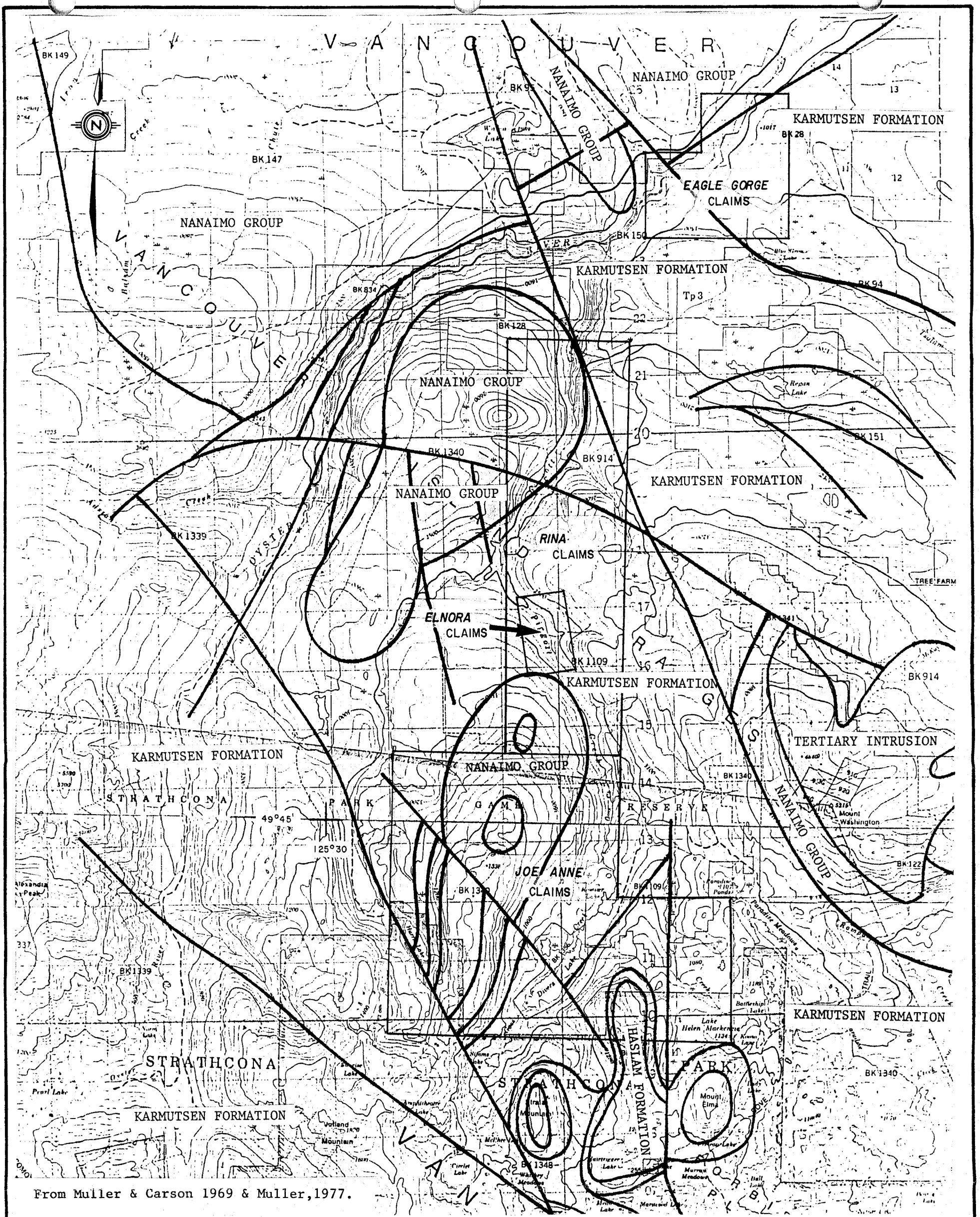
#### GENERAL GEOLOGY

The northern part of the Forbidden Plateau area is underlain mainly by Karmutsen Formation of Upper Triassic age. See Figure 3. These rocks are submarine basaltic flows, pillow lavas, pillow breccias with minor intercalated bedded tuffs, argillites and some interlava limestones near the top of the formation. These rocks are commonly uniform, massive, bedded units of generally of dark grey-green color. They have undergone low grade (zeolite/pumpellyite) regional metamorphism. The base of the Karmutsen Formation is not exposed in the northern part of the Forbidden Plateau area.

Precretaceous levels of erosion have generally extended down into the Karmutsen but locally Precretaceous structure has preserved a few wedges of conformably overlying Quatsino and Bonanza Formations. See Figure 3.

Quatsino limestone consists of a thick bedded sequence of massive limestone generally composed of detrital shell material but here recrystallized but showing relict shell fragments and scattered siliceous nodules. The thickness of the Quatsino Formation in this area is not known.

Bonanza Formation is composed largely of subaerial volcanic rocks mainly of a pyroclastic nature consisting of tuff breccia, flow breccia with lesser flows. The thickness of the Bonanza erosional remnant is not known. There are numerous Precretaceous intrusions in the general area. See Muller, 1977. O.F. 463. These occur as major, Jurassic, Island Intrusions, none of which are identified in the northern part of the Forbidden Plateau area. Figure 3. On a smaller scale, dykes of basaltic rocks cut through Karmutsen volcanics providing feeders for flows higher in the succession. Similarly, feeders for



From Muller & Carson 1969 & Muller, 1977.

|  |               |
|--|---------------|
| IRON RIVER RESOURCES LTD.                    |               |
| <b>GEOLOGY OF<br/>FORBIDDEN PLATEAU AREA</b> |               |
| FIGURE: <b>3</b>                             | SCALE:        |
| DRAWN BY: P. STOECKLY                        | DATE: OCT. 84 |
| K.E. NORTHCOTE & ASSOCIATES LTD.             |               |

- |                    |   |                     |   |
|--------------------|---|---------------------|---|
| TERTIARY INTRUSION | ○ | BONANZA FORMATION   | ○ |
| NANAIMO GROUP      | ○ | QUATSINO FORMATION  | ○ |
| HASLAM FORMATION   | ○ | KARMUTSEN FORMATION | ○ |



Bonanza volcanics may be expected to cut older formations but these are probably represented by Island Intrusions which have followed upwards and cannibalized Bonanza volcanic centres.

Precretaceous structural uplift and faulting accompanied by some flexuring and subsequent erosion resulted in an erosion surface penetrating down into the Karmutsen Formation with a few fault protected remnants of Quatsino and Bonanza rocks within it.

These older rocks are unconformably overlain by a thick succession of Nanaimo Group sedimentary rocks consisting of basal conglomerates, sandstones, siltstones, mudstones and coal.

The Nanaimo Group and older rocks were subsequently intruded by Tertiary Intrusions as dykes, sills, plugs and locally diatreme breccias. These intrusions affected the older rocks by metamorphosing them to hornfels or pervasive silicification and sericitic alteration along brecciated zones which may follow or cut across bedding.

#### MINERAL POTENTIAL OF THE NORTHERN PART OF FORBIDDEN PLATEAU AREA

The geologic environment discussed in the preceding General Geology section may be host to a wide variety of types of mineral deposits.

Deposits associated with Precretaceous bedded and intrusive rocks include the following:

- (1) Contact metasomatic (pyrometasomatic) skarn deposits related to emplacement of Jurassic Island Intrusions into Upper Triassic Quatsino limestone, Karmutsen intraformational limestones and calcic volcanic units of the Karmutsen. These deposits constituted the important copper, iron and copper-iron deposits mined on Vancouver Island until the late 1960's to early 1970's. Significant production was achieved from such

properties as Benson Lake, Merry Widow, Kennedy Lake, Nimpkish Lake, Argonaut Iron and others. Lead, zinc and to a lesser extent molybdenum (Phillips Arm), tungsten (Chilco Lake) are associated with skarns but have not yet become significant producers.

Contact metasomatic deposits may occur at or very near to contacts between calcareous rocks and Island Intrusions or within sheared or brecciated structures leading from contact zones.

- (2) Copper-molybdenum porphyry related deposits occur in subvolcanic environments within Bonanza/Island Intrusion porphyritic rocks. The best known example of this type of deposit on Vancouver Island is Island Copper which went into production November 1971, with published initial reserves of 257,000,000 tonnes of 0.52% Cu and 0.017% molybdenum.
- (3) Shear-vein systems containing copper, lesser lead-zinc and in some areas gold and/or silver values. These occurrences are thought to be genetically related to Island Intrusions and may be found in any of the formations predating or contemporaneous with Island Intrusion magmatic activity. To date none of these has been a significant producer.
- (4) Karmutsen flow top and interflow tuff/argillite copper, (vanadium) mineralization. Copper occurrences associated with basic Karmutsen volcanics are widespread on Vancouver Island. Copper mineralization occurs in flow tops as disseminations, in amygdules and in quartz and calcite veins and in locally rich mineralized interlava tuffs and argillites. The metal and mineralizing solutions emplacing these deposits are thought to be derived from within the volcanic sequence and have no direct relationship to plutonic, intrusive or hydrothermal processes. Vanadium occurs as vanadinite associated with secondary copper minerals in carbonaceous interlava sediments in Karmutsen amygdaloidal basalts near Menzies Bay. Some copper production was achieved from the Karmutsen

Formation on Quadra Island in the early 1900's. Leaching of copper from these materials has been attempted in later years.

Deposits associated with Cretaceous and later bedded and intrusive rocks include:

- (5) Tertiary porphyry, diatreme breccia related copper, gold-silver deposits. The most significant of these include Catface north of Tofino, Mount Washington and Gem Lake properties in Forbidden Plateau area. Catface has not yet achieved production but is reported to have geological reserves the order of 100 to 180 million tonnes of approximately 0.45% copper with unannounced molybdenum content. Mount Washington, immediately east of Iron River Resources Forbidden Plateau property, during the period 1961 to 1967 milled 396,000 tons of ore which produced 7,822,463 lbs of copper, 4,204 oz. of gold and 232,620 oz. of silver. The Gem Lake property, to the south of the Forbidden Plateau property in Strathcona Park is an important copper prospect in a similar Tertiary pluton (diatreme)-related geological environment.
- (6) Gold/silver bearing quartz-carbonate vein, breccia-shear systems are spatially and probably genetically related to Tertiary plutons and intrusive breccias (diatremes). These systems occur in plutons, metavolcanics and metasediments and transect or commonly follow bedding in less metamorphosed bedded rocks as silicified, carbonatized, mineralized, brecciated shear zones. Mineralization is varied consisting of a wide range of iron, copper, lead, zinc and silver, arsenic, bismuth, antimony minerals which may carry good values. Examples of this type of deposit include Domineer-West-Lakeview zones under exploration by Better Resources Ltd. and the Faith zone at Faith Lake under review by Falconbridge.

TABLE II

## MINFILE PROPERTIES FORBIDDEN PLATEAU AREA

| MINFILE | PROPERTY  | COMMODITY                   | DESCRIPTION  |
|---------|---|-----------------------------|--|
| 92F-075 | Iron Hill<br>Argonaut<br>Cobalt                     | Fe producer                 | Skarn  |
| 92F-076 | Iron River  | Fe reserves                 | Skarn  |
| 92F-116 | Mt. Washington<br>Copper<br>Domineer 22             | Cu Mo Ag Au<br>producer     | Porphyry (diatreme) related<br>quartz vein systems                 |
| 92F-117 | Mt. Washington<br>Copper<br>Domineer<br>Murex Creek | Au Ag Cu Mo<br>prospect     | Porphyry (diatreme) related<br>quartz vein systems                 |
| 92F-183 | Good Hope   | As prospect                 | Shear and calcite vein in<br>andesite                              |
| 92F-206 | Murex<br>Gem  | Cu Au Ag Mo<br>prospect     | Quartz vein shears; disseminations                                 |
| 92F-238 | Three Musketeers<br>(confusion with<br>92F-255)     | Cu prospect                 | Shear zone   |
| 92F-239 | Gem Lake<br>MFG                                     | Cu prospect                 | Porphyry and other intrusive<br>related mineralization             |
| 92F-240 | Faith   | Au prospect                 | Vein   |
| 92F-241 | Faith Copper<br>Rim                                 | Cu prospect                 | Intrusive related mineralized<br>breccia.                          |
| 92F-255 | Brown   | Au(Ag Zn As Cu)<br>prospect | Veins  |
| 92F-288 | Moore<br>Cobalt                                     | Cu Fe Co Au                 | Flow top and fractures in<br>basic volcanics                       |
| 92F-365 | MWC   | Cu Ag Au                    | Tertiary intrusive (diatreme)<br>related "porphyry" mineralization |

## GEOLOGY OF THE RINA AND ELNORA CLAIMS

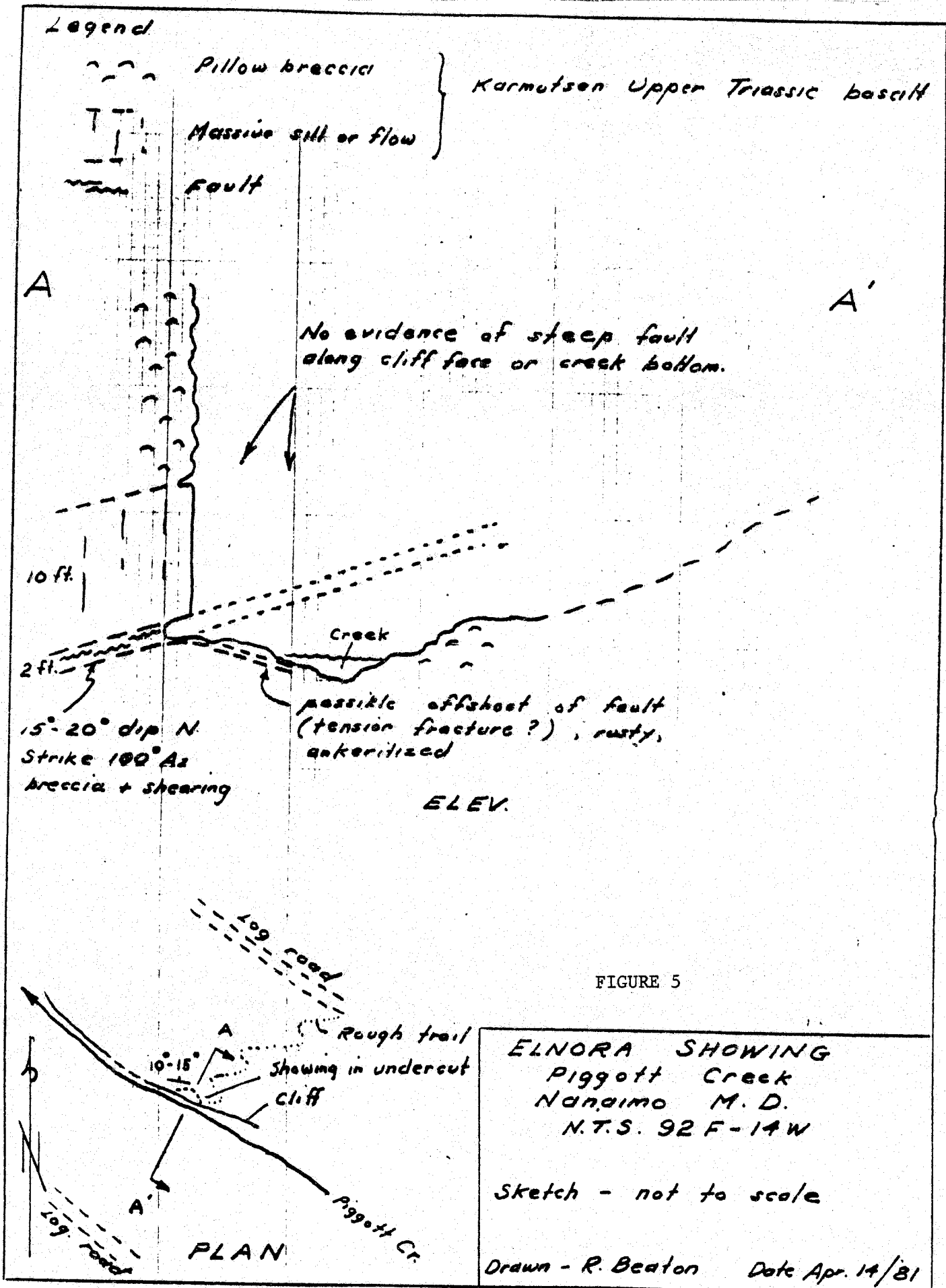
Figure 3 from Muller and Carson 1969 and Muller 1977, shows the RINA and ELNORA claims area underlain by block faulted Karmutsen Formation unconformably overlain by Nanaimo Group sediments which in the southwest corner of the RINA 1 claim are intruded by Tertiary plutons and possibly diatremes.

In detail the Karmutsen volcanics are of basaltic composition, very gently dipping, flexured thick-bedded amygdaloidal flows, interbedded pillow lavas, pillow breccias with very minor intercalated tuffaceous interbeds. The Nanaimo Group rocks consist of fairly flat-lying conglomerates and sandstones with interbedded siltstone and shale which unconformably overlie Karmutsen rocks within the claim group. Figure 3 indicates that the southwest corner of RINA 1 claim is underlain by Nanaimo group rocks intruded by Tertiary plutonic rocks or breccia. This portion of the property requires examination to confirm geologic environment. Observations made by D. Berkshire, although hampered by overburden, suggests that Tertiary plutonic rock and/or breccia does not quite extend into the RINA I claim and Nanaimo Group covers a smaller portion of the claim than indicated.

## MINERAL POTENTIAL OF RINA AND ELNORA CLAIMS.

Mineral lode potential of the RINA and ELNORA claims appears to be in two types of deposits. Firstly, mineralization occurring in Karmutsen basic volcanic flow tops and tuffaceous or argillaceous interbeds. Secondly, quartz-carbonate (ankeritic) vein-shear systems containing base metals with silver and gold values. The presence of Tertiary pluton-breccia systems on the Rina I Group would enhance the potential for related base and precious metal-bearing vein-shear systems on the property.





## RESULTS OF THE 1984 PROGRAM

Elnora Vein

The most significant mineral showing discovered on the Rina-Elnora property to date is the Elnora Vein, located near the boundary of ELNORA 3 and 5 claims, overstaked by RINA 1 claim. This showing crops out in Piggott Creek at an elevation of 640 metres (2100 feet) and is exposed during low water periods. The showing is a brecciated, siliceous, (drusy quartz) carbonatized (ankeritic) breccia which is mineralized by scattered 1 to 2 cm irregular pods of galena, sphalerite, with lesser chalcopyrite, traces of native silver and at least 2 anisotropic minerals, probably silver-bearing, which require scanning electron microscope analyses for confirmation. See Appendix D.

The Elnora showing conforms to bedding, is sheared and overlain by gently flexured Karmutsen volcanics. See Figure 5. Figure 5 by R. Beaton, a previous investigator, depicts the Elnora vein as being approximately 0.6 metres (2 feet) thick projecting upwards to the southwest across Piggott Creek with a possible off shoot of the fault dipping gently under and forming part of the creek bed. An alternate possibility is that bedding and the vein-breccia system are gently flexed at this point with the top portion of the system exposed in the creek and with an unknown thickness in excess of the visible portion unexposed. Vein-breccia material was observed only under the cliff at creek level and forming the creek bottom a few metres upstream. It has not been observed in either stream bank elsewhere above or below the main showing.

Chip samples of mineralized vein-breccia from the Elnora showing gave the following results.

TABLE III  
ASSAYS FROM ELNORA SHOWING

| COLLECTOR                                | SAMPLE NO. | %Cu   | %Pb  | %Zn   | %MoS <sub>2</sub> | %Mo  | %As  | oz/t Ag | oz/t Au |
|--|------------|-------|------|-------|-------------------|------|------|---------|---------|
|  | 84-8009    | 0.073 | 1.98 | 0.91  | -                 | -    | -    | 14.35   | 0.028   |
| Samples collected by other investigators |            |       |      |       |                   |      |      |         |         |
| Farrell                                  | 1          |       | 4.85 |       |                   |      |      | 21.5    | 0.046   |
| "  | 2          |       |      | 3.08  |                   |      |      | 12.8    | 0.035   |
| "  | 3          | 0.96  |      |       |                   |      |      | .46     | 0.002   |
|  | Rock       | 0.02  |      |       |                   | .975 |      |         |         |
| Potter                                   | 21751      | 0.08  | -.01 | 0.06  | -.001             |      | .016 | .08     | 0.003   |
| "  | 21752      | 0.06  | 0.01 | 0.03  | 0.003             |      | .053 | .16     | -.003   |
| "  | 21758      | 0.36  | 1.12 | 1.74  | -.001             |      | .028 | 11.50   | 0.022   |
| Dunn                                     | 21760      | 0.05  | 0.01 | 0.04  |                   |      |      | .22     | 0.003   |
| "  | 21761      | 0.03  | 0.23 | 0.06  |                   |      |      | .84     | 0.003   |
| Farrell                                  | 3416       | 0.13  | 2.65 | 3.65  |                   |      |      | 16.5    | 0.02    |
| "  | 3417       | 0.09  | 3.85 | 1.68  |                   |      |      | 11.3    | 0.08    |
| Placer DW                                | P          | 580   | 9300 | 18600 |                   |      |      | 237     | 0.69    |
|  |            | ppm   | ppm  | ppm   |                   |      |      | ppm     | ppm     |

Samples Assayed for Iron River Resources Ltd.

|        |                                     |                              |       |      |
|--------|-------------------------------------|------------------------------|-------|------|
| 8309-1 | Well mineralized quartz             | See ICP analyses Appendix    | 48.60 | .141 |
| 8311-2 | Hand picked barren appearing quartz |                              | 8.16  | .014 |
| 6103   | Mixed chips from same outcrop       | See ICP analysis Appendix B. | 17.18 | .018 |

A heavy media/stream sediment sample taken by Placer Development Limited approximately 1 kilometre downstream from the Elnora showing gave the following results:

## HEAVY MINERAL ANALYSES

| Element (unit) | VEIN<br>(grab) | STREAM<br>Sediment | HEAVY MINERAL SAMPLE (HM 01184) |      |      |     |
|----------------|----------------|--------------------|---------------------------------|------|------|-----|
|                |                |                    | CHP                             | CHN  | FHP  | FHN |
| Mo (ppm)       | -              | 1                  | 2                               | 2    | 2    | NSS |
| Cu (ppm)       | 580            | 55                 | 171                             | 1300 | 87   | NSS |
| Zn (ppm)       | 18600          | 59                 | 120                             | 2000 | 67   | NSS |
| Pb (ppm)       | 9300           | 7                  | 106                             | 6000 | 16   | NSS |
| Ag (ppm)       | 237            | -0.02              | 1                               | 20   | 0.3  | NSS |
| Au (ppm)       | 0.69           | -0.02              | -0.02                           | +30  | 0.18 | +20 |
| As (ppm)       | -              | -2                 | 56                              | 300  | 36   | NSS |
| Hg (ppb)       | -              | -                  | 265                             | 670  | NSS  | NSS |
| Sb (ppm)       | -              | -                  | -2                              | 20   | -2   | -2  |

Note: CHP - Coarse Heavy Paramagnetic  
 CHN - Coarse Heavy Nonmagnetic  
 FHP - Fine Heavy Paramagnetic  
 FHN - Fine Heavy Nonmagnetic

## CONCLUSIONS

The Elnora vein does not appear to be of sufficiently high, uniform silver grade to be of economic importance. However there is some question of its true thickness, lateral extent, and grade which requires investigation during a period of low water level.

Placer Development conclude from their heavy media sample Table IV that the source of the gold in the Piggott is probably the Western Grid zone or

Lakeview Zone presently owned and operated by Better Resources on Mt. Washington. This is possible but additional sources may be from the area within and south of the Joe Anne claims adjoining Strathcona Park where the geologic environment is similar to that at Mt. Washington. It is noted that significant gold was obtained from a stream sediment samples on Joe Anne I above the confluence of streams leading from the west side of Mt. Washington and on Joe Anne II from a stream draining into Divers Lake immediately north of Strathcona Park.

#### RECOMMENDATIONS

Three short drill holes are recommended to test true thickness of the Elnora breccia-shear zone, to determine the number and thickness of siliceous pods within the zone and obtain an indication of tenor of the zone. These drill holes could be placed close to creek level downstream and a short distance upstream from the main showing.

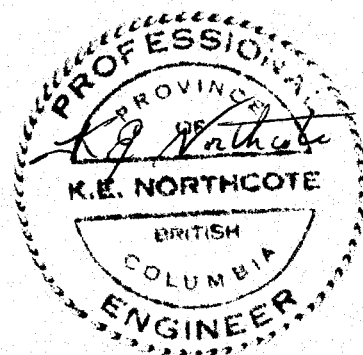
As a part of the broad regional program a systematic heavy media stream sediment sampling program is required to determine source or sources of gold and native silver in heavy media stream sediment samples. This study should extend well beyond the present claim boundaries.



## COSTS GEOLOGICAL REPORT 1984

## ELNORA - RINA CLAIM GROUP

|                                 |                             |                   |
|---------------------------------|-----------------------------|-------------------|
| PROFESSIONAL FEES               |                             |                   |
| K.E. Northcote                  | 3 days @ 300/day            | \$ 900.00         |
| D. Berkshire                    | 2 days @ 100/day            | 200.00            |
| MINERALOGRAPHY AND SEM ANALYSES |                             |                   |
| Mineralography                  |                             | 130.00            |
| 1 section @                     | 50.00                       |                   |
| Photomicrographs                | 80.00                       |                   |
| SEM                             |                             | 115.00            |
| 1 hr @                          | 75/hr                       | 75.00             |
| Supervision                     | 40.00                       |                   |
| FOOD AND ACCOMMODATION          |                             | 110.00            |
| 2 days @                        | 55 Motel & Food @ 22.50/day |                   |
| ASSAYS                          |                             | 22.50             |
| 83112                           | Au & Ag; 6103 ICP           |                   |
| REPORT                          |                             | 775.00            |
| 2 days @                        | 300/d                       | 600.00            |
| Typing                          |                             | 50.00             |
| Draughting                      |                             | 100.00            |
| Reproduction                    |                             | 25.00             |
| MISCELLANEOUS                   |                             | 15.00             |
| Telephone, shipping charges     |                             |                   |
| Total                           |                             | <u>\$2 267.50</u> |



RINA 1 CLAIM  
 STATEMENT OF COSTS FOR ASSESSMENT  
 PROSPECTING REPORT - 1984

D.P BERKSHIRE @ \$ 100.00 per day

January 3,6, and 20th  
 July 13,16, and 17th

|       |        |           |
|-------|--------|-----------|
| TOTAL | 6 days | \$ 600.00 |
|-------|--------|-----------|

L.V.BERKSHIRE @ \$ 100.00 per day

January 3,6, and 20th  
 July 13,16, and 17th

|       |        |           |
|-------|--------|-----------|
| TOTAL | 6 days | \$ 600.00 |
|-------|--------|-----------|

|   |        |
|---|--------|
| Preparation of report and typing<br>1 day D.P.Berkshire | 100.00 |
|---|--------|

|                              |       |
|------------------------------|-------|
| Travel ( 312 km @ .25¢ per ) | 78.00 |
|------------------------------|-------|

|             |           |
|-------------|-----------|
| TOTAL ..... | \$1378.00 |
|-------------|-----------|



## REFERENCES

B.C. MEMPR 1963, Notes on Placer Mining in B.C., MEMPR Bulletin No.21

Carson, D.J.T.; 1960, Geology of Mount Washington, Vancouver Island, British Columbia; unpublished M.A.Sc., thesis, University of British Columbia

Carson, D.J.T.; 1969, Tertiary Mineral Deposits of Vancouver Island  
CIM Transactions: Vol LXXII pp116-125

Carson, D.J.T.; 1973. The Plutonic Rocks of Vancouver Island  
GSC Paper 72-44, pp70.

Holland, S.S.; 1950 Placer Gold Production in British Columbia B.C.D.M.  
Bulletin No28. pp89

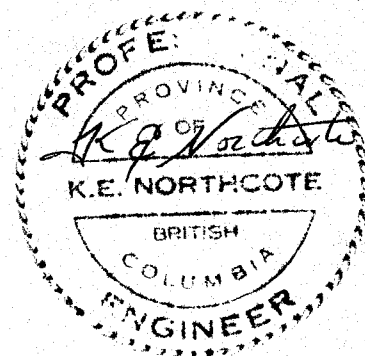
Muller, J.E.; 1977, Geology of Vancouver Island, GSC Open File 463  
Map. East and West Half and Marginal Notes

Muller, J.E., Carson D.J.T.; 1969, Geology and Mineral Deposits of  
Alberni Map Area, B.C. GSC Paper 68-50.

## CERTIFICATE

I, Kenneth E. Northcote of 2346 Ashton Road, R.R.#1, Agassiz B.C. do hereby certify that:

- 1] I have been practising as a professional geologist for a period of approximately 25 years for petroleum exploration companies, mining exploration and consulting companies, federal and provincial agencies.
- 2] I obtained a Ph.D. in geology from U.B.C. in 1968 and qualified for registration with the Association of Professional Engineers of B.C. in 1967.
- 3] This report is the result of 3 days (including travel) personal examination of the RINA 1 claim and ELNORA 1 to 6 claims in the period July 4 to 6 and September 7 to 8, 1984. A mineralographic study was made of a polished section from the Elnora vein and forms part of this report.
- 4] I do not own nor expect to receive any interest or securities in the RINA-ELNORA claims or Iron River Resources Ltd. as a result of this report.
- 5] I consent to the use of this report in, or in connection with, a prospectus relating to the raising of funds.



Dated at Agassiz this 10th day of December, 1984

APPENDIX A

CLAIM DATA



MAP NO. 92F/14W

FORM G

RECORD NO. 1594

MINING RECEIPT NO. 105241E RECORDED AT Nanaimo B.C. THIS 18 DAY OF October 19 83

NOT WRITE IN SHADED AREAS

Deputy

*Pringle*  
GOLD COMMISSIONER

Nanaimo

APPLICATION TO RECORD A MINERAL CLAIM.

LAURENCE V. BERKSHIRE AGENT FOR

Box 104, Heriot Bay, B.C.

VOP 1170

VALID SUBSISTING F.M.C. NO. 140209

VALID SUBSISTING F.M.C. NO.

STATE THAT: I COMMENCED LOCATING THE RINA #1 MINERAL CLAIM

ON THE 27 DAY OF SEPT. 19 83 AT 1800 AND COMPLETED THE LOCATION

ON THE 16 DAY OF OCT. 19 83 AT 1600 CONSISTING OF

5 UNIT LENGTHS No. AND 4 UNIT LENGTHS W AND I HAVE IMPRESSED ALL THE REQUIRED INFORMATION

ON METAL TAGS NO. 38594 WHICH HAS BEEN SECURELY FASTENED TO THE POSTS AS REQUIRED UNDER THE REGULATIONS.

IDENTIFICATION POST(S) NOT PLACED WERE

CHECK APPLICABLE SQUARE

THE LEGAL CORNER POST  
THE WITNESS POST FOR THE LEGAL CORNER POST

IS SITUATED: APPROXIMATELY

15 METERS FROM THE CENTRE LINE OF THE CROWN-ZELLERBACH ROAD ON THE E. BANK OF PIGGOTT CREEK (BLOCK 1109) AND APPROXIMATELY 500 METERS NORTH OF THE CONFLUENCE OF PIGGOTT CREEK AND GOSS CREEK - MAP M92F/14W

BEARING AND DISTANCE TO TRUE POSITION OF LEGAL CORNER POST FROM THE WITNESS POST

BEARING AND DISTANCE FROM IDENTIFICATION POST TO WITNESS POST

I HAVE COMPLIED WITH ALL THE TERMS OF THE MINERAL ACT AND REGULATIONS PERTAINING TO THE STAKING OF MINERAL CLAIMS AND HAVE ATTACHED A PLAN, ACCEPTABLE TO THE GOLD COMMISSIONER OF THE LOCATION.

GOLD COMMISSIONER

\$100.00

OCT 18 1983

M.R. 105241E

NANAIMO, B.C.

OFFICE STAMP

*Laurence V. Berkshire*  
SIGNATURE

NO. OF UNITS 20

| WORK NUMBERS | C/L IN S | MINING RECEIPT AND DATE RECEIVED | TYPE OF WORK | DATE OF EXPIRY | CREDIT    |  | TRANSFERS (B/S'S, ASSIGNMENTS, CONVEYANCES)                                       |
|--------------|----------|----------------------------------|--------------|----------------|-----------|--|---|
|              |          |                                  |              |                | WORK IN S |  |   |
|              |          |                                  |              |                |           |  | Feb. 14, 1984, all interest sold to Iron River Resources Ltd., Vol. 19, Fol. 102. |
|              |          |                                  |              |                |           |  |   |
|              |          |                                  |              |                |           |  |   |
|              |          |                                  |              |                |           |  |   |
|              |          |                                  |              |                |           |  |   |
|              |          |                                  |              |                |           |  |   |
|              |          |                                  |              |                |           |  |   |

# MINERAL ACT - PROVINCE OF BRITISH COLUMBIA

Record of Mineral Claim  
FORM G

MAP NO. 92F/14W

RECORD NO. 1624

MINING RECEIPT NO. 166071E RECORDED AT Nanaimo

ON THIS 2 DAY OF Dec. 1983

DO NOT WRITE IN  
SHADED AREAS

Deputy

*[Signature]*

Nanaimo

**Affidavit  
for  
Mineral  
Claim**

I, DAN P. BERKSHIRE AGENT FOR

1910 GALERNO ST. CAMPBELL RIVER, B.C.

VALID SUBSISTING F.M.C. NO. 140247

VALID SUBSISTING F.M.C. NO. \_\_\_\_\_

MAKE OATH AND SAY: I COMMENCED LOCATING THE RINA 2 MINERAL CL

ON THE 14 DAY OF NOVEMBER 1983 AT 3:10 P.M. AND COMPLETED THE LOCATION

ON THE 1 DAY OF DECEMBER 1983 AT 4:15 P.M. CONSISTING OF

5 UNIT LENGTHS SOUTH AND 4 UNIT LENGTHS WEST AND I HAVE IMPRESSED ALL THE REQUIRED INFORMATION

ON METAL TAGS NO. 332616 WHICH HAS BEEN SECURELY FASTENED TO THE POSTS AS REQUIRED UNDER THE REGULATIONS.

IDENTIFICATION POST(S) NOT PLACED WERE 1 WEST AND 3 SOUTH 4 WEST

CHECK THE APPLICABLE SQUARE  THE LEGAL CORNER POST  THE WITNESS POST FOR THE LEGAL CORNER POST } IS SITUATED IN BLOCK

914 JUST OFF A SHARP CORNER ON CROWN FOREST LOGGING ROAD  
NOW? HEADING SOUTH TOWARDS MNT WASHINGTON 2.7 KM.  
FROM THE ROSSITER MAIN CROWN FOREST LOGGING ROAD

† BEARING AND DISTANCE TO TRUE POSITION OF LEGAL CORNER POST FROM THE WITNESS POST \_\_\_\_\_

BEARING AND DISTANCE FROM IDENTIFICATION POST TO WITNESS POST \_\_\_\_\_

I HAVE COMPLIED WITH ALL THE TERMS OF THE MINERAL ACT AND REGULATIONS PERTAINING TO THE STAKING OF MINERAL CLAIMS AND HAVE ATTACHED A PLAN, ACCEPTABLE TO THE MINING RECORDER, OF THE LOCATION.

SWORN AND SUBSCRIBED TO AT \_\_\_\_\_

THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 19 \_\_\_\_\_ BEFORE ME

\* THIS AFFIDAVIT MAY BE TAKEN BY A PERSON EMPOWERED TO TAKE AFFIDAVITS BY THE EVIDENCE ACT OF BRITISH COLUMBIA.

*[Signature: Dan P. Berkshire]*

166071E-200

MR OR SMR STAMP

NO. OF UNITS \_\_\_\_\_ WORK REQUIREMENT \$ \_\_\_\_\_ PER YEAR RENTAL REQUIREMENT \$10.00 PER \$200.00 WORK, \$20.00 PER \$200.00 C/L.

| WORK NUMBERS | C/L IN \$ | MINING RECEIPT AND DATE RECORDED | TYPE OF WORK | YEAR OF EXPIRY | CREDIT       |              |
|--------------|-----------|----------------------------------|--------------|----------------|--------------|--------------|
|              |           |                                  |              |                | WORK UNIT(S) | RENTAL IN \$ |
|              |           |                                  |              |                |              |              |
|              |           |                                  |              |                |              |              |
|              |           |                                  |              |                |              |              |
|              |           |                                  |              |                |              |              |
|              |           |                                  |              |                |              |              |
|              |           |                                  |              |                |              |              |
|              |           |                                  |              |                |              |              |
|              |           |                                  |              |                |              |              |
|              |           |                                  |              |                |              |              |
|              |           |                                  |              |                |              |              |

TRANSFERS  
Feb. 14, 1984, all interest sold to  
Iron River Resources Ltd., Vol. 19,  
Fol. 101.

# MINERAL ACT - PROVINCE OF BRITISH COLUMBIA

Record of Mineral Claim  
FORM G

MAP NO. 92F/14W

RECORD NO. 1625

MINING RECEIPT NO. 166071E RECORDED AT Nanaimo B.C. THIS 2 DAY OF Dec. 19 83

DO NOT WRITE IN SHADED AREAS  
Deputy [Signature] Nanaimo MINING DIVISION

**Affidavit  
for  
Mineral  
Claim**

I, DAN P. BERKSHIRE AGENT FOR

1910 GALERNO ST CAMPBELL RIVER, B.C.

VALID SUBSISTING F.M.C. NO. 140247 VALID SUBSISTING F.M.C. NO. \_\_\_\_\_

MAKE OATH AND SAY - I COMMENCED LOCATING THE RINA 3 MINERAL CLAIM

ON THE 14 DAY OF NOVEMBER 19 83 AT 3:10 PM AND COMPLETED THE LOCATION

ON THE 1 DAY OF DECEMBER 19 83 AT 4:15 PM CONSISTING OF

5 UNIT LENGTHS NORTH AND 4 UNIT LENGTHS WEST AND I HAVE IMPRESSED ALL THE REQUIRED INFORMATION

ON METAL TAGS NO. 38617 WHICH HAS BEEN SECURELY FASTENED TO THE POSTS AS REQUIRED UNDER THE REGULATIONS.

IDENTIFICATION POST(S) NOT PLACED WERE 1 WEST

CHECK "X" APPLICABLE SQUARE  
 THE LEGAL CORNER POST  
 THE WITNESS POST FOR THE LEGAL CORNER POST  
 IS SITUATED: IN BLOCK

914 MET JUST OFF A SHARP CORNER ON CROWN FOREST LOGGING ROAD NO. 12 HEADING SOUTH TOWARDS MNT. WASHINGTON 2.7 KM. FROM THE ROSSITER MAIN CROWN FOREST LOGGING ROAD

† BEARING AND DISTANCE TO TRUE POSITION OF LEGAL CORNER POST FROM THE WITNESS POST \_\_\_\_\_

BEARING AND DISTANCE FROM IDENTIFICATION POST TO WITNESS POST \_\_\_\_\_

I HAVE COMPLIED WITH ALL THE TERMS OF THE MINERAL ACT AND REGULATIONS PERTAINING TO THE STAKING OF MINERAL CLAIMS AND HAVE ATTACHED A PLAN, ACCEPTABLE TO THE MINING RECORDER, OF THE LOCATION.

SWORN AND SUBSCRIBED TO AT \_\_\_\_\_

THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 19 \_\_\_\_\_ BEFORE ME

[Signature: Dan P. Berkshire]  
SIGNATURE

[Signature]  
166071E

\* THIS AFFIDAVIT MAY BE TAKEN BY A PERSON EMPOWERED TO TAKE AFFIDAVITS BY THE EVIDENCE ACT OF BRITISH COLUMBIA.

MR OR SMR STAMP

NO. OF UNITS \_\_\_\_\_ WORK REQUIREMENT \$ \_\_\_\_\_ PER YEAR RENTAL REQUIREMENT - \$10.00 PER \$200.00 WORK \$20.00 PER \$200.00 C/L

| WORK NUMBERS | C/L IN \$ | MINING RECEIPT AND DATE RECORDED | TYPE OF WORK | YEAR OF EXPIRY | CREDIT     |              | TRANSFERS (E.G. ASSIGNMENTS, CONVEYANCES)   |
|--------------|-----------|----------------------------------|--------------|----------------|------------|--------------|---|
|              |           |                                  |              |                | WORK UNITS | RENTAL IN \$ |   |
|              |           |                                  |              |                |            |              | Feb. 14, 1984, all interest sold to Iron River Resources Ltd., Vol. 19, Fol. 101. |
|              |           |                                  |              |                |            |              |   |
|              |           |                                  |              |                |            |              |   |
|              |           |                                  |              |                |            |              |   |
|              |           |                                  |              |                |            |              |   |

ORIGINAL

MINERAL ACT - PROVINCE OF BRITISH COLUMBIA

Record of 2 - Post Claim

MAP NO. 92F/14W RECORD NO. 493  
 MINING RECEIPT NO. 104503 E RECORDED AT Nanaimo B.C. THIS 21 DAY OF November 1979  
 DO  WRITE IN SH  D AREAS Nanaimo MINING DIVISION  
 Deputy [Signature] GOLD COMMISSIONER

Kenneth D. Farrell (NAME) R. R. 2, Cherry Creek Rd., Port Alberni (ADDRESS)  
B. C. V9Y 7L6.  
 DER OF VALID SUBSISTING F.M.C. NO. 112632 STATE THAT:-

ON THE 18th. DAY OF November 1979 I LOCATED THE Elnora No. 2 2-POST CLAIM  
 SITUATE Joins Elnora No. 1 and lays west of same along Piggott Creek West of  
(HERE DESCRIBE THE POSITION OF THE CLAIM RELATIVE TO KNOWN TOPOGRAPHICAL OR SURVEYED FEATURES ON THE MAP)  
Bk. 1109 Long. 17 Lat 30.

I HAVE PLACED THE NO. 1 AND NO. 2 LEGAL POSTS IN ACCORDANCE WITH THE REGULATIONS.

I HAVE SECURELY FASTENED TO THE NO. 1 POST, METAL TAG NO. 37241 M EMBOSSSED "INITIAL POST (NO.1)", UPON WHICH THE FOLLOWING HAS BEEN IMPRESSED:-  
 NAME OF CLAIM Elnora No. 2 DATE OF LOCATION Nov. 18, 1979.  
 LOCATOR K. D. Farrell  
 COMPASS BEARING TO NO.2 POST South DISTANCE TO NO.2 POST 1500 ft.  
 NO. OF METRES TO RIGHT 1500 ft. TO LEFT \_\_\_\_\_ OF LOCATION LINE

I HAVE SECURELY FASTENED TO THE NO. 2 POST, METAL TAG NO. 37241 M EMBOSSSED "FINAL POST (NO.2)", UPON WHICH THE FOLLOWING HAS BEEN IMPRESSED:-  
 NAME OF CLAIM Elnora No. 2 DATE OF LOCATION Nov. 18, 1979.  
 LOCATOR K. D. Farrell

I HAVE MARKED THE LINE BETWEEN THE NO. 1 AND NO. 2 LEGAL POSTS AS REQUIRED BY THE REGULATIONS.  
Yes.

GOLD COMMISSIONER  
M.R. # 104503E.  
NOV 21 1979  
15:00  
NANAIMO, B.C.  
 RECORDER'S STAMP

Kenneth D. Farrell  
 SIGNATURE

| WORK NO'S OR C/L | DATE RECORDED | MINING RECEIPT | DATE OF EXPIRY | TRANSFERS (BILLS OF SALE, ASSIGNMENTS, CONVEYANCES) |
|------------------|---------------|----------------|----------------|---|
| 13231 p          | Oct. 29/80    | 104652 E       | Nov. 21/81     |   |
| 18066 P          | Oct. 15/81    | 104815 E       | Nov. 21/82     |   |
| 23421/423 P      | Nov. 15/82    | 105020 E       | Nov. 21/84     |   |
|                  |               |                |                |   |
|                  |               |                |                |   |

ORIGINAL



Record of 2 Post Claim

92F/14W

RECORD NO 492

104502 E

Nanaimo

21

November

79

NOT WRITE IN  
SHED AREAS

Deputy

Nanaimo 723-3736

APPLICATION TO RECORD A 2 POST CLAIM

Roger W. Elander

3984 Exton St., Port Alberni, B. C.,

V9Y 3X7

NO. OF VALID SUBSISTING F.M.C. NO. 148231

STATE THAT:-

ON THE 18th. DAY OF November 19 79 I LOCATED THE Elnora No. 5 2-POST CLAIM

PLATE joins Elnora No. 3 and lays south of same along Figgott Creek west of  
Blk. 1109 Long. 17 Lat. 30

I HAVE PLACED THE NO. 1 AND NO. 2 LEGAL POSTS IN ACCORDANCE WITH THE REGULATIONS

I HAVE SECURELY FASTENED TO THE NO. 1 POST METAL TAG NO. 37244 M

EMBOSSED "INITIAL POST (NO. 1)", UPON WHICH

NAME OF CLAIM Elnora No. 5

DATE OF LOCATION Nov. 18th., 1979.

NAMER Roger Elander

BASS BEARING TO NO. 2 POST South

DISTANCE TO NO. 2 POST 1500 ft.

OF METRES TO RIGHT

TO LEFT 1500 ft.

OF LOCATION LINE

I HAVE SECURELY FASTENED TO THE NO. 2 POST METAL TAG NO. 37244 M

EMBOSSED "INITIAL POST (NO. 2)", UPON WHICH

NAME OF CLAIM Elnora No. 5

DATE OF LOCATION Nov. 18, 1979.

NAMER Roger Elander

I HAVE MARKED THE LINE BETWEEN THE NO. 1 AND NO. 2 LEGAL POSTS AS REQUIRED BY THE REGULATIONS

Yes.

GOLD COMMISSIONER

MR. 104502E

NOV 21 1979

15.00

NANAIMO, B.C.

RECORDER'S STAMP

Roger W. Elander  
SIGNATURE

| WORK NO'S<br>ON C/L | DATE<br>RECORDED | MINING<br>RECEIPT | DATE OF EXPIRY | TRANSFERS<br>(SHEETS OF SALE, ASSIGNMENTS, CONVEYANCES)                    |
|---------------------|------------------|-------------------|----------------|--|
| 3230 P              | Oct. 29/80       | 104652 E          | Nov. 21/81     | Nov. 9, 1982, all interest sold to<br>Kenneth D. Farrell, Vol, 19, Fol. 8. |
| 1045 P              | Oct. 15/81       | 104515 E          | Nov. 21/82     |  |
| 118/120 P           | Nov. 15/82       | 105020 E          | Nov. 21/84     |  |

ORIGINAL

MINERAL ACT - PROVINCE OF BRITISH COLUMBIA

Record of 2 - Post Claim

MAP NO. 92F/14W

RECORD NO. 495

MINING RECEIPT NO 104503 E

RECORDED AT Nanaimo

B.C. THIS 21 DAY OF November

19 79

DO NOT WRITE IN THESE AREAS

Deputy

GOLD COMMISSIONER

Nanaimo

MINING DIVISION

APPLICATION TO RECORD A 2-POST CLAIM

Kenneth D. Farrell

(NAME)

R.R.2, Cherry Creek Rd., Port Alberni, B.C.

(ADDRESS)

V9Y 7L6

HOLDER OF VALID SUBSISTING F.M.C. NO. 112632

STATE THAT:

ON THE 18th DAY OF November 19 79 I LOCATED THE Elnora No. 6 2-POST CLAIM

SITUATE joins Elnora No. e 4 and lays south of same along Piggott Creek west of

(HERE DESCRIBE THE POSITION OF THE CLAIM RELATIVE TO KNOWN TOPOGRAPHICAL OR SURVEYED FEATURES ON THE MAP)

Bk. 1109 Long. 17 Lat. 30

I HAVE PLACED THE NO. 1 AND NO. 2 LEGAL POSTS IN ACCORDANCE WITH THE REGULATIONS.

I HAVE SECURELY FASTENED TO THE NO. 1 POST, METAL TAG NO. 37245 M EMBOSSED "INITIAL POST (NO.1)", UPON WHICH THE FOLLOWING HAS BEEN IMPRESSED:

NAME OF CLAIM Elnora No. 6 DATE OF LOCATION 18th. Nov. 1979

LOCATOR K. D. Farrell

COMPASS BEARING TO NO.2 POST South DISTANCE TO NO.2 POST 1500 ft.

NO. OF METRES TO RIGHT 1500 ft. TO LEFT OF LOCATION LINE

I HAVE SECURELY FASTENED TO THE NO. 2 POST, METAL TAG NO. 37245 M EMBOSSED "FINAL POST (NO.2)", UPON WHICH THE FOLLOWING HAS BEEN IMPRESSED:

NAME OF CLAIM Elnora No. 6 DATE OF LOCATION 18th. Nov. 1979

LOCATOR K. D. Farrell

I HAVE MARKED THE LINE BETWEEN THE NO. 1 AND NO. 2 LEGAL POSTS AS REQUIRED BY THE REGULATIONS.

Yes.

GOLD COMMISSIONER  
M.R. 104503E  
NOV 21 1979  
15.00  
NANAIMO, B.C.

RECORDER'S STAMP

*Kenneth D. Farrell*  
SIGNATURE

| WORK NO'S OR C/L | DATE RECORDED | MINING RECEIPT | DATE OF EXPIRY | TRANSFERS (BILLS OF SALE, ASSIGNMENTS, CONVEYANCES) |
|------------------|---------------|----------------|----------------|---|
| 13233 P          | Oct. 29/80    | 104652 E       | Nov. 21/81     |   |
| 18068 P          | Oct. 15/81    | 104815 E       | Nov. 21/82     |   |
| 23427/122 P      | Nov. 15/82    | 105020 E       | Nov. 21/84     |   |
|                  |               |                |                |   |
|                  |               |                |                |   |

ORIGINAL

APPENDIX B

ASSAY DATA ELNORA VEIN

**MIN-EN Laboratories Ltd.**

*Specialists in Mineral Environments*

705 WEST 15th STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

PHONE: (604) 980-5814 OR (604) 988-4524

TELEX: 04-352828

**CERTIFICATE OF ASSAY**

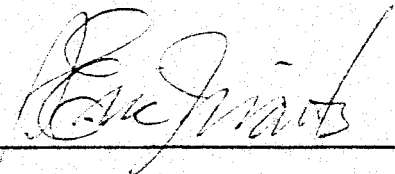
COMPANY: K.E. NORTHCOTE  
PROJECT: 84-4C  
ATTENTION: K.E. NORTHCOTE

FILE: 4-1315C  
DATE: OCTOBER 25/84  
TYPE: ROCK ASSAY

We hereby certify that the following are assay results for samples submitted.

| SAMPLE NUMBER | AG G/TONNE | AG OZ/TON | AU G/TONNE | AU OZ/TON | CU % | PB % | ZN % |
|---------------|------------|-----------|------------|-----------|------|------|------|
| 84-8009       | 492.0      | 14.35     | .95        | 0.028     | .073 | 1.98 | .91  |

Certified by



MIN-EN LABORATORIES LTD.

ELNORA

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE 253-3158

TELEX 04-53124

ASSAY ICP ANALYSIS

1.00 GRAM OF SAMPLE IS DIGESTED WITH 50ML OF 3-1-3 OF HCL-HNO3-H2O AT 95 DEG. OF WATER BATH FOR ONE HOUR AND IS DILUTED TO 100ML WITH WATER. THIS LEACH IS PARTIAL FOR MN, FE, CA, P, CR, MG, BA, TI, B, AL, NA, K, W, SI, ZR, CE, SN, Y, NB, AND TA. DETECTION LIMIT FOR MOST METALS IS .01% SAMPLE TYPE: ROCK CHIPS AU: 10 GRAM REGULAR ASSAY

DATE RECEIVED: JUNE 18 1984

DATE REPORT MAILED:

*June 21/84*

ASSAYER: .....

*D. Toye*

DEAN TOYE. CERTIFIED B.C. ASSAYER

IRON RIVER RES FILE # 84-1139B

PAGE 1

| SAMPLE# | MO<br>% | CU<br>% | PB<br>% | ZN<br>% | AG<br>OZ/T | NI<br>% | CO<br>% | MN<br>% | FE<br>% | AS<br>% | U<br>% | TH<br>% | CD<br>% | SB<br>% | BI<br>% | AU<br>OZ/T |
|---------|---------|---------|---------|---------|------------|---------|---------|---------|---------|---------|--------|---------|---------|---------|---------|------------|
| 6103    | .001    | .07     | 1.49    | 2.05    | 17.18      | .01     | .01     | .01     | .69     | .03     | .001   | .01     | .012    | .011    | .002    | .016       |

MIXED CHIPS

ACME ANALYTICAL LABORATORIES LTD.  
852 E. HASTINGS, VANCOUVER B.C.  
PH: 253-3158      TELEX: 04-53124

DATE RECEIVED NOV 30 1983

DATE REPORTS MAILED

*Dec 2/83*

### ASSAY CERTIFICATE

SAMPLE TYPE : ROCK - CRUSHED AND PRULVERIZED TO -100 MESH.

ASSAYER *D. P. Berkshire* DEAN TOYE, CERTIFIED B.C. ASSAYER

D.P. BERKSHIRE

FILE # 83-3056

PAGE# 1

SAMPLE

AG      AU  
OZ/TON OZ/TON

83111  
83112  
83113  
83114  
83115

-      .001  
8.16      .014  
-      .001  
.09      .003  
.01      .001

ELNORA

HAND PICK BARREN LOOKING QUARTZ FROM VEIN







DATE ... May 13, 1980 .....

Province of British Columbia  
Ministry of Energy, Mines and Petroleum Resources

ELNORH

SAMPLE RECEIVED FROM ..... KENNETH D. FARRELL .....

ADDRESS ..... R. R. #2, Cherry Creek Road, Port Alberni, B. C. ... V9Y 7L6 .....

| LABORATORY NO. | SUBMITTER'S MARK | LABORATORY REPORT   |
|----------------|------------------|---|
| 3416           | 4886 B<br>#1     | <p style="text-align: center;">YENI</p> <p>Spectrographic Analysis: Zinc; Lead; Copper; 0.03% Cadmium; 0.025% Antimony and 0.02% Arsenic were found. The other base metals found, and their percentages, were those occurring normally in rocks.</p> <p>Gold - 0.02 oz. per ton<br/>Silver - 16.5 oz. per ton</p> <p>Spec on Silver bead showed: Platinum - Trace<br/>Palladium - Trace</p> <p>Zinc - 3.65%<br/>Lead - 2.65%<br/>Copper - 0.13%</p> |
| 3417           | 4887 B<br>#2     | <p>Spectrographic Analysis: Lead; Zinc; Copper; 0.05% Antimony and 0.02% Cadmium were found. The other base metals found, and their percentages, were those occurring normally in rocks.</p> <p>Gold - 0.08 oz. per ton<br/>Silver - 11.3 oz. per ton</p> <p>Spec on Silver bead showed: Platinum - Trace<br/>Palladium - Trace</p> <p>Lead - 3.85%<br/>Zinc - 1.68%<br/>Copper - 0.09%</p>   |

THIS DOCUMENT, OR ANY PART THEREOF, MAY NOT BE REPRODUCED FOR PROMOTIONAL OR ADVERTISING PURPOSES.

## LEGEND

T - TRACE  
M.C. - MAJOR CONSTITUENT  
N.D. - NOT DETECTED  
P - PRESENT

*Ar M Johnson*  
CHIEF ANALYST

APPENDIX C  
MINERALOGRAPHIC STUDY

## MINERALOGRAPHIC STUDY, ELNORA VEIN

### SUMMARY

Mineralographic study of Sample 84-8009 indicated a complex assemblage of silver-bearing minerals in association with galena, sphalerite and chalcopyrite. These silver-bearing minerals require confirmation by scanning electron microscope.

Although the approximate compositions of the silver bearing minerals has been confirmed some of the mineral species remain in doubt and require positive identification by X-ray or microprobe methods. Minerals identified or tentatively identified include the following:

#### Non-silver bearing:

Galena, sphalerite, anglesite (?), chalcopyrite, covellite

#### Silver bearing:

Native silver, argentiferous tetrahedrite, argentiferous tennantite, argentite, all confirmed by SEM with "ruby silver" identified by anisotropism and strong bright red internal reflection.

#### Native gold:

A small fleck of native gold (.03mm) in gangue was tentatively identified subsequent to SEM studies. This grain should be confirmed.

Association, grain-sizes and relative amounts of the opaque minerals are described in the following section and are illustrated by photomicrographs.

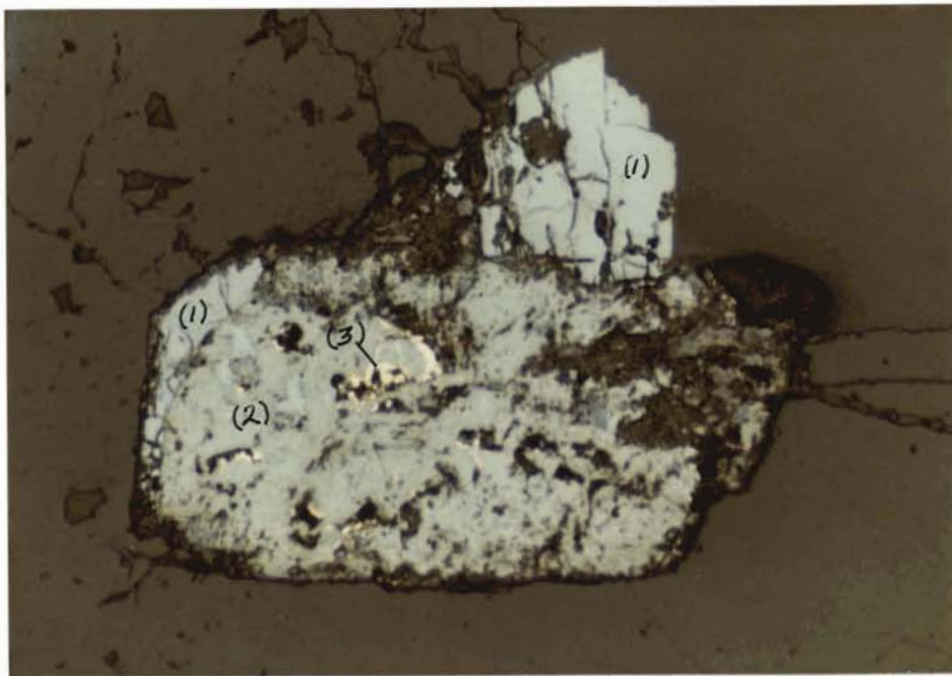
MINERALOGRAPHIC STUDY, ELNORA VEIN

MINERALS PRESENT                      Metallics constitute less than 10% of the section

- 1] Galena            45%    0.01 to several mm, irregular masses and as remnants in anglesite; contains veins and irregular masses of anglesite with associated covellite and native silver and galena. Also contains tennantite ? and argentite and argentiferous tetrahedrite as blebs, all confirmed by SEM analyses. Also traces ruby silver confirmed by bright red internal reflection.
  
- 2] Chalcopyrite    5% (.05 to 0.6mm)    irregular masses
  
- 3] Covellite       5%       irregular rims on galena confirmed by SEM
  
- 4] Sphalerite      10% (0.01 to several mm) irregular masses, strong light colored internal reflection, honey-colored sphalerite. Veined by anglesite and locally rimmed and replaced by galena.
  
- 5] Anglesite       20% medium grey, irregular masses and veins in galena. Close association with filigree native silver and covellite, confirmed by SEM analyses.
  
- 6] Native gold Trace (.03mm), one irregular grain in quartz gangue, located after SEM study, requires confirmation.
  
- 7] Silver bearing minerals       -5%
  - (a) Silver bearing minerals as blebs in galena. All of the following were confirmed by SEM analyses or internal reflection
    - (i) Ruby silver, (.03mm) as part of a bleb in contact with argentiferous tetrahedrite

- (ii) Argentiferous tetrahedrite (.03 to .05mm) blebs in galena
- (iii) Argentite (.03 to .05mm) blebs in galena
  
- (b) Native silver; (-.01 to 0.1mm) as very irregular grains and masses and irregular colliform layers in anglesite, commonly associated with covellite. Also in argentite associated with argentiferous tennantite as branching veinlets.
  
- (c) Argentite (?) (-.01 to 0.7mm) SEM indicates Ag S plus traces of Cu. Contains native silver.
  
- (d) Argentiferous tennantite, Ruby silver (?) (-0.1 to 0.3mm) SEM indicates As content and high silver (otherwise argentiferous tetrahedrite) Strong red internal reflection after oxidation suggests ruby silver or intergrowth with ruby silver.

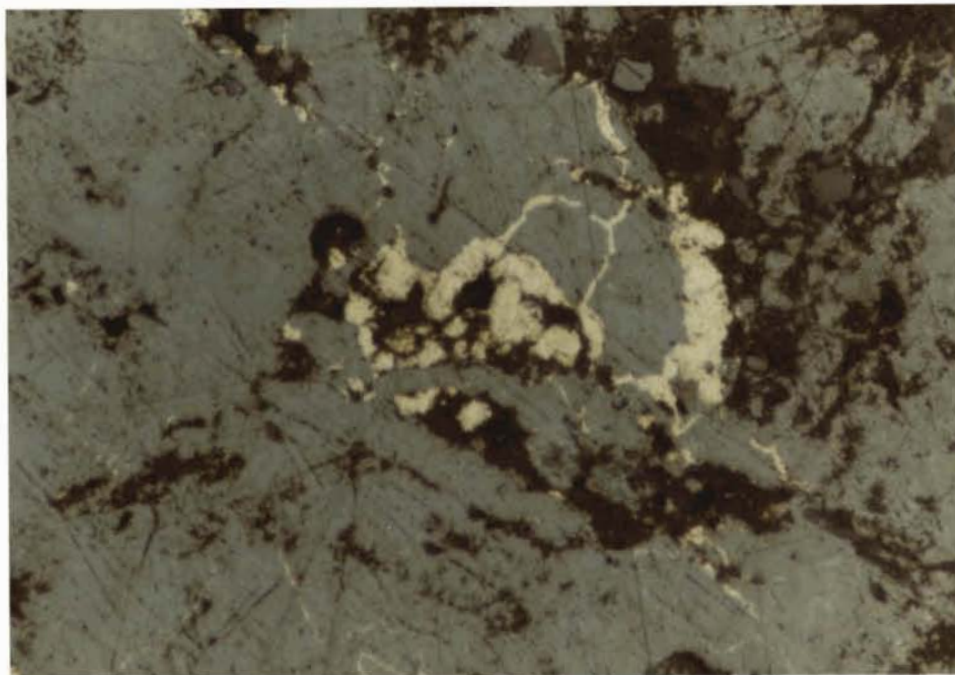
ELNORA PHOTOMICROGRAPHS



84 IR 1-6

Scale 0.1mm  
X10 objective

[1] Argentiferous tennantite, [2] Argentite [3] Native silver

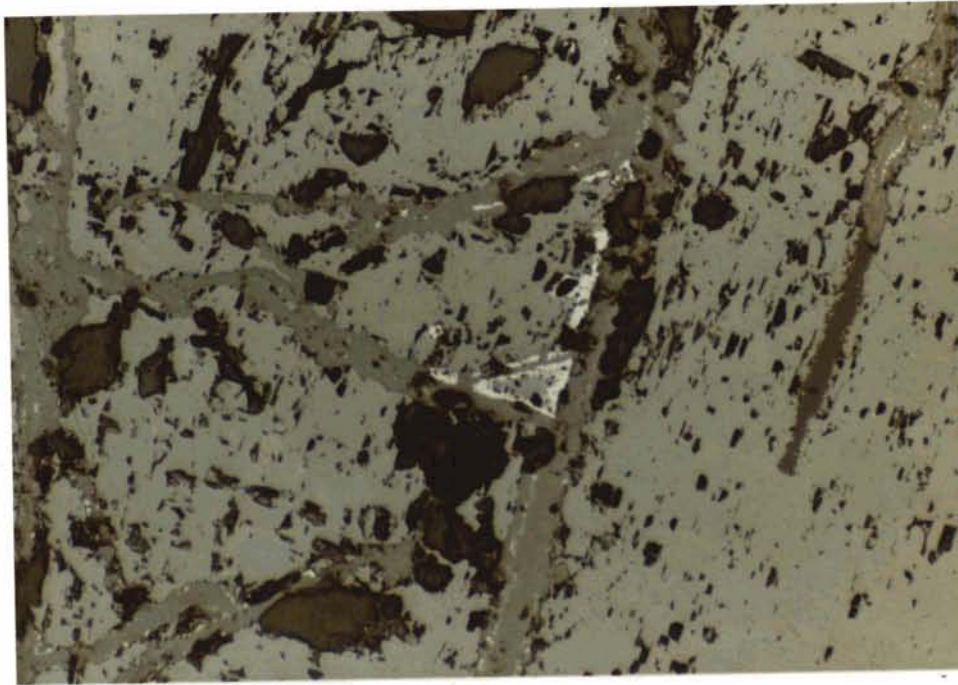


84 IR 1-5

Scale 0.1mm  
X40 objective

Native silver in Argentite(?) [AgS (+Tr Cu) SEM confirmation]



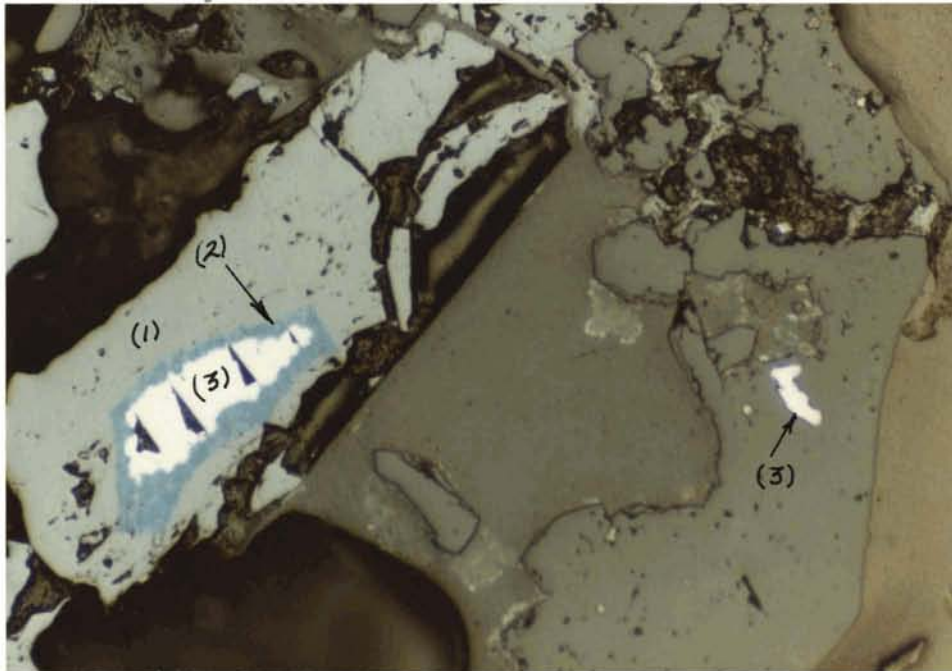


84 IR 1-7

Scale  
X40 objective

0.1mm

Sphalerite groundmass, anglesite veins, galena rimming sphalerite.  
SEM confirmed.

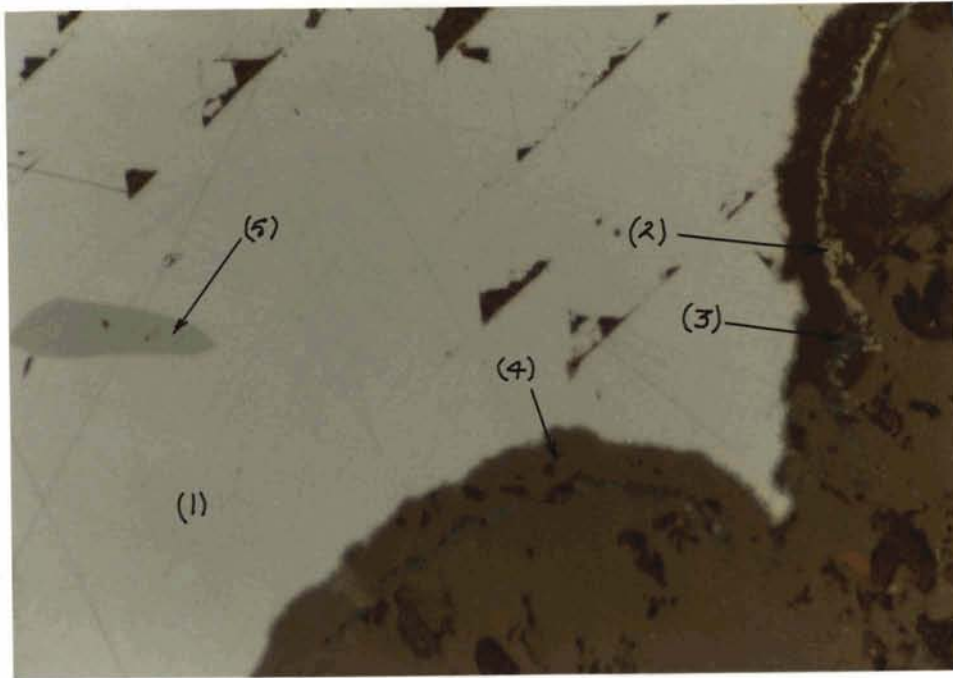


84 IR 1-4

Scale  
X10 objective

0.1mm

[1] Secondary lead mineral,  $PbSo_4$ ? (requires further study)  
[2] Covellite [3] Galena. SEM confirmed.

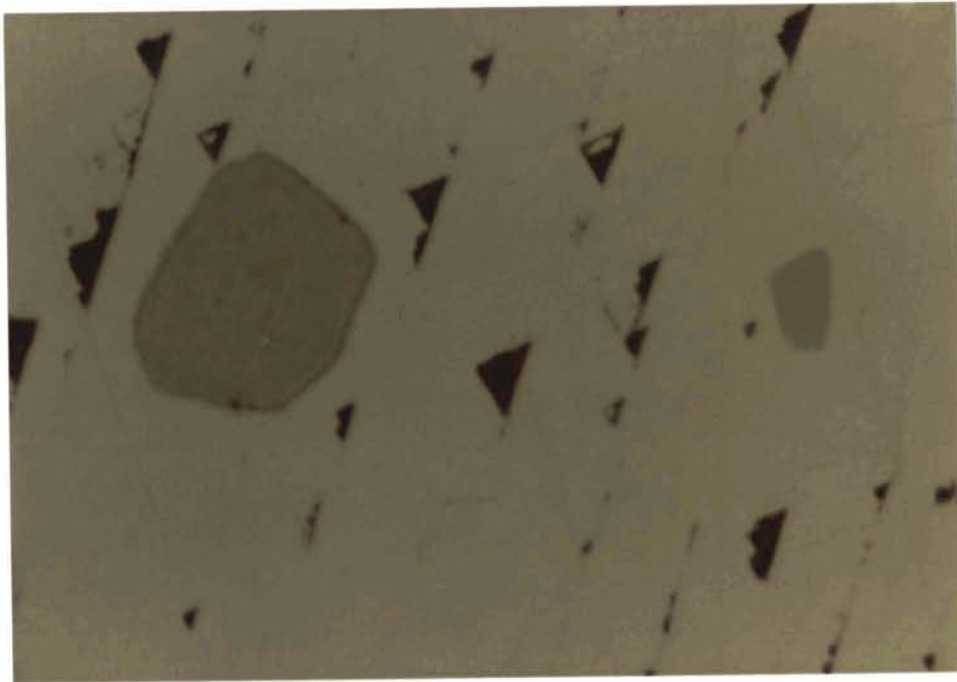


84 IR 2-7

Scale  
X40 objective

0.1mm

[1] Galena groundmass, [2] native silver [3] Covellite  
[4] Anglesite [5] Argentite(?) (+Tr Cu) SEM confirmed.



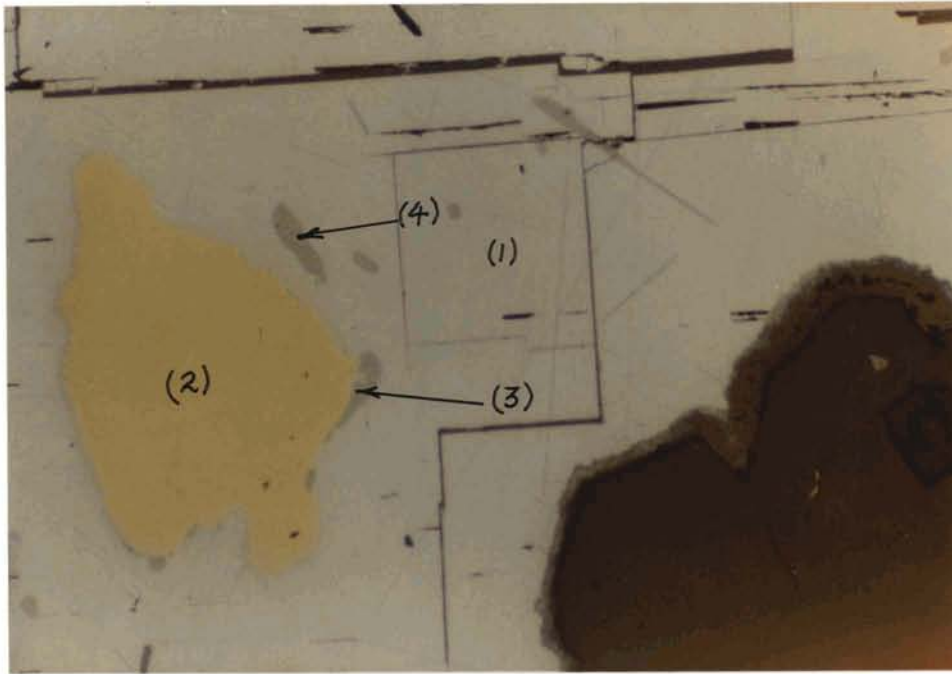
84 IR 2-8

Scale  
X40 objective

0.1mm

Highly argentiferous tetrahedrite in galena SEM confirmed





84 IR 1-8

Scale  
X40 objective

0.1mm

[1] Galena, [2] Chalcopyrite, [3] Argentiferous tetrahedrite  
[4] Argentite

APPENDIX D

PROSPECTING REPORT ON  
RINA 1 CLAIMS

Nanaimo Mining Division  
NTS 92F/14W  
Latitude 49°47'N Longitude 125°21.5'W

Report Prepared by  
IRON RIVER RESOURCES LTD.  
1910 Galerno Road  
Campbell River B.C.

by  
L.V.Berkshire and Dan P. Berkshire

November 18, 1984

D.P.Berkshire (President)

TABLE OF CONTENTS

| TITLE PAGE                        | PAGE |
|-----------------------------------|------|
| STATEMENT OF COSTS FOR ASSESSMENT | 1    |
| INTRODUCTION                      | 2    |
| MINERAL CLAIMS                    | 2    |
| HISTORY                           | 3    |
| RESULTS                           | 3    |
| CERTIFICATE                       | 4    |

\*\*\*\*\*

|        |   |                            |
|--------|---|----------------------------|
| FIGURE | 1 | LOCATION OF PROPERTY       |
| FIGURE | 2 | CLAIM MAP                  |
| FIGURE | 3 | GEOLOGICAL FIELD MAP       |
| FIGURE | 6 | PROSPECTING & SAMPLING MAP |

## INTRODUCTION

### LOCATION AND ACCESS

The Rina I claim consists of 20 units located approximately 26 kilometres south-southwest of Campbell River on Vancouver Island, Latitude 49 47'N, Longitude 125 21.5'W, NTS 92F/14W.

The claim block is situated on the main part of Piggott Creek and its southeasterly branch. Elevations range from 500 meters in the streambeds to about 1050 meters on the west flank of Mt. Washington. Excellent access can be attained from Campbell River by taking Highway 19 south to the Iron River Logging road, then west to the main Crown Forrest Industrial Road, then east over the Oyster River to the Oyster Main. This road is then followed easterly to the Rosssiter Main and then up the Piggott Creek Canyon to the claim block, Numerous Crown Forrest Branch roads (see Figure 2) can then be used to gain access to almost all areas within the claim block. The Piggott Creek traverses the claim block in a northerly trending gorge which may attain depths of up to 200 meters. Access within this canyon is sometimes very difficult.

### MINERAL CLAIMS

The Rina I mineral claim consists of one block of 20 units obtained by location by Mr. L.V. Berkshire in October of 1983. All lines and posts were placed. Lines were located by running compass traverses and marking these lines with blazes and ribbon. These lines were checked continuously against air photos which were attained for this and prospecting purposes from the Production Division of the B.C. Ministry of the Environment.

This claim block overstates a group of six two post claims held by location by K.D. Farrell of Port Alberni (see Figure 2) and optioned by Iron River Resources Ltd. The area within this smaller group is not included within the prospecting survey of this report but is included in a separate Geological Report under preparation by K.E Northcote Ph.D., P.Eng. on behalf of Iron River Resources Ltd.

## HISTORY

Little appears to be known of the immediate claim area prior to 1979 when the group of six two post claims were staked by Mr. K.D. Farrell of Port Alberni. This group is known as Elnora claims and is surrounded on three sides by the Rina 1 claim. The Elnora group is held under option by Iron River Resources Ltd. It would also be reasonable to assume that this area received some prospecting during the 1960's when the Mt. Washington area was being actively explored.

## RESULTS

The area of the Rina 1 claim outside of the Elnora claims was extensively prospected during the 1984 field season. No new showings similar to the Elnora vein were discovered.

*Alan P. Berkshire*

I have prospected for the past 35 years and have worked in several mines in British Columbia , Alaska and Washington State.

*Laurence V. Berkshire*

University of Washington

College of Mines

This Certificate Is Granted to

**Laurence W. Berkshire**

Upon Satisfactory Completion of the

Prospector's Course

Authorized by the 1945 Session of the Legislature of  
The State of Washington

Seattle, Washington

From

*Walter Roberts*

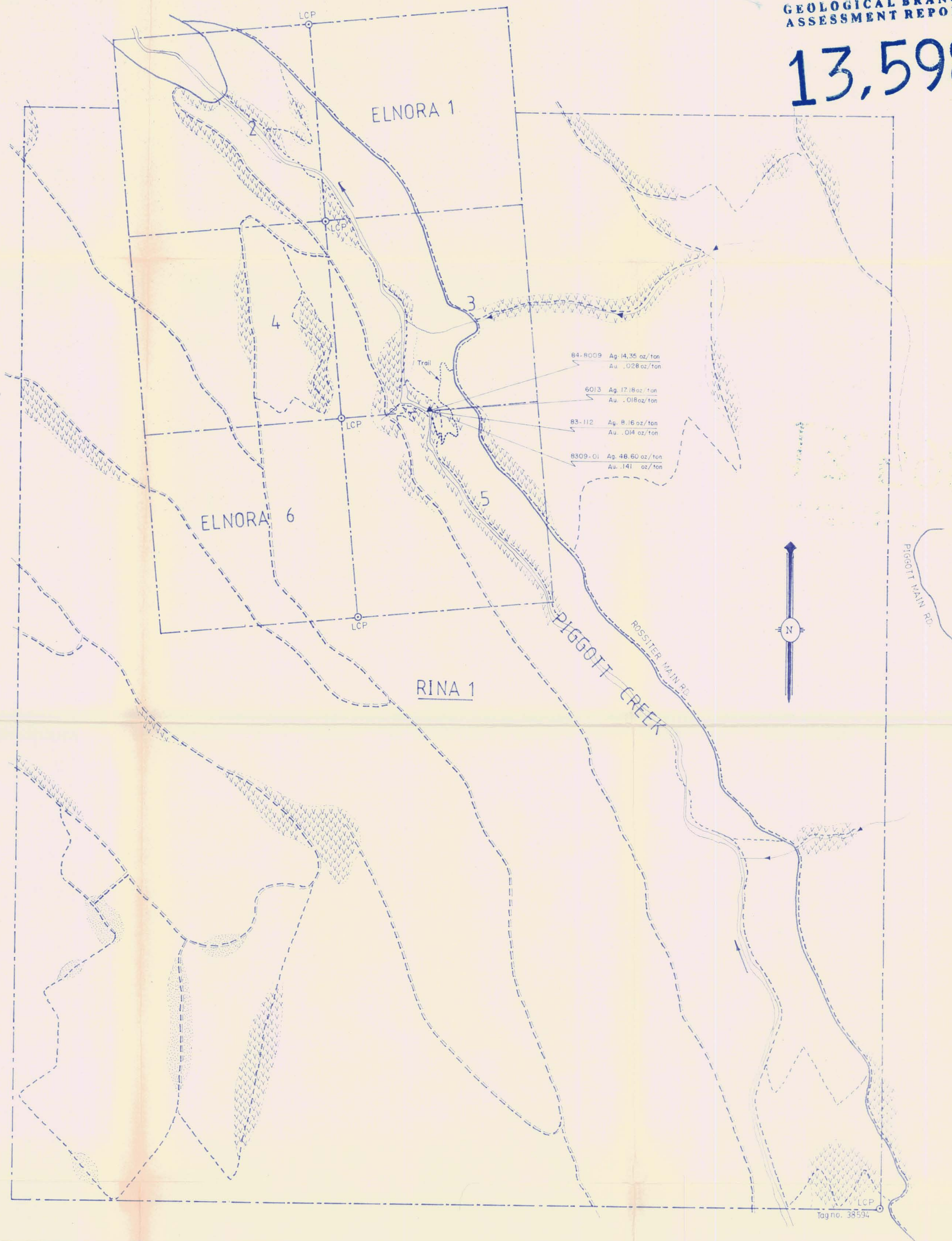
Dated March , 21, 1947

President

*R.B. Allen*



13,598



- ▲ SAMPLE TRAVERSE
- OLD ROAD
- NEW ROAD
- ⋯ TRAIL
- - - CLAIM LINE

- KARMUTSEN FORMATION
- NANAIMO GROUP SEDIMENTS

500 meters

|   |               |
|---|---------------|
| IRON RIVER RESOURCES LTD                                  |               |
| PROSPECTING & SAMPLING<br><small>plan and compass</small> |               |
| FIGURE: 6   | SCALE: 1/5000 |
| DRAWN BY: DAN P. BERKSHIRE '94                            |               |
| K.E. NORTHCOTE & ASSOCIATES LTD.                          |               |