

86-665-15227

1986
VANCOUVER, B.C.

GEOCHEMICAL REPORT

ON THE

CAYUSE CLAIM

KAMLOOPS MINING DIVISION

N.T.S. 92I/15 W

50° ~~57~~ N 120° ~~58~~ W
54.8' 55.9'

for

Owner/Operator:

PACKARD RESOURCES LTD.
620 ~~1032~~- 355 Burrard Street
Vancouver, B.C. ~~V6E 2G8~~

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

by

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3582 West 14th Avenue
Vancouver, B.C. V6R 2W4

15,227

FILMED

October 1986

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
LOCATION and ACCESS	1
PHYSIOGRAPHY and TOPOGRAPHY	1
WORK PROGRAM	2
CLAIM RECORDS	2
REGIONAL GEOLOGY	2
LOCAL and CLAIM GEOLOGY	3
LOCAL EXPLORATION	3
GEOCHEMICAL SURVEY	4
GEOLOGICAL OBSERVATIONS	4
CONCLUSIONS	5
RECOMMENDATIONS	5
REFERENCES	6
CERTIFICATE	7

List of Figures

- Figure 1 - Location Map
- Figure 2 - Claim Map
- Figure 3 - Regional Geology

List of Maps

- Map 1 - Silver Soil Geochemistry
- Map 2 - Geological Observations & Old Workings

Appendices

- Appendix 1 - Cost Statement
- Appendix 2 - Geochemical Results Supplied by Min-En Laboratories Ltd.

INTRODUCTION

The Cayuse claim is found within the southern part of the Ouesnel trough, a belt well known for its prolific copper, molybdenum, lead, zinc, silver and gold mineral occurrences and deposits. The claim covers ground that has attracted interest since the turn of the century because of the presence of mercury mineralization associated with carbonate veins. Since the late seventies, considerable interest has been focused on this area because of the possibility of the finding of epithermal precious metal mineralization. The anomalous soil mercury, arsenic and antimony geochemistry found on and around this claim presents interesting exploration targets that could lead to epithermal deposits such as have been extensively described and mined in Nevada.

This work was carried out in an attempt to replicate very high soil silver values reported in an earlier survey (A.R. 4305) in which auger sampling was used. The portion sampled in detail covers an area of high silver values reported in A.R. 4305.

LOCATION and ACCESS (Fig. 1)

The legal corner post of the Cayuse claim is located at $50^{\circ} 55.1' N$ and $120^{\circ} 55.3' W$. It is found north of the Criss Creek road approximately nine kilometers east of the junction with the Deadman Creek road. Both of these roads are in good condition and the latter joins with the Trans Canada Highway six kilometers west of Savona, B.C., where food and lodging is available.

PHYSIOGRAPHY and TOPOGRAPHY

The highest elevation of the property is about 3200 feet (975 m) and the lowest is in the Criss Creek valley at about 2100 feet (640 m). The topography is gently sloping to steep in the creek valley and covered by sparse forest with little brush. The property is located in the dry belt of the province but water is available from Criss Creek year around.

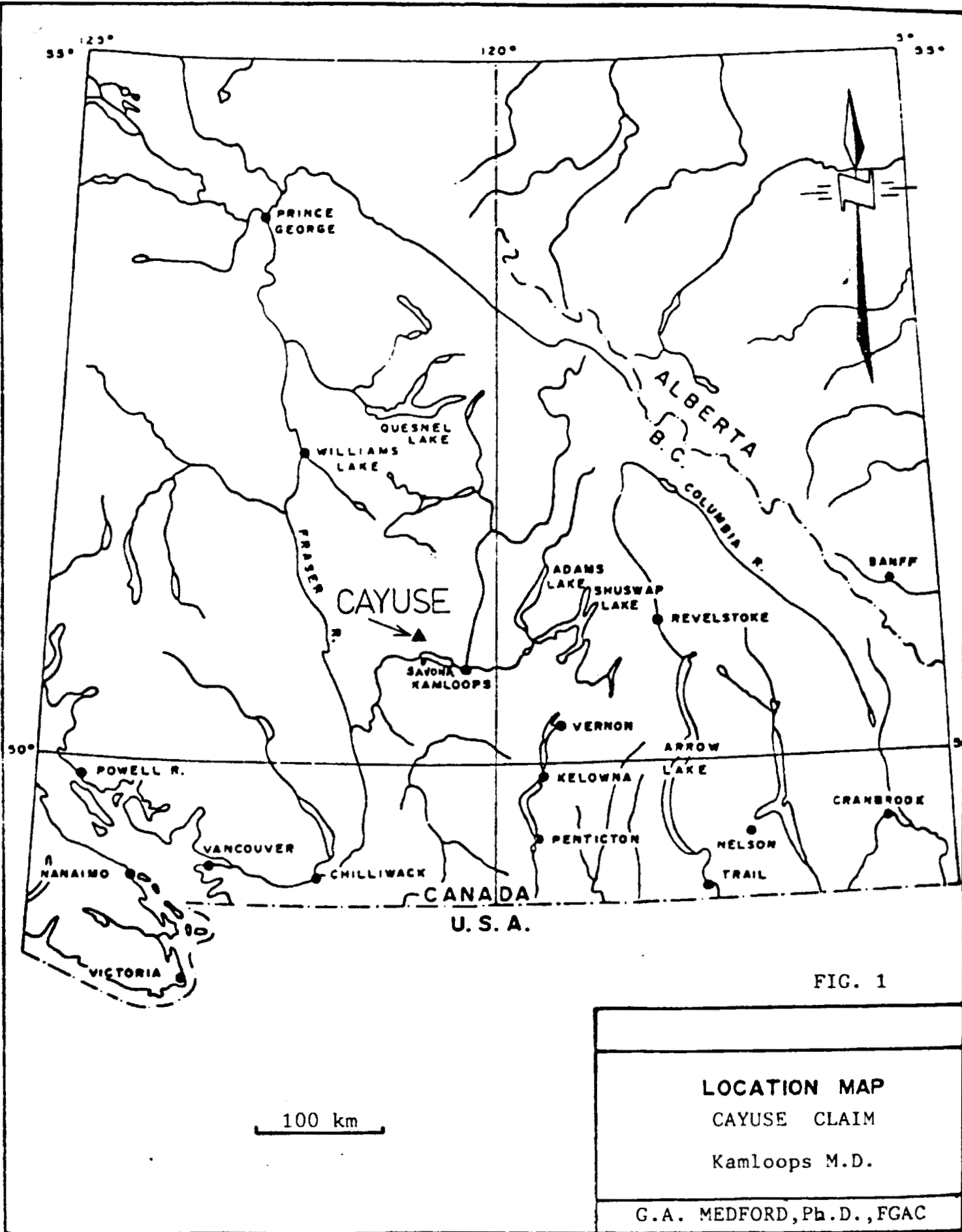


FIG. 1

<p>LOCATION MAP CAYUSE CLAIM Kamloops M.D.</p>
<p>G.A. MEDFORD, Ph.D., FGAC</p>

WORK PROGRAM

Fieldwork was carried out by G.A. Medford from 15 August to 19 August 1986. A flagged grid was established using compass and hip-chain. One hundred eleven soil samples were collected at a depth in excess of 30 cm (C-horizon) using a soil auger and the samples were put in kraft paper bags. They were sent to Min-En Laboratories Ltd., North Vancouver, for analysis (Appendix 2). Prospecting was carried out over the soil lines.

Access to the property was gained from Savona where lodging was obtained.

CLAIM RECORDS

The Cayuse claim, consisting of 12 units (Figure 2) and located within the Kamloops Mining Division, is found on Department of Mines claim map 92I 15N. The claim is wholly owned by Packard Resources Ltd. Government records show the following:

<u>Claim</u>	<u>Record No.</u>	<u>Units</u>	<u>Record Date</u>	<u>Expiry Date</u>
Cayuse	2986	12	Sept. 24/80	Sept. 24/86

REGIONAL GEOLOGY

The property lies within the area referred to as the Quesnel Trough (Campbell and Tipper, 1970), a narrow northwest trending belt consisting of Upper Triassic and Lower Jurassic volcanoclastic and sedimentary rocks. Broad areas are covered by Eocene volcanics and sediments and by Miocene-Pliocene plateau lavas. The trough hosts many copper-molybdenum deposits mainly associated with granitic intrusions as well as numerous significant copper, gold and copper-gold deposits. The latter are associated with alkalic intrusive or volcanic activity. Locations of several of these deposits are indicated in Figure 3.

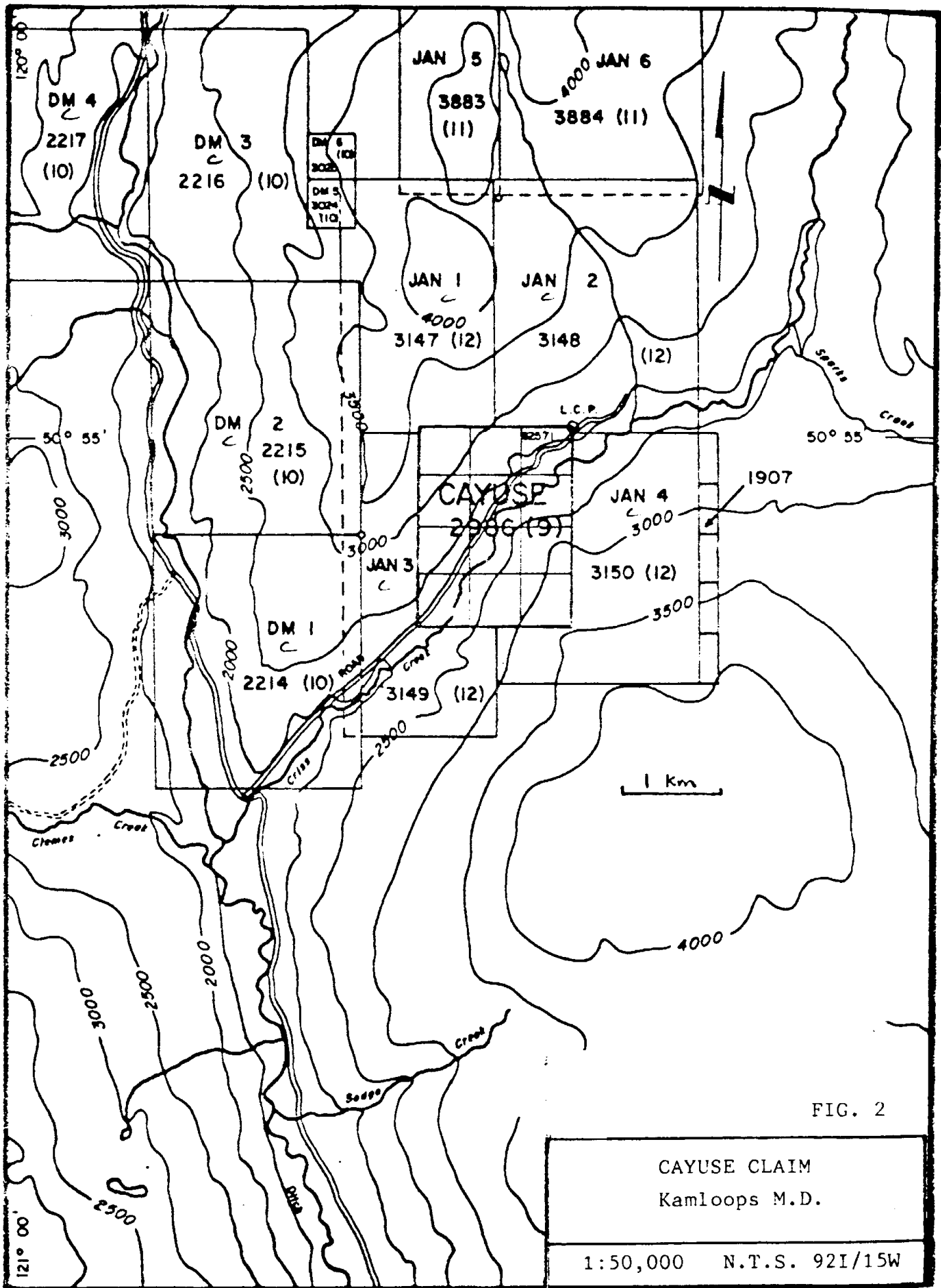
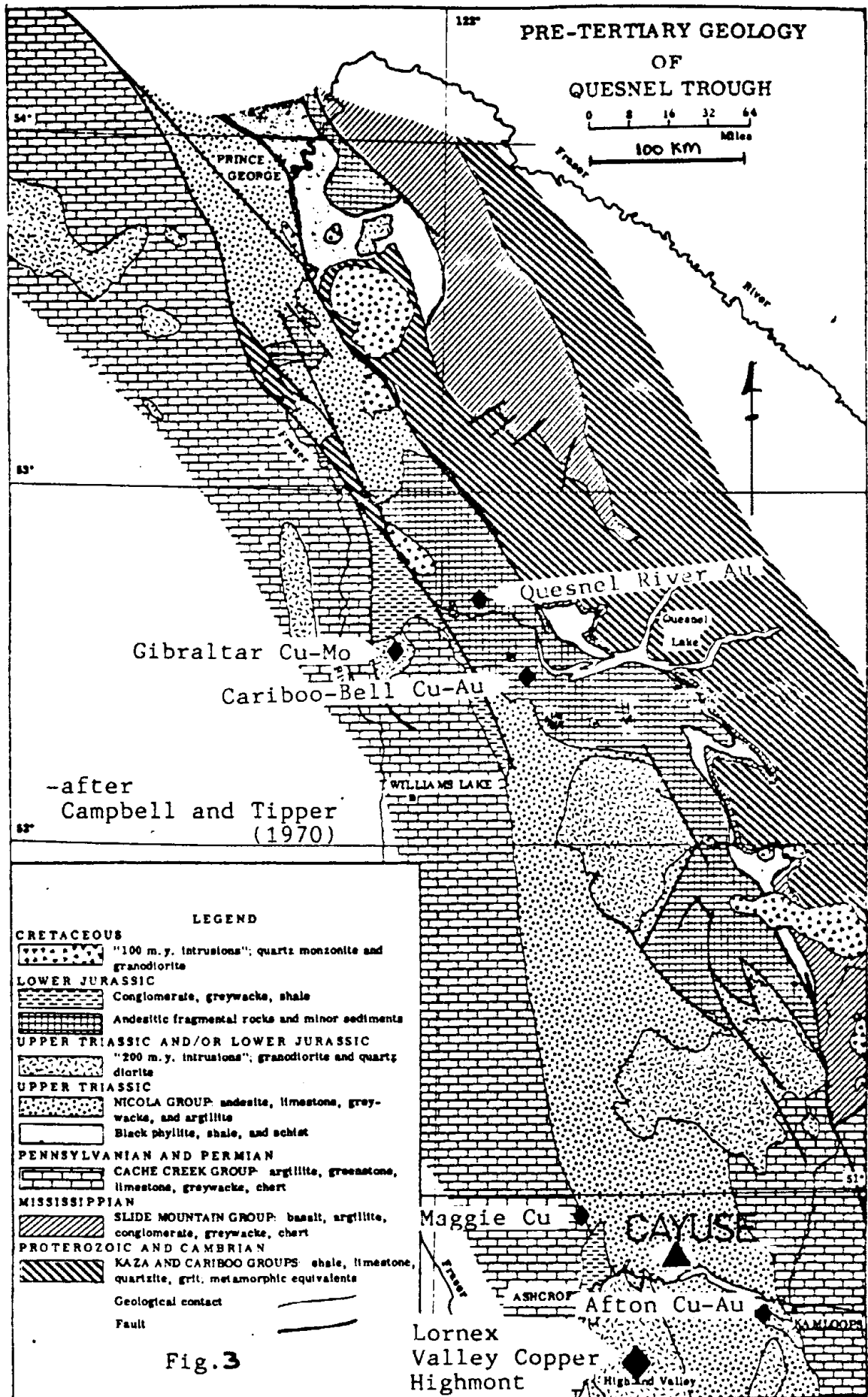


FIG. 2

CAYUSE CLAIM
 Kamloops M.D.
 1:50,000 N.T.S. 92I/15W



— Schematic map of the pre-Tertiary geology of the Quesnel Trough and surroundings. The Trough is defined by the occurrence of Upper Triassic and Lower Jurassic volcanic and sedimentary rocks and is bounded by Paleozoic or older rocks on either side.

LOCAL and CLAIM GEOLOGY

The claim is underlain by upper Triassic Nicola group volcanics, grey-green to purple in colour, and often stained rusty brown. To the northwest Kamloops group volcanic and sediments overlie the Nicola but these do not encroach upon the boundary of the Cayuse claim. Regional mapping (GSC O.F. 980) projects a fault northwest-southeast through the property with sediments of the Ashcroft formation (argillite, siltstone, sandstone, conglomerate) in fault contact to the east.

LOCAL EXPLORATION

Historical interest in mercury and related mineralization is referenced in Dickinson (1973) to which the reader is directed. Work on the adjacent D.M. claims by Guichon Explorco Ltd. (Gamble, 1981) has included detailed grid work immediately to the northwest of the Cayuse claim. The baselines for two grids established on the D.M. claims strike directly towards the Cayuse claim from the northwest and presumably cover a structural feature that may continue through the Cayuse claim. Anomalous Au zones and coincident Hg and As anomalies are found proximal to Tertiary intrusions but silver is consistently at or below detection limits (0.1 ppm). Some anomalous Mo values were also detected.

Work on the surrounding Jan claims by Placer Development Ltd. has also resulted in some anomalous Au, Sb, As, Cu and Zn zones, but Mo has been found to be present in only low concentrations and silver not detectable. An Hg-As anomaly directly north of the Cayuse claim may be the extension of a similar anomaly found on the Cayuse claim. Dickinson (1973) postulated this elongate Hg-As anomaly to define a fault zone running north-south through the Cayuse claim.

In 1972, Andex Mines carried out mapping and widespaced geochemical work on the Split 1-40 claims which are now contained, in part, by the Cayuse claim (Amendologine, 1972). Substantial Ag anomalies (many greater than 5 ppm) were outlined based on auger sampling to a depth of 18 inches (45 cm), as well as a few weak Cu and Zn anomalies. Subsequent B horizon sampling reported by Dickinson (1983) did not reproduce the earlier results but frequently indicated the presence of Ag

above the detection limit (i.e., 0.2 to 0.6 ppm). In addition, Hg and As proved highly anomalous but Au was below 10 ppb in all soils.

GEOCHEMICAL SURVEY

Methodology

Soil samples were collected from the C horizon at a depth of about 30 - 45 cm. They were sent to Min-En Laboratories, North Vancouver, for analysis by atomic absorption of Ag (nitric, perchloric digestion). The results are reproduced in Appendix 1. It was found impossible to auger much deeper than 12 inches (30 cm) in most cases because of the presence of angular rock fragments. Sampling to this depth was very tedious and sampling to 18" (45 cm) was possible in only a couple of instances.

Results (Map 1)

Most values fall below 1 ppm whereas a good representation of values above 4 ppm Ag should have been encountered in this area according to A.R. 4305. Although it is stated that the early sampling was done at a depth of 18 inches (45 cm) it is felt that this is unlikely due to the difficulty in augering.

GEOLOGICAL OBSERVATIONS

Methodology

A large number of old pits, adits, etc., were observed during work on the property. This information is plotted on Map 2. Mineralization in the pits generally included silica - carbonate - stibnite - cinnabar - hematite infillings of steep fractures generally trending about 300° to 320°.

CONCLUSIONS

It is concluded that the very high silver results reported in A.R. 4305 are erroneous and that no significant silver anomaly is present on the property. Nevertheless, background silver values are somewhat elevated and in conjunction with other geochemical signatures of the property, are of some interest vis a vis epithermal precious metal deposits.

RECOMMENDATIONS

Further investigation of the silica - carbonate - stibnite, etc., - filled fractures is warranted in connection with the possible position of such an assemblage relative to an epithermal gold-silver deposit that might be present laterally or at depth.

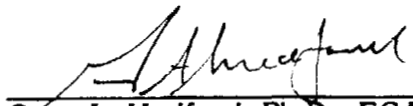
REFERENCES

- Amendolagine, E. 1972. Workprogress Report on Andex Mines Ltd. Property, Split 1-40, A.R. 4305.
- Campbell, R.B. and Tipper, H.W., 1970. Geology and Mineral Deposits of the Quesnel Trough, British Columbia. CIM Trans. Vol. LXXIII pp. 174-179.
- Dickinson, R.A., 1983. A Geochemical Report on the Cayuse Claim, Kamloops, M.D.
- Gamble, D., 1981. Geological and Geochemical Surveys of the D.M. Claims, Hoodo Grid, Kamloops M.D. A.R. 9729.
- Medford, G.A., 1984. Geochemical and Geophysical Report on the Cayuse Claim, Kamloops M.D. (submitted for assessment).

CERTIFICATE

I, Gary A. Medford, with business address at 3582 West 14th Avenue, Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geologist and have been engaged in my profession for over 15 years.
- 2) I am a graduate of McGill University with B.Sc. Honours (1968) and M.Sc. (1970) degrees in geology, and have graduated from The University of British Columbia with a Ph.D. (1976) in geology.
- 3) I am a Fellow of the Geological Association of Canada.
- 4) I certify the work indicated in this report to have been carried out August 15 to 19, 1986.



Gary A. Medford, Ph.D., FGAC

APPENDIX I

COST STATEMENT

Geologist, G.A. Medford, Ph.D.	5 days	\$ 2,000.00
Mobilization/demob.	Van. to Savona, B.C.	860.00
Truck	5 days at \$60	300.00
Lodging/meals	5 days at \$60	300.00
Field expendable materials		50.00
Geochemistry	111 soils at \$2.85	316.35
Report		<u>1,000.00</u>
	TOTAL	\$ 4,826.35

1 of 4

APPENDIX 2
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: VIA USA 7601067 UC

Certificate of GEOCHEM

Company: GARY MEDFORD
Project:
Attention: GARY MEDFORD

File: 6-982/P1
Date: OCT. 15, 1986
Type: SOIL

We hereby certify the following results for samples submitted.

Sample Number	AG PPM
BL 25N	0.4
BL 50N	0.4
BL 75N	0.6
BL 100N	0.5
BL 125N	0.6
BL 150N	0.5
BL 175N	0.7
BL 200N	0.4
BL 225N	0.5
BL 250N	0.7
BL 275N	0.6
BL 300N	0.8
BL 325N	0.8
BL 350N	0.7
BL 375N	0.8
BL 400N	0.8
L000 50E	0.3
L000 75E	0.7
L000 100E	0.5
L000 150E	0.9
L000 175E	0.6
L000 200E	0.7
L000 225E	0.7
L000 250E	0.7
L000 275E	0.6
L000 BL	0.8
L000 25W	0.6
L000 50W	0.5
L000 75W	0.7
L000 100W	0.4

Certified by


MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

2 of 4

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

TELEX: VIA USA 7601067 UC

Certificate of GEOCHEM

Company: GARY MEDFORD
Project:
Attention: GARY MEDFORD

File: 6-982/P2
Date: OCT. 15/86
Type: SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AG PPM
L000 125W	0.4
L000 150W	0.4
L000 175W	0.5
L000 200W	0.4
L000 225W	0.5
L000 250W	0.7
L000 275W	0.8
L200N 25E	0.7
L200N 50E	0.5
L200N 75E	0.4
L200N 100E	0.4
L200N 125E	0.5
L200N 150E	0.8
L200N 175E	0.6
L200N 200E	0.6
L200N 225E	0.8
L200N 250E	0.9
L200N 275E	0.7
L200N 300E	0.5
L200N 325E	0.8
L200N 350E	0.8
L200N 375E	0.7
L200N 400E	0.7
L200N 425E	0.6
L200N 450E	0.8
L200N 25W	0.6
L200N 50W	0.8
L200N 75W	1.0
L200N 100W	0.7
L200N 125W	0.6

Certified by



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705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

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

TELEX: VIA USA 7601067 UC

Certificate of GEOCHEM

Company: GARY MEDFORD
Project:
Attention: GARY MEDFORD

File: 6-982/P3
Date: OCT. 15/86
Type: SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AG PPM
L200N 150W	0.6
L200N 175W	0.7
L200N 200W	1.0
L200N 225W	0.7
L200N 250W	0.8
L200N 275W	0.8
L200N 300W	0.6
L200N 325W	1.1
L200N 350W	0.8
L200N 375W	0.7
L200N 400W	0.7
L400N 25E	0.6
L400N 50E	0.6
L400N 75E	0.7
L400N 100E	0.8
L400N 125E	0.6
L400N 150E	0.7
L400N 175E	0.5
L400N 200E	0.7
L400N 225E	0.8
L400N 275E	0.6
L400N 300E	0.7
L400N 325E	0.4
L400N 350E	0.9
L400N 375E	0.6
L400N 400E	0.7
L400N 425E	0.5
L400N 25W	0.5
L400N 50W	0.9
L400N 75W	0.7
L400N 250E	1.1

Certified by



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Specialists in Mineral Environments

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

TELEX: VIA USA 7601067 UC

Certificate of GEOCHEM

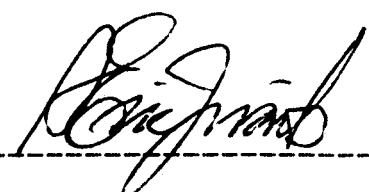
Company: G MEDFORD
Project:
Attention:

File: 6-982/P4
Date: OCT. 17, 1986
Type: SOIL

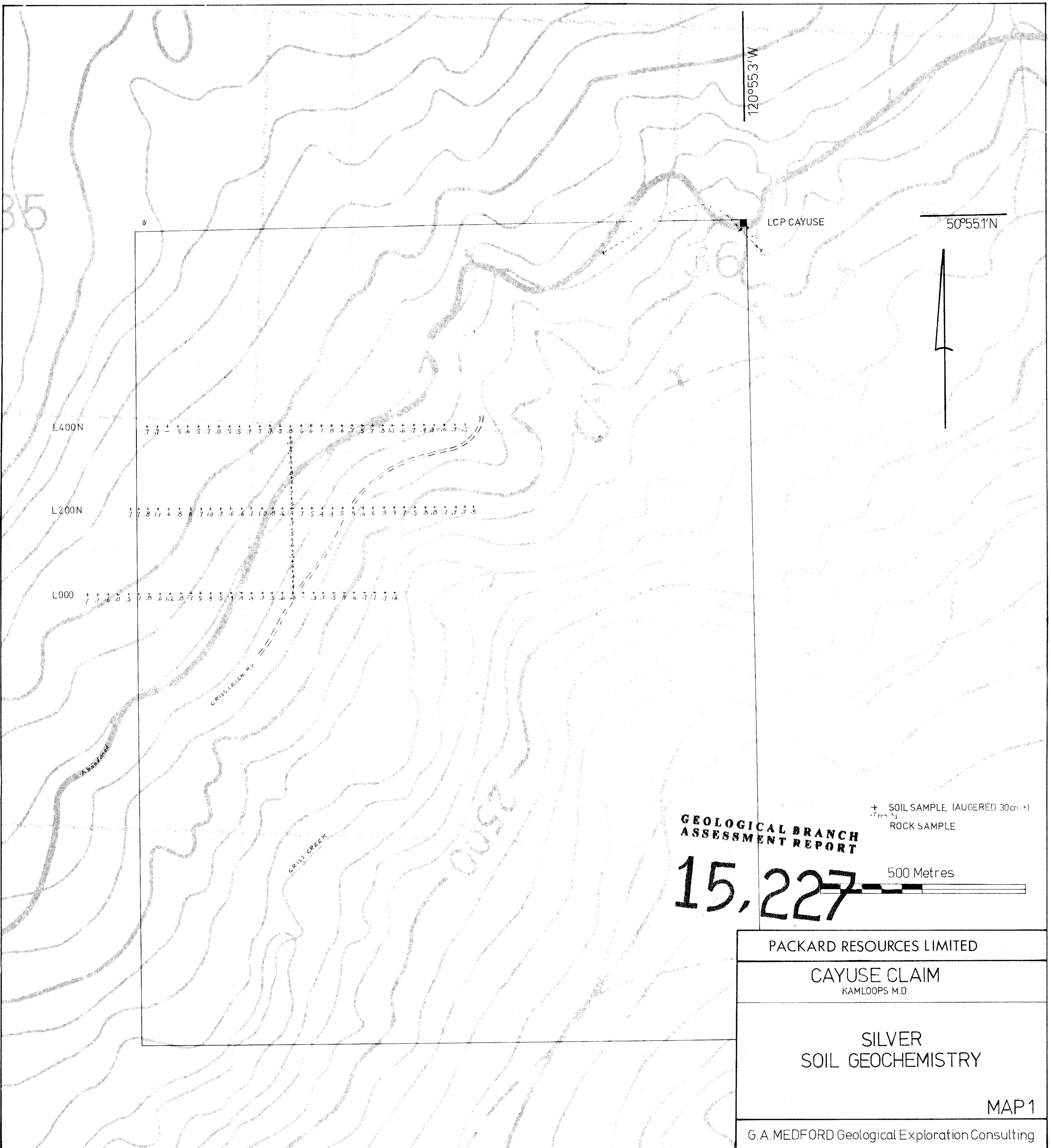
We hereby certify the following results for samples submitted.

Sample Number		AG PPM
L400N	100W	0.7
L400N	125W	0.5
L400N	150W	0.5
L400N	175W	0.8
L400N	200W	0.7
L400N	225W	0.5
L400N	250W	0.6
L400N	275W	1.5
L400N	325W	0.7
L400N	350W	0.7
L400N	375W	0.7
L000N	300W	1.2
L000N	325W	0.6
L000N	350W	0.8
L000N	375W	0.7
L000N	400W	0.5
L000N	425W	0.8
L000N	450W	0.6
L000N	475W	0.7
L000N	500W	0.7

Certified by _____



MIN-EN LABORATORIES LTD.



35

120°55.3'W

LCP CAYUSE

50°55.1'N

L400N

L200N

L000

CRISS CREEK RD

CRISS CREEK

CAYUSE

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,227

+ SOIL SAMPLE (AUGERED 30cm +)
·7mm Δ₃
ROCK SAMPLE

500 Metres

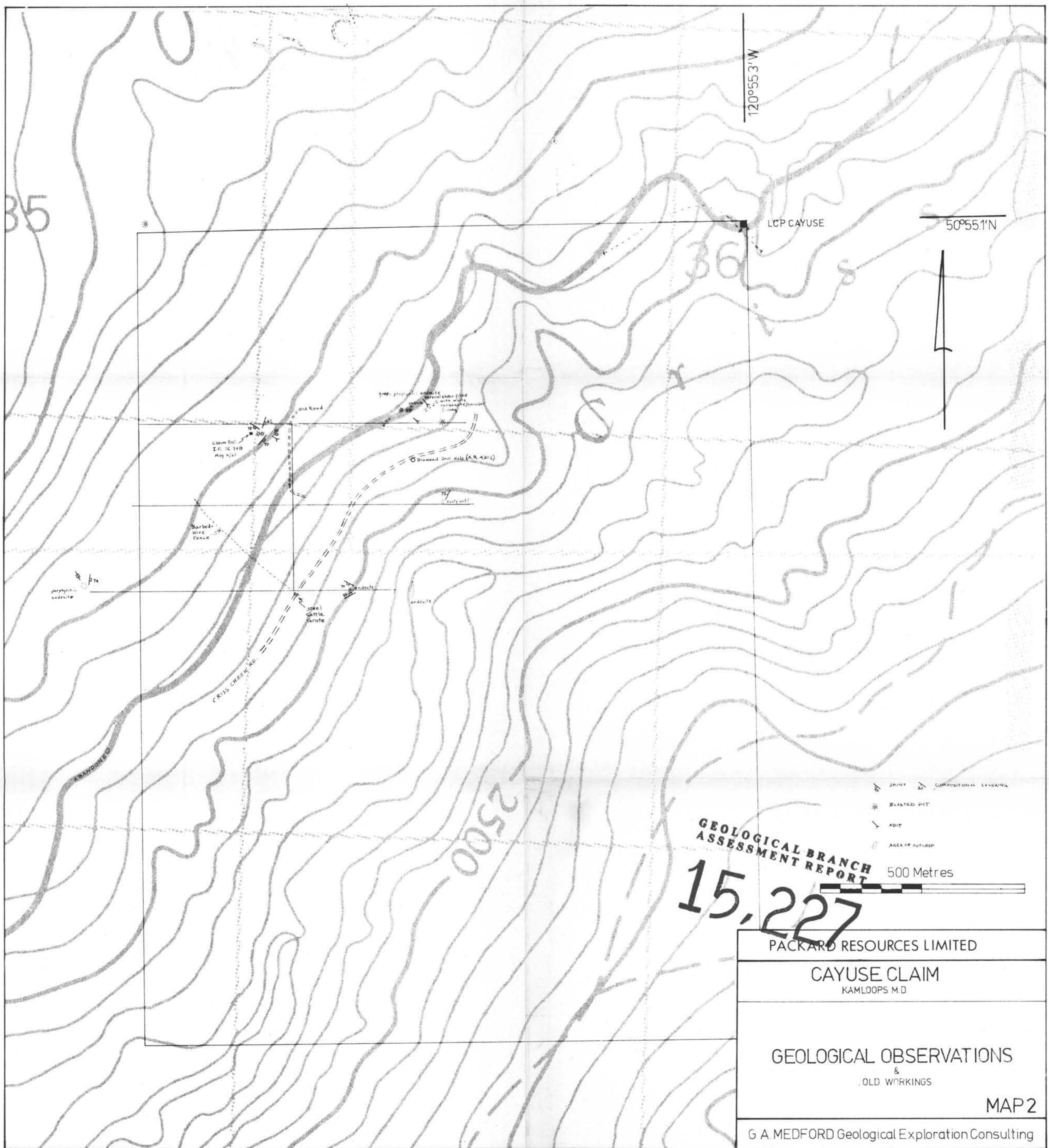
PACKARD RESOURCES LIMITED

CAYUSE CLAIM
KAMLOOPS M.D.

SILVER
SOIL GEOCHEMISTRY

MAP 1

G.A.MEDFORD Geological Exploration Consulting



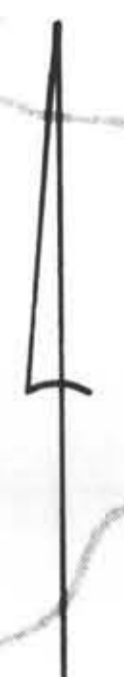
35

36

LCP CAYUSE

50°55'1\"/>

120°55'3\"/>



- JOINT
- COMPOSITIONAL LAYERING
- BLASTED PIT
- ADIT
- AREA OF OUTCROP

500 Metres



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,227

PACKARD RESOURCES LIMITED

CAYUSE CLAIM
KAMLOOPS M.D.

GEOLOGICAL OBSERVATIONS
&
OLD WORKINGS

MAP 2

G A MEDFORD Geological Exploration Consulting