REPORT

ON THE

PIN MONEY AND KING FRACTION MINERAL CLAIMS

OF

NORMINE RESOURCES LTD.

CARIBOO MINING DIVISION
BRITISH COLUMBIA

BY

N.C. CARTER, Ph.D. P.Eng.

Victoria, B.C. November 21, 1983

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SUMMARY

Normine Resources Ltd. owns two reverted Crown-granted mineral claims, the Pin Money and King Fraction, in the Cariboo Mining Division of central British Columbia. The claims are situated in the Wells-Barkerville area 90 km. east of Quesnel.

Lode gold production to date from three mines in the area amounts to 1.2 million ounces. Two deposit types are recognized within a highly deformed late Paleozoic sedimentary sequence. Both of these are stratigraphically controlled and include gold-bearing quartz-pyrite veins in a clastic sedimentary sequence and replacement lodes in specific limestone beds. Northerly trending regional faults have a spatial relationship to gold deposits and occurrences.

The Pin Money and King Fraction claims are situated within the Wells gold belt and cover stratigraphic and structural setting similar to that at the present and previous producing mines.

A preliminary first phase exploration program is recommended to include geological mapping, geochemical and geophysical surveys and limited trenching. Estimated cost of this program is $30,000.00

INTRODUCTION

Normine Resources Ltd. owns two reverted Crown-granted mineral claims in the Cariboo Mining Division of central British Columbia.

This report, prepared at the request of Normine Resources Ltd.,is based on an examination of the claims by the writer on October 17, 1983, and on published reports and maps and data provided by Normine Resources Ltd.

LOCATION AND ACCESS

The two mineral claims are situated 3 kilometres south of Barkerville which is 90 highway kilometres east of Quesnel in central British Columbia (Figure 1).

Access to the claims is by highway 26 east from Quesnel to Barkerville (Figure 2) and then by 3 km. of secondary road up Conklin Gulch to the area of the claims (Figure 3).

Barkerville is an historic community which has been restored as part of a Class A Provincial Park. The community of Wells, 7 km. north (Figure 3), offers most services and is the location of the Mosquito Creek gold mine and mill.

MINERAL PROPERTY

Normine Resources Ltd. owns two reverted Crown-granted mineral claims in the Cariboo Mining Division. These two non-contiguous claims are shown on Figure 3 and details of claims are as follows:

Name of Claim	Lot No.	Record No.	Expiry Date
King Fraction	11241	617	March 16, 1984
Pin Money	10420	619	March 16, 1984

These claims were originally surveyed prior to being Crown granted. The northeast corner post of the Pin Money claim was seen by the writer during the course of the property examination. The Pin Money claim adjoins the south boundary of Barkerville Historic Park.

PHYSICAL FEATURES

The Pin Money and King Fraction claims are situated on the north slope of Mount Proserpine, on a ridge which forms the divide between Williams Creek and Conklin Gulch (Figure 3). The area of the claim is well forested and best access is afforded by a network of old roads and survey lines.

The general Wells-Barkerville area is at the transition between the Interior Plateau and the Cariboo Mountains to the east. Tree line is at approximately 1800 metres. Local relief is about 600 metres and elevations on the two claims range from 1400 to 1600 metres above sea level.

HISTORY

Earliest investigation of lode gold potential took place shortly after the discovery of placer gold in 1860. Good gold values were obtained from weathered and enriched quartz veins exposed on surface in the area between Cow Mountain and Mount Proserpine, but the recognition of the pyrite-gold association and the lack of milling techniques precluded any thoughts of production until the late 1920's.

Cariboo Gold Quartz Mining Company was formed in 1927 to evaluate the lode potential at Cow Mountain south of Wells. A favourable gold price caused production to begin in 1933, and by closure in 1959, over 660,000 ounces of gold had been produced with an average recovered grade of 0.39 ounces per ton.

Newmont Mines opened Island Mountain Mines in 1934 and over the next 20 years produced nearly 350,000 ounces of gold with an average recovered grade of 0.45 ounces per ton. Island Mountain mine was just north of Cariboo Gold Quartz and in 1957 an agreement allowed the latter company access to the property from which 474,000 ounces was produced to the end of 1967.

In 1971 Mosquito Creek Gold Mining Company Limited was formed to evaluate the east slope of Island Mountain. An exploration joint venture with Home Oil between 1973 and 1975 included diamond drilling and underground exploration.

Peregrin Petroleum Ltd. advanced funds in 1977 for futher underground work and production was achieved in early 1980, utilizing a 100 tons per day mill. To date some 24,000 ounces of gold has been produced from the Mosquito Creek mine with average recovered grade in the 0.4 ounces per ton range.

The area of the Pin Money and King Fraction claims was probably initially prospected in the 1860's in view of their proximity to the richest placer creek, Williams Creek. The Proserpine property to the south was investigated by Newmont in the 1930's at which time considerable underground work was undertaken. The adjacent Warspite prospect was explored at the same time.

Normine Resources Ltd. undertook a preliminary evaluation of the claims in 1983. This work included geological mapping and sampling of a number of exposures and trenches previously excavated on the Pin Money claim.

REGIONAL GEOLOGY AND MINERALIZATION

Major geological features of the Williams Creek (Wells-Barkerville) area are shown on Figure 4. The area is underlain by a deformed sedimentary sequence known as the Cariboo Group, consisting of quartzites, siltstone, phyllites, limestone and minor tuff.

The age of this sequence has been subject to varying interpretations over the past 100 years, with earlier workers postulating it as Precambrian or Cambrian. Current thinking places the age as late Paleozoic and recent fossil evidence (Alldrick, 1983) suggests the upper part of the Cariboo Group, the Baker and Rainbow memebers of the Snowshoe and Midas Formations (Sutherland Brown, 1957), are of Mississipian and Permian age respectively.

Major folds are overturned toward the southwest with moderate dips to the northeast (Figure 4). Minor dragfolds developed on the limbs reflect the regional trend of major folds and plunge northwesterly at shallow angles.

Gold mineralization is found in a number of deposits within the same stratigraphic setting over a strike length of 45 km. (Alldrick, 1983) extending southeasterly from Wells through the area of the Pin Money and King Fraction claims (Figure 4). Two principal types of deposits are

known; those associated with quartz-pyrite veins in micaceous quartzites and phyllites of the Rainbow member, and stratabound replacement bodies of massive pyrite within and along contacts of Baker member limestones.

Gold-bearing quartz veins occur throughout the area and were the principal source of ore at Cariboo Gold Quartz, particularly those with strikes transverse to the regional foliation (Sutherland Brown, 1957). Largest veins in the area are concordant with regional foliation but have been found to carry only sparse gold values.

A spatial and probably genetic relationship exists between northerly trending faults, veins and replacement deposits (Sutherland Brown, 1957). Note location of shafts and adits relative to faults on Figure 4.

Two cross-sections, (Figures 5 and 6) after Alldrick (1983), serve to illustrate some of the main features at the Mosquito Creek Mine. The main source of ore are replacement deposits within or adjacent to Baker member grey limestone within 25 metres of the contact between Rainbow member clastic sedimentary rocks. These massive pyrite lenses are most commonly localized in the crests of minor folds as indicated on Figure 6, and are typically pencil-shaped being several metres wide and extending down plunge for hundreds of metres.

Gold-bearing quartz veins are best developed in Rainbow member clastic rocks and to a lesser degree in clastic members of the Baker member (Figure 6).

Alldrick (1983) postulates that gold-bearing fluids were derived from crustal rocks during regional metamorphism and migrated along faults developed in folded, overturned strata late in the tectonic cycle.

PROPERTY GEOLOGY AND MINERALIZATION

The King Fraction and Pin Money claims are underlain principally by grey-green to brown micaceous phyllites, quartzites and siltstones, part of the Baker member of the Snowshoe Formation. Grey limestone beds were noted in the southwest part of the Pin Money claim.

The King Fraction claim covers part of a regional north-trending fault (Figures 4 and 7) which separates phyllites of the Rainbow member from Baker member micaceous quartzites and phyllites. One hundred metres north of the claim boundary, a caved adit was apparently driven on a transverse or diagonal quartz vein. Dump material includes quartz with coarse pyrite and abundant sericite in hairline fractures. Host rocks areiron-stained grey phyllites. A sample of dump material collected by Normine Resources Ltd. assayed 0.224 ounces per ton gold. Immediately west of the fault on the claim (Figure 7) a quartz vein containing galena returned fair lead assays but only low gold values.

Numerous parallel quartz veins and stringers are exposed in a number of trenches on the Pin Money claim (Figure 8). Principal host rocks are grey to green micaceous phyllites with grey limestones with quartz veins noted near the southwest boundary of the claim. An altered acidic dyke rock, part of the Proserpine intrusions (Sutherland Brown, 1957) was seen in one of the trenches.

Most quartz veins seen rarely exceed several cm. in width but in places they are fairly closely spaced. Pyrite is the main sulfide mineral in quartz but galena is not uncommon and minor cosalite was seen in one trench. Many of the quartz veins clearly crosscut the regional northwest

striking foliation and could be classified as transverse or diagonal veins (Sutherland Brown, 1957).

Results of samples collected by Normine Resources Ltd. are shown on Figure 8. Most returned only low gold values but a quartz-galena vein assayed 6.05% lead and 5.70 ounces per ton silver.

CONCLUSIONS AND RECOMMENDATIONS

1. Three mines in the Wells lode gold belt have produced 1.27 million ounces of gold with average recovered grades of 0.4 ounces per ton. Two principal deposit types are known in late Paleozoic Cariboo Group sedimentary rocks. These are gold-bearing quartz-pyrite veins in Rainbow member clastic rocks and stratabound replacement bodies developed in Baker member limestones. Both deposit types have a spatial and possible genetic relationship to major north trending faults.

2. Rainbow and Baker members of the Cariboo Group are contained in a major northwest-trending, overturned anticlinal structure. Gold occurrences of similar style and stratigraphic and structural setting to the three producers occur over a 45 km. strike length. Included within this geological setting are the Pin Money and King Fraction claims.

3. Numerous narrow quartz-pyrite veins are known on the Pin Money and King Fraction claims. Some of these contain galena and may be hangingwall indicators of gold-bearing lodes (Alldrick, 1983). The incidence of some quartz veins in a grey limestone unit on the Pin Money claim indicates potential for replacement deposits.

RECOMMENDED PROGRAM

1. Construction of control grids on both claims with sample stations at 50 metre intervals.

2. Detailed geological mapping of available outcrop areas.

3. Soil geochemical survey in overburden areas which are extensive over much of the claims areas. Samples should be analyzed for gold, silver, lead and possibly arsenic, bearing in mind the distinct possibility of contamination by redistributed placer gold, particularly in the lower areas of the King Fraction claim.

4. VLF-electromagnetometer survey of claims area. This method has been shown to be useful in discriminating between the Rainbow and Baker members at the Mosquito Creek property (Alldrick, 1983).

5. Backhoe trenching of anomalous area defined by various surveys.

6. Contingent on positive results of the first phase, a program of additional trenching and diamond drilling could be considered.

COST ESTIMATE

First Phase

Grid Construction	$ 2,500.00
Soil Sample Collection and Analysis	$ 3,000.00
Geological Mapping	$ 3,500.00
Geophysics	$ 4,000.00
Travel and accomodation	$ 2,500.00
Backhoe trenching	$ 7,500.00
Report Preparation	$ 3,000.00
Contingencies	$ 4,000.00
TOTAL	$ 30,000.00

N.C. Carter, Ph.D., P.Eng.

REFERENCES

Alldrick, D.J., 1983: The Mosquito Creek Mine, Cariboo Gold Belt (93H/4) in Geological Fieldwork 1982, Ministry of Energy Mines and Petroleum Resources, Paper 83-1, pp. 99-112

Sutherland Brown, A., 1957: Geology of the Antler Creek Area, Cariboo District British Columbia B.C. Department of Mines Bulletin. No. 38.

CERTIFICATE

I, NICHOLAS C. CARTER, of Victoria, British Columbia, do hereby certify that:

1. I am a geologist registered with the Association of Professional Engineers of British Columbia since 1966.

2. I am a graduate of the University of New Brunswick with B.Sc. (1960), Michigan Technological University with M.S. (1962) and the University of British Columbia with Ph.D. (1974).

3. I have practised my profession in Eastern Canada and the United States and in British Columbia over the past 23 years.

4. This report is based on an examination of the Pin Money and King Fraction claims by the writer October 17, 1983, and on research of published reports and maps and progress reports and maps provided by Normine Resources Ltd.

5. I have no interest, direct or indirect, in the Pin Money and King Fraction claims or in Normine Resources Ltd.

Victoria, B.C.
November 21, 1983

N.C. Carter, Ph.D., P.Eng.

0 100 200 300 400

SCALE Miles

FROM: B. C. GOVERNMENT ROAD MAP

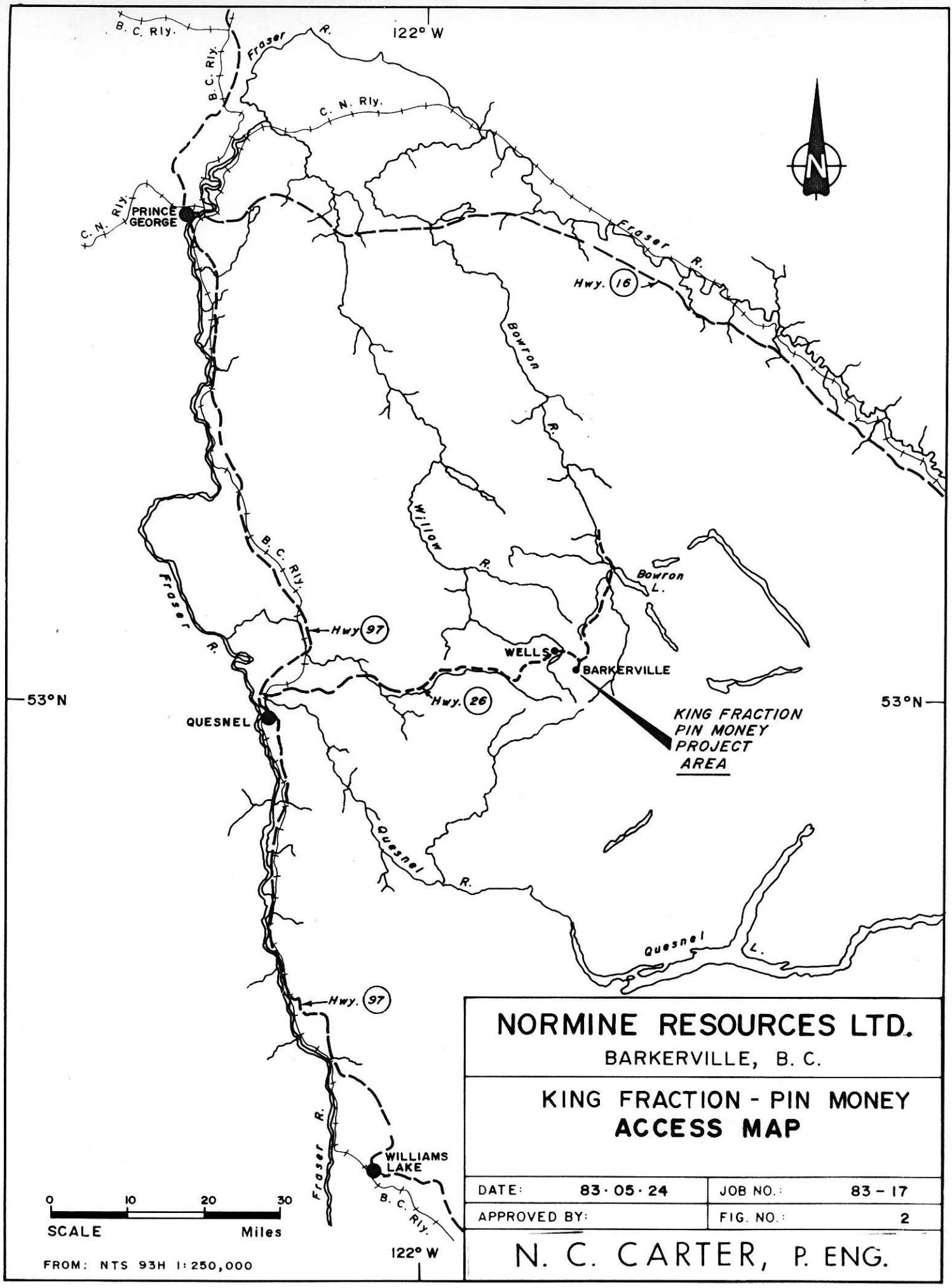
NORMINE RESOURCES LTD.

BARKERVILLE, B. C.

KING FRACTION – PIN MONEY LOCATION MAP

DATE:	83·05·24	JOB NO.:	83-17
APPROVED BY:		FIG. NO.:	1

N. C. CARTER, P. ENG.



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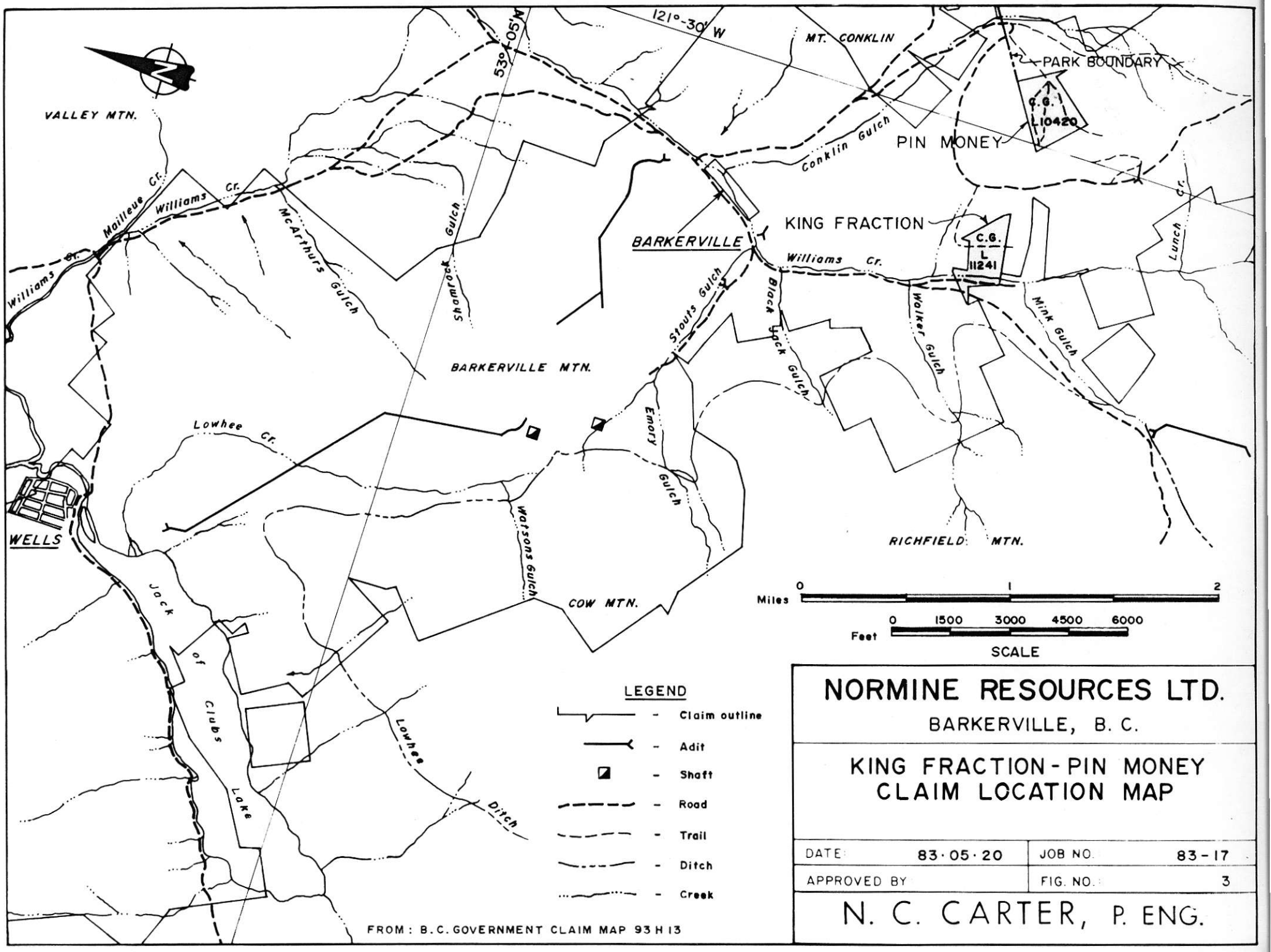
BARKERVILLE, B. C.

KING FRACTION - PIN MONEY
ACCESS MAP

DATE: 83 · 05 · 24	JOB NO.: 83 - 17
APPROVED BY:	FIG. NO.: 2

N. C. CARTER, P. ENG.



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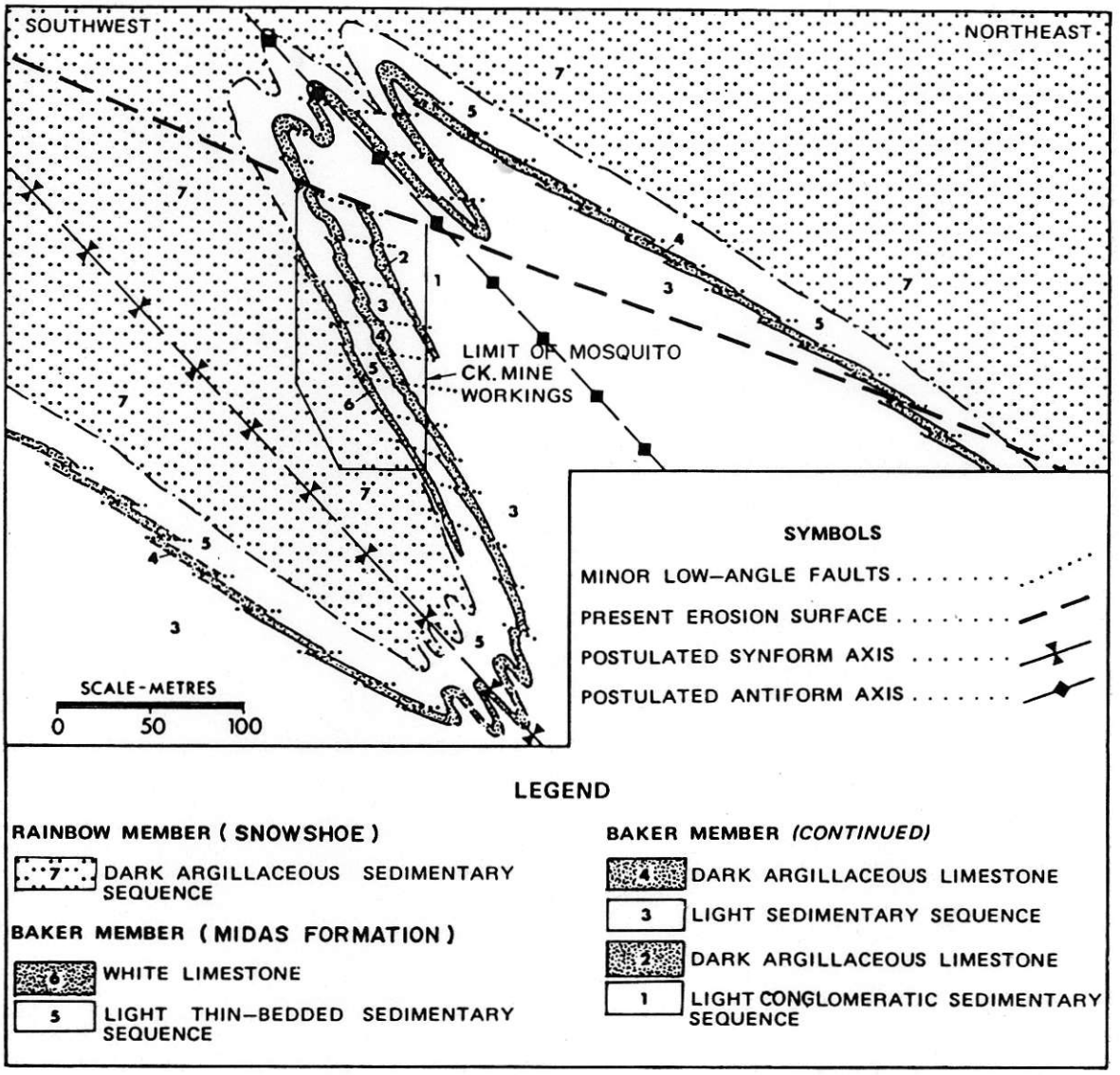
KING FRACTION - PIN MONEY CLAIM LOCATION MAP

DATE: 83·05·20	JOB NO. 83-17
APPROVED BY	FIG. NO. 3

N. C. CARTER, P. ENG.



FROM: D. J. ALLDRICK, 1983
BENEDICT, 1945

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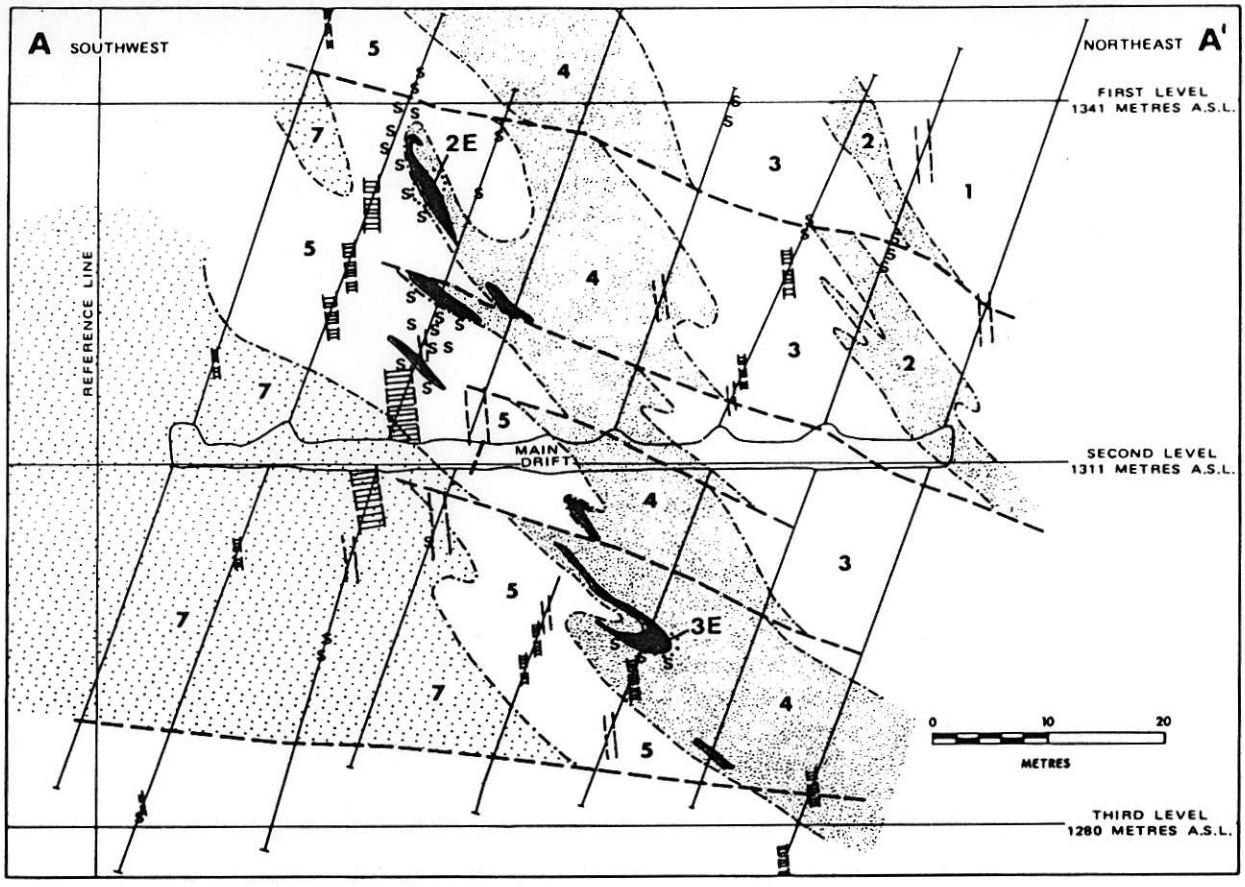
KING FRACTION AND PIN MONEY

IDEALIZED GEOLOGICAL CROSS-SECTION OF THE MOSQUITO CREEK MINE SETTING

DATE:	83 · 08 · 11	JOB NO.:	83 - 17
APPROVED BY:		FIG NO.:	5

N. C. CARTER, P. ENG.



LEGEND

STRATIGRAPHY

RAINBOW MEMBER

7 BLACK AND GREY CLASTIC SEDIMENTS

BAKER MEMBER

5 PALE, THIN–BEDDED CLASTIC SEDIMENTS

4 GREY LIMESTONE

3 PALE MIXED CLASTIC SEDIMENTS

2 GREY LIMESTONE

1 CONGLOMERATE

SYMBOLS

SULPHIDE MINERALIZATION AND SERICITE ALTERATION

REPLACEMENT MINERALIZATION

QUARTZ VEIN: BARREN, MINERALIZED

SERICITE SCHIST ZONE ..... S

GEOLOGICAL CONTACT

FAULT

STOPE 3E

DIAMOND DRILL HOLE

FROM: D. J. ALLDRICK, 1983
THE MOSQUITO CREEK MINE,
CARIBOO GOLD BELT

NORMINE RESOURCES LTD.

KING FRACTION AND PIN MONEY

GEOLOGICAL CROSS–SECTION OF THE No. 2 CROSSCUT WEST, No. 2 LEVEL, MOSQUITO CREEK GOLD MINE

DATE: 83 · 08 · 11	JOB NO.: 83 - 17
APPROVED BY:	FIG. NO.: 6

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WELLS

BARKERVILLE

BARKERVILLE MTN.

COW MTN.

RICHFIELD MTN.

KING FRACTION

PIN MONEY

Jack of Clubs Lake

Lowhee Ck.

McArthur Gulch

Williams Ck.

Little Valley Ck.

Weldon L.

Stouts Gulch

Emery Gulch

Black Jack Gulch

Walker Gulch

Conklin Gulch

French Ck.

Victoire Ck.

Lowhee Ditch

Williams Ck.

121°-35' W

121°-30' W

53°-05' N

GEOLOGY BY :
A. S. BROWN, 1957
STRUICK, 1981

LEGEND

CENOZOIC

PLEISTOCENE, EARLIER (?) AND LATER

Glacial drift; gravel, sand, silt

PALAEOZOIC

PRE-CARBONIFEROUS

PROSERPINE INTRUSIONS: minor acidic dykes and sills

CAMBRIAN AND LATER (?)

CARIBOO GROUP

1 — RAINBOW MEMBER : grey to brown micaceous quartzite, phyllitic siltstone, phyllite, fine conglomerate; grey to white limestone

2 — BAKER MEMBER : black quartzose phyllite, slate, argillite, grey limestone.

3 — YANKEE BELLE FORMATION: brown quartzose phyllite to fine quartzite

4 — CUNNINGHAM LIMESTONE: grey limestone, buff dolomite.

- Geological boundary (defined)
- Geological boundary (approximate, assumed)
- Bedding (inclined, vertical)
- Schistosity (inclined, vertical)
- Plunge
- Bedding, schisosity and plunge combined
- Drag-fold (plunge indicated on the anticline)
- Fault (defined; inclination, dot on downthrown side)
- Fault (approximate; movement)
- Fault (assumed)
- Anticlinal axis (overturned)
- Synclinal axis (overturned)
- Glacial striae
- Esker
- Adit; Shaft
- Ditch
- Road
- Stream
- Surface contours (250' interval)

Scale 0 — 1 Miles

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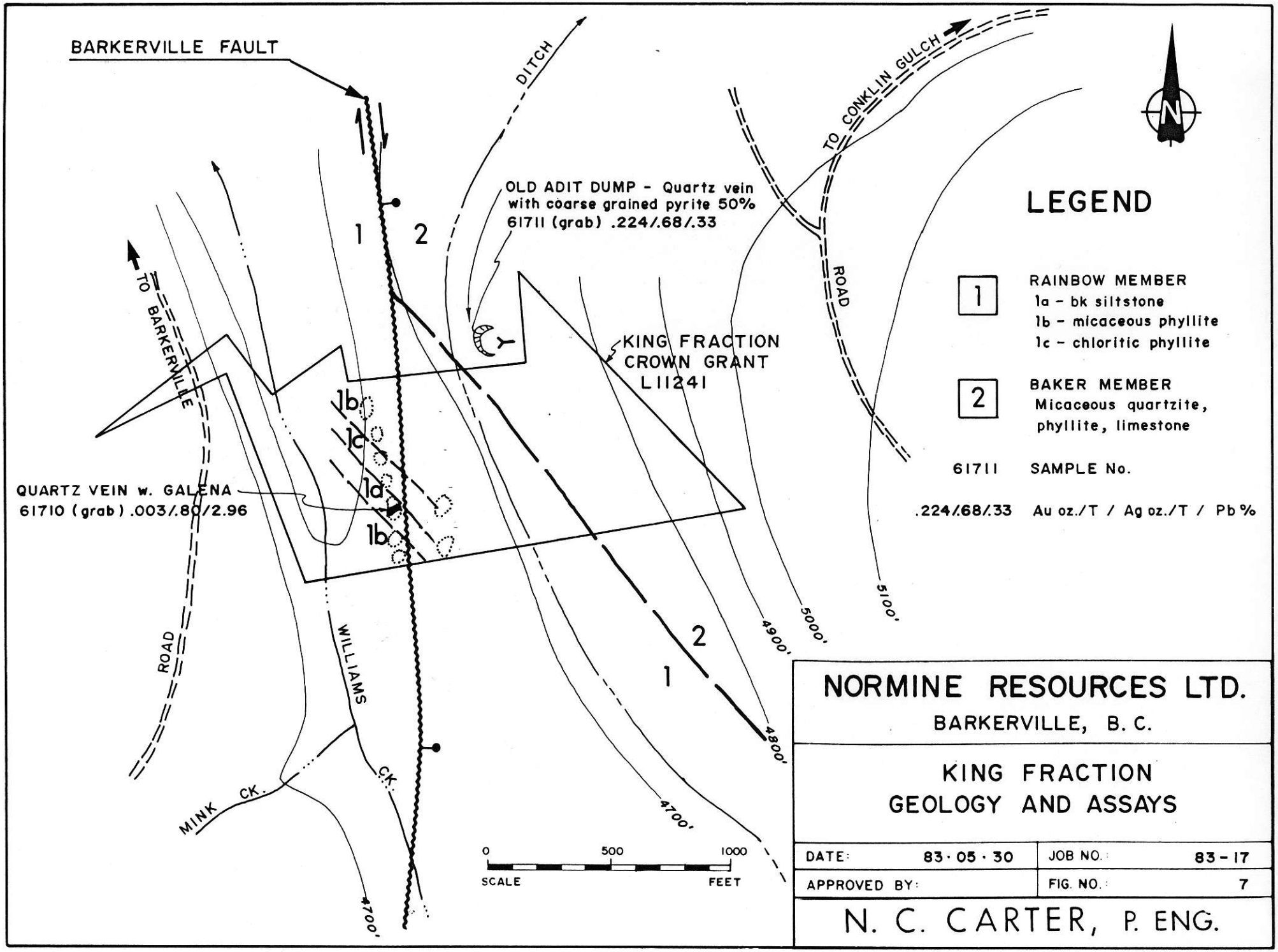
BARKERVILLE, B. C.

GEOLOGICAL MAP OF THE WILLIAMS CREEK AREA

DATE:	83 · 05 · 30	JOB NO.:	83 - 17
APPROVED BY:		FIG. NO.:	4

N. C. CARTER, P. ENG.



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KING FRACTION
GEOLOGY AND ASSAYS

DATE:	83 · 05 · 30	JOB NO.:	83 - 17
APPROVED BY:		FIG. NO.:	7

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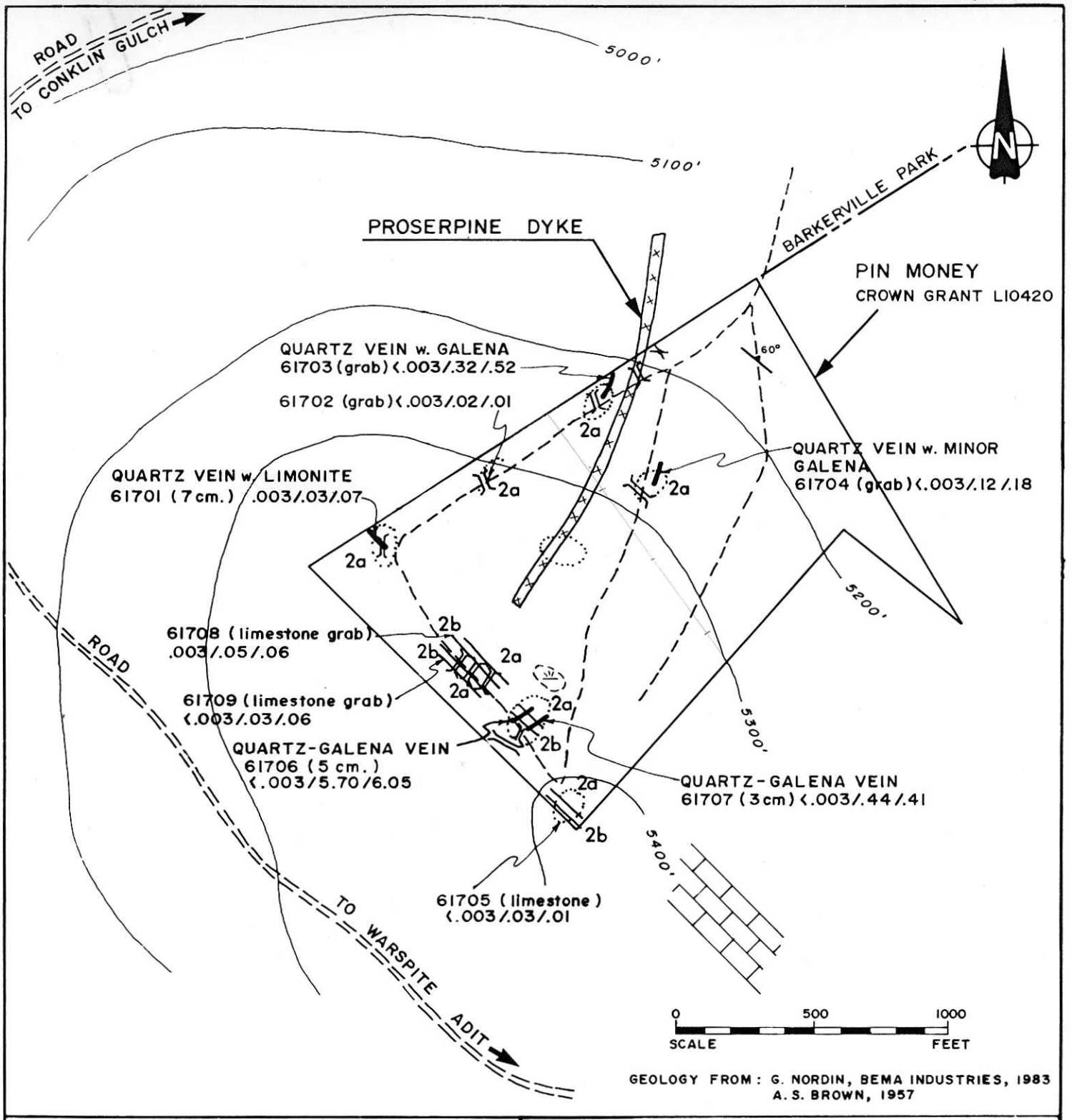

GEOLOGY FROM: G. NORDIN, BEMA INDUSTRIES, 1983
A. S. BROWN, 1957

LEGEND

2 — BAKER MEMBER
2a – micaceous phyllite, micaceous quartzite
2b – grey limestone

61708 (7cm.) SAMPLE No. (Length)

.003/.05/.06 Au oz./T / Ag oz./T / Pb %

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BARKERVILLE, B. C.

PIN MONEY
GEOLOGY AND ASSAYS

DATE	83·05·31	JOB NO	83-17
APPROVED BY		FIG. NO	8

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