

84-#373-12288
6/85

GEOCHEMICAL AND GEOPHYSICAL REPORT

ON THE

CAYUSE CLAIM

KAMLOOPS MINING DISTRICT

N.T.S. 92I/15

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

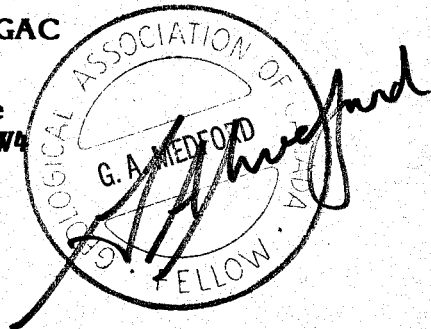
50° 55'N 120° 36'W

for **12,288**

**PACKARD RESOURCES LTD.
1032 - 355 Burrard Street
Vancouver, B.C. V6C 2G8**

by

**Gary A. Medford, Ph.D., FGAC
Consulting Geologist
3582 West 14th Avenue
Vancouver, B.C. V6R 2W4**



June, 1984

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INTRODUCTION

The Cayuse claim is found within the southern part of the Quesnel 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.

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.

WORK PROGRAM

Fieldwork was carried out by G.A. Medford and L. Demczuk on 17 and 18 May 1984. Magnetometer traverses were completed over five and one half line-kilometers

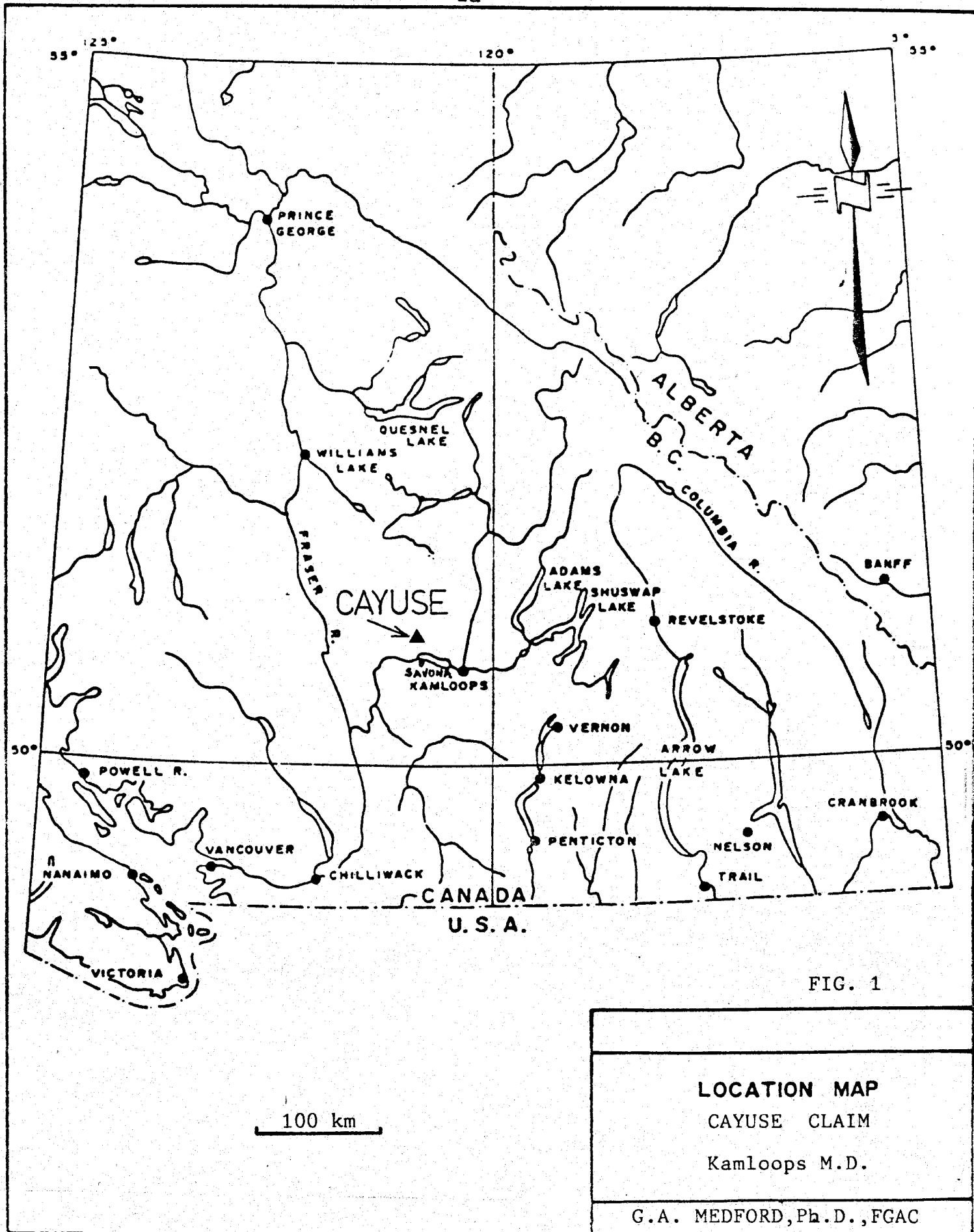


FIG. 1

LOCATION MAP

CAYUSE CLAIM

Kamloops M.D.

G.A. MEDFORD, Ph.D., FGAC

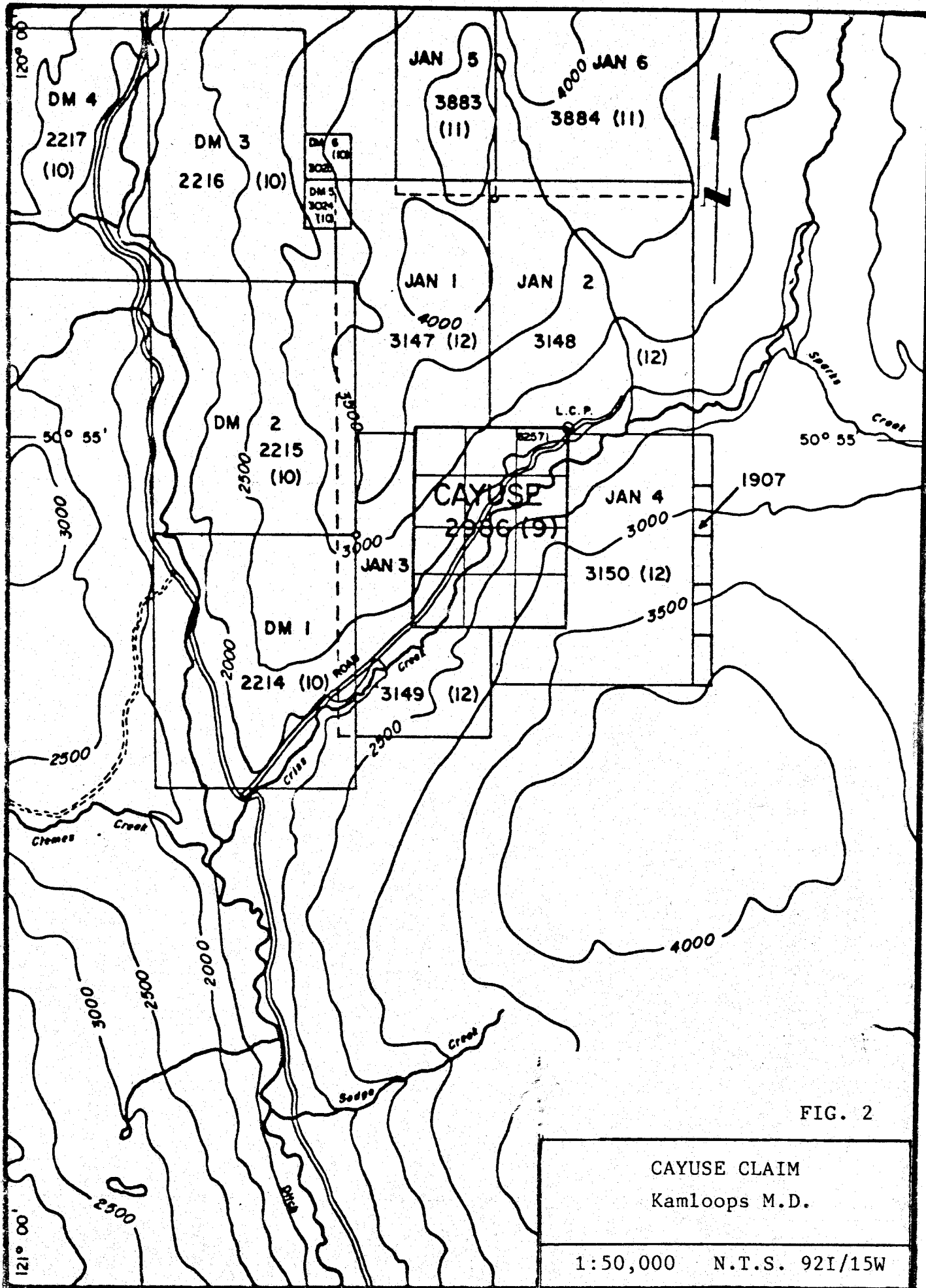
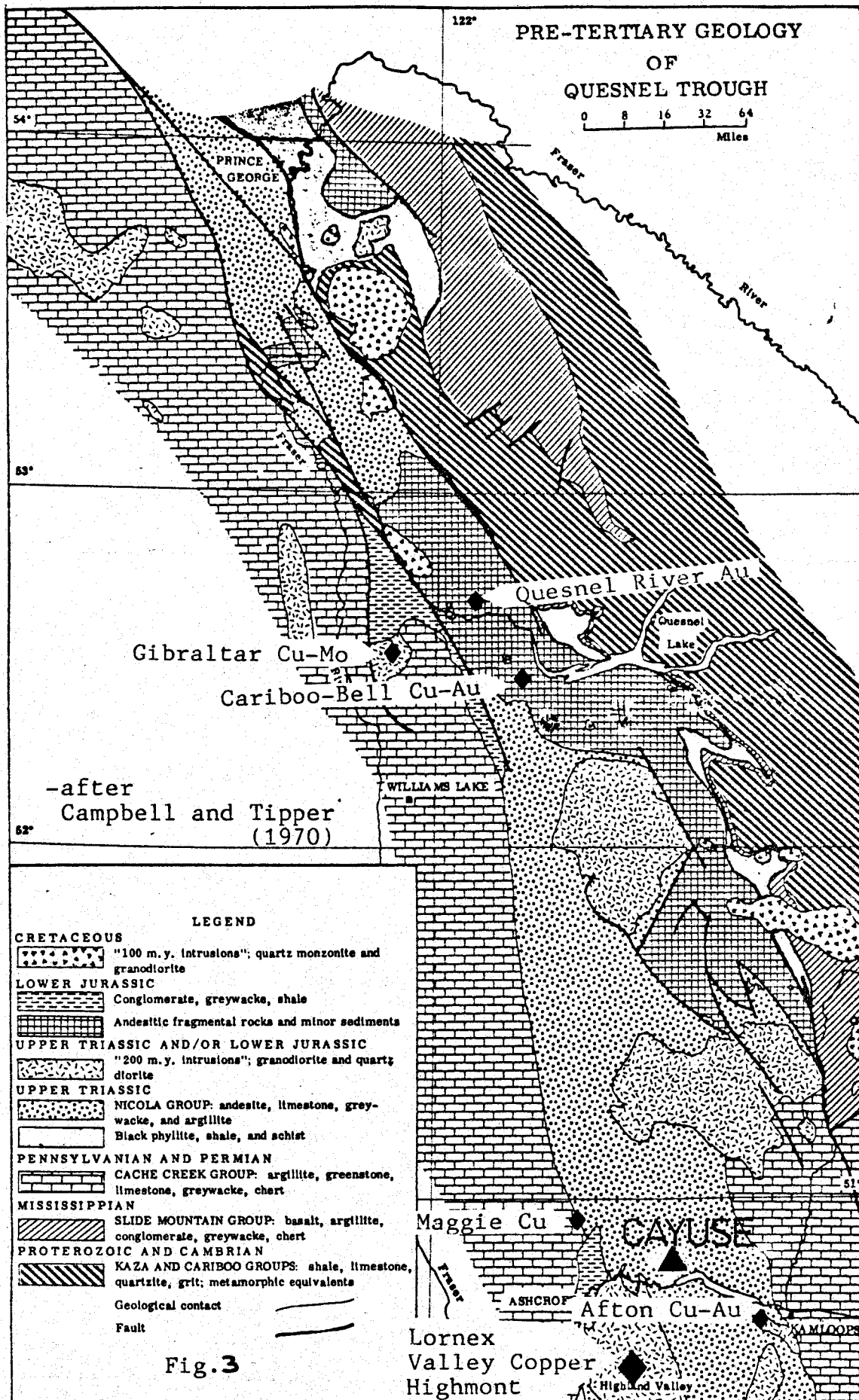


FIG. 2

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.

using 25 and 50 meter station spacings. All stations were flagged and numbered. Seventy-one soil samples were collected at a depth of about 15 to 20 cm (B-horizon top) and the samples were put in kraft paper bags. They were sent to Chemex Laboratories Ltd., North Vancouver, for analysis. Prospecting was carried out over the soil and magnetometer lines. A rock chip sampling program was undertaken concentrating on altered intrusive Tertiary (?) dikes and sills and areas of strongly altered andesitic host rocks. Continuous chip samples were taken over various widths and analyzed at Chemex for Au and Ag. Sampling widths are indicated in Appendix 2.

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. 24/84

A \$1200.00 credit balance is available towards future assessment requirements.

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.

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.

In the area extending one kilometer or so southwest along the road from the legal corner post a number of pink to tan colour Tertiary (?) dikes and sills intrude the Nicola. These exhibit intense argillic alteration and carbonate replacement and are, for the most part, difficult to identify. A search for relatively fresh specimens suggested the presense of rhyolite (+ quartz eyes), syenite, and possibly granodiorite. The locations of samples identified as to rock type are presented on Map 1.

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 (30 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 B horizon at a depth of about 15 - 20 cm. They were sent to Chemex Laboratories, North Vancouver, for analysis by atomic absorption of Mo, Cu and Ag. The results are reproduced in Appendix 1. Rock chip samples over various widths were taken from altered Tertiary (?) intrusions and analyzed for Au and Ag. These results as well as the sample widths over which the chips were taken are also presented in Appendix 1.

Results (Map 1, Map 2)

The results of this sampling are similar to those reported by Dickinson (1983). Ag values are commonly in the range 0.2 to 0.5 ppm with no obvious areas of relatively high Ag concentration. A few moderately anomalous Cu values (>100 ppm) cluster at the west claim boundary and one is found on the north boundary. Soils analyzed for Mo gave only values at the analytical detection limit.

Of all the chip samples taken, only four samples reported above the detection limit for silver, the maximum value being 0.5 ppm. All rock Au analyses were < 10 ppb.

GEOPHYSICAL SURVEY

Methodology

Magnetometer readings were taken at 25 and 50 m stations using a Scintrex model MP-2 magnetometer with detector mounted on a staff. All stations were flagged and numbered.

Results (Map 3)

The property can be readily divided into two areas based on magnetic response. The northern part generally reports values above 57,500 gammas with the highest values (i.e., greater than 58,000 gammas) found at the north claim boundary. On the otherhand, values south of the 57,500 contour are characterized by a concentration of modal values in the 57,200 to 57,300 range.

The increase in magnetic response south to north may merely reflect a change in the magnetite content of the underlying andesites. There is no other obvious change in rock types that would account for the increase and no evidence of the presence of Tertiary basalt. The leucocratic intrusions that are found in the north would not be expected to give rise to a higher magnetic response.

CONCLUSIONS

The present work confirms the presence of a weak silver anomaly on the Cayuse claim. This finding contrasts with those in surrounding areas where some gold anomalies have been located but no silver. Molybdenum is absent, as on the Jan claims, but locally anomalous on the D.M. claims. The common thread is the presence of anomalous Hg and As. These variations probably reflect the well known capricious nature of epithermal zoning and mineralization.

The auger sampling technique employed by Amendolagine (1972) produced substantial Ag anomalies in areas resampled by this work and that of Dickinson (1983). An attempt should be made to reproduce Amendolagine's findings as a number of drill targets could readily be generated if the attempt is successful.

RECOMMENDATIONS

The old claim posts of Split 1-40 should be located and from these the position of a couple of the strong Ag anomalies reported in the assessment report A.R. 4305. The original sampling procedure should be employed in an attempt to reproduce the silver anomalies.

If successful results are obtained, a detailed grid sampling program should be carried out on the Cayuse claim. Further magnetometer work should be undertaken as resulting patterns may contribute to the assessment of the mineral potential of the property.

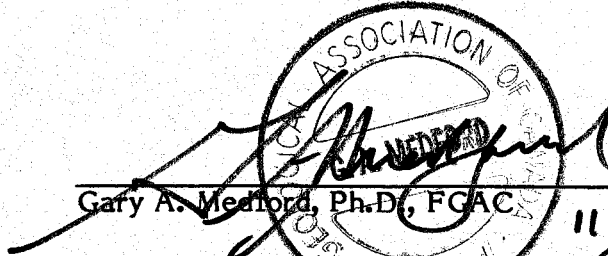
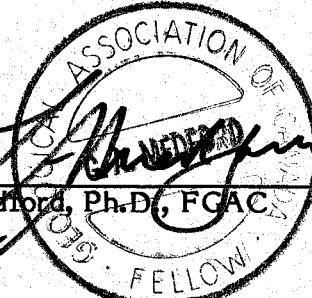
REFERENCES

- 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.

CERTIFICATE

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

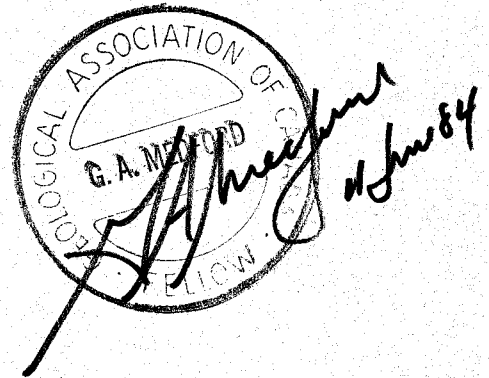
- 1) I am a consulting geologist and have been engaged in my profession for over 15 years.
- 2) I am a graduate of McGill University with B.Sc. Honours (1968) and M.Sc. (1970) degrees in geology, and have graduated from The University of British Columbia with a Ph.D. (1976) in geology.
- 3) I am a Fellow of the Geological Association of Canada.
- 4) I have no direct or indirect interest in the Cayuse claims.
- 5) I certify the work indicated in this report to have been carried out on May 17 and 18, 1984 and that the Cost Statement is correct.


Gary A. Medford, Ph.D., FCAC

11 June 84

APPENDIX I

COST STATEMENT

Geologist, G.A. Medford, Ph.D.	2 days	\$ 650.00
Geol. Assistant, L. Demczuk, M.Sc.	2 days	350.00
Mobilization/demob.	Van. to Savona, B.C.	731.50
Truck	2 days at \$59	118.00
Lodging/meals	4 man days at \$20	80.00
Field expendable materials		24.50
Magnetometer rental		100.00
Map reproduction and drafting		300.00
Secretarial		140.00
Geochemistry		490.50
Report writing and research		<u>650.00</u>
TOTAL		\$ 3,634.50





CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: (604) 984-0221
 TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : MEDFORD, G.A.
 GEOLOGICAL EXPLORATION CONSULTING
 3582 WEST 4TH AVE.
 VANCOUVER, B.C.
 V6R 2W4

** CERT. # : A8411960-001-A
 INVOICE # : 18411960
 DATE : 31-MAY-84
 P.O. # : NONE
 CAYUSE

Sample description	Prep code	Cu ppm	Mo ppm	Ag ppm			
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CLD 84517-10.00	201	82	1	0.3	--	--	--
CLD 84517-10.50	201	53	1	0.2	--	--	--
CLD 84517-11.00	201	57	1	0.1	--	--	--
CLD 84517-11.50	201	53	1	0.2	--	--	--
CLD 84517-12.00	201	49	1	0.3	--	--	--
CLD 84517-12.50	201	49	1	0.3	--	--	--
CLD 84517-13.00	201	58	1	0.3	--	--	--
CLD 84517-13.50	201	52	1	0.2	--	--	--
CLD 84517-14.00	201	54	1	0.3	--	--	--
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CLD 84517-15.00	201	57	1	0.2	--	--	--
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CLD 84517-18.50	201	34	1	0.3	--	--	--
CLD 84517-19.00	201	38	1	0.2	--	--	--
CLD 84517-19.50	201	41	1	0.2	--	--	--
CLD 84517-20.00	201	38	1	0.2	--	--	--
CLD 84517-20.50	201	45	1	0.3	--	--	--
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CLD 84517-22.00	201	170	1	0.1	--	--	--
CLD 84517-22.50	201	113	1	0.1	--	--	--
CLD 84517-23.00	201	55	1	0.3	--	--	--
CLD 84517-23.50	201	42	1	0.3	--	--	--
CLD 84517-24.00	201	49	1	0.4	--	--	--
CLD 84517-24.50	201	43	1	0.4	--	--	--
CLD 84517-25.00	201	77	1	0.3	--	--	--
CLD 84517-25.50	201	62	1	0.4	--	--	--
CLD 84517-26.00	201	49	1	0.1	--	--	--
CLD 84518-01	201	41	1	0.1	--	--	--
CLD 84518-02	201	51	1	0.2	--	--	--
CLD 84518-03	201	37	1	0.1	--	--	--
CLD 84518-04	201	24	1	0.2	--	--	--
CLD 84518-05	201	41	1	0.3	--	--	--
CLD 84518-06	201	24	1	0.2	--	--	--



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• GEOCHEMISTS

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TO : MEDFORD, G.A.
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 3582 WEST 4TH AVE.
 VANCOUVER, B.C.
 V6R 2W4

** CERT. # : A8411960-002-A
 INVOICE # : I8411960
 DATE : 31-MAY-84
 P.O. # : NONE
 CAYUSE

Sample description	Prep code	Cu ppm	Mo ppm	Ag ppm			
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CLD 84518-10	201	20	1	0.1	--	--	--
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CLD 84518-17	201	27	1	0.1	--	--	--
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CLD 84518-19	201	20	1	0.1	--	--	--
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CLD 84518-31	201	33	1	0.1	--	--	--
CLD 84518-32	201	23	1	0.1	--	--	--
CLD 84518-33	201	38	1	0.2	--	--	--
CLD 84518-34	201	33	2	0.1	--	--	--
CLD 84518-35	201	30	1	0.1	--	--	--
CLD 84518-36	201	80	1	0.3	--	--	--
CLD 84518-37	201	111	1	0.2	--	--	--

HautBichler

Certified by



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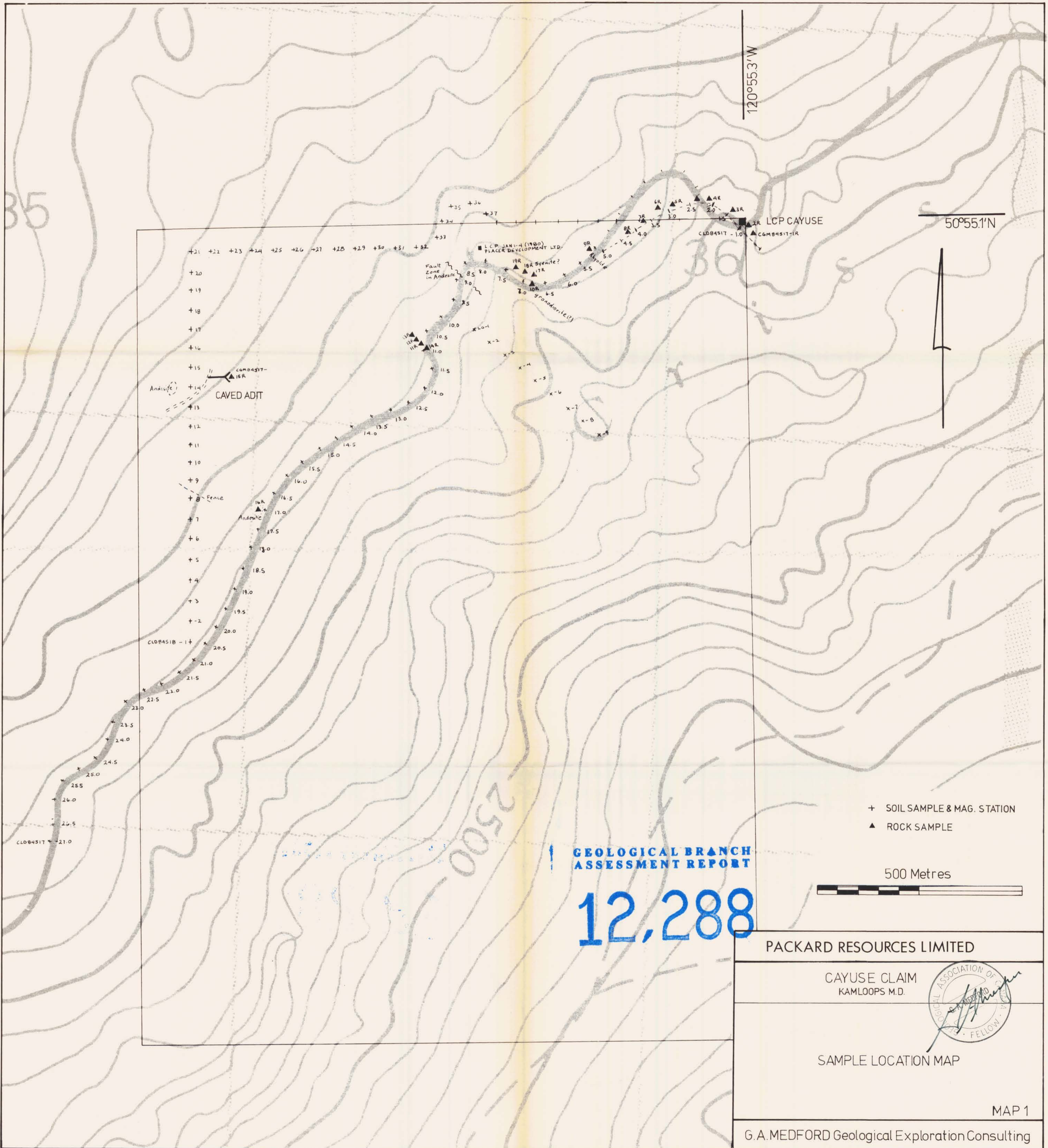
• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : MEDFORD, G.A.
GEOLOGICAL EXPLORATION CONSULTING
3582 WEST 4TH AVE.
VANCOUVER, B.C.
V6R 2W4

** CERT. # : A8411959-001-A
INVOICE # : I8411959
DATE : 30-MAY-84
P.O. # : NONE
CAYUSE

Sample description	Prep code	Ag ppm Aqua R	AU-AA ppb	Chip Sample width
CGM 84517-01R	205	0.3	<10	-- 1m --
CGM 84517-02R	205	0.1	<10	-- 7m --
CGM 84517-03R	205	0.1	<10	-- 1m --
CGM 84517-04R	205	0.1	<10	-- 3m --
CGM 84517-05R	205	0.1	<10	-- 3m --
CGM 84517-06R	205	0.1	<10	-- 3m --
CGM 84517-07R	205	0.1	<10	-- grab --
CGM 84517-08R	205	0.1	<10	-- 4m --
CGM 84517-09R	205	0.1	<10	-- 3m --
CGM 84517-10R	205	0.5	<10	-- 2m --
CGM 84517-11R	205	0.1	<10	-- 5m --
CGM 84517-12R	205	0.1	<10	-- 5m --
CGM 84517-13R	205	0.1	<10	-- 7m --
CGM 84517-14R	205	0.2	<10	-- 5m --
CGM 84518-15R	205	0.2	<10	-- grab --
CGM 84518-17R	205	0.1	<10	-- 5m --
CGM 84518-18R	205	0.1	<10	-- 5m --
CGM 84518-19R	205	0.1	<10	-- 5m --



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

12,288

- + SOIL SAMPLE & MAG. STATION
- ▲ ROCK SAMPLE



PACKARD RESOURCES LIMITED

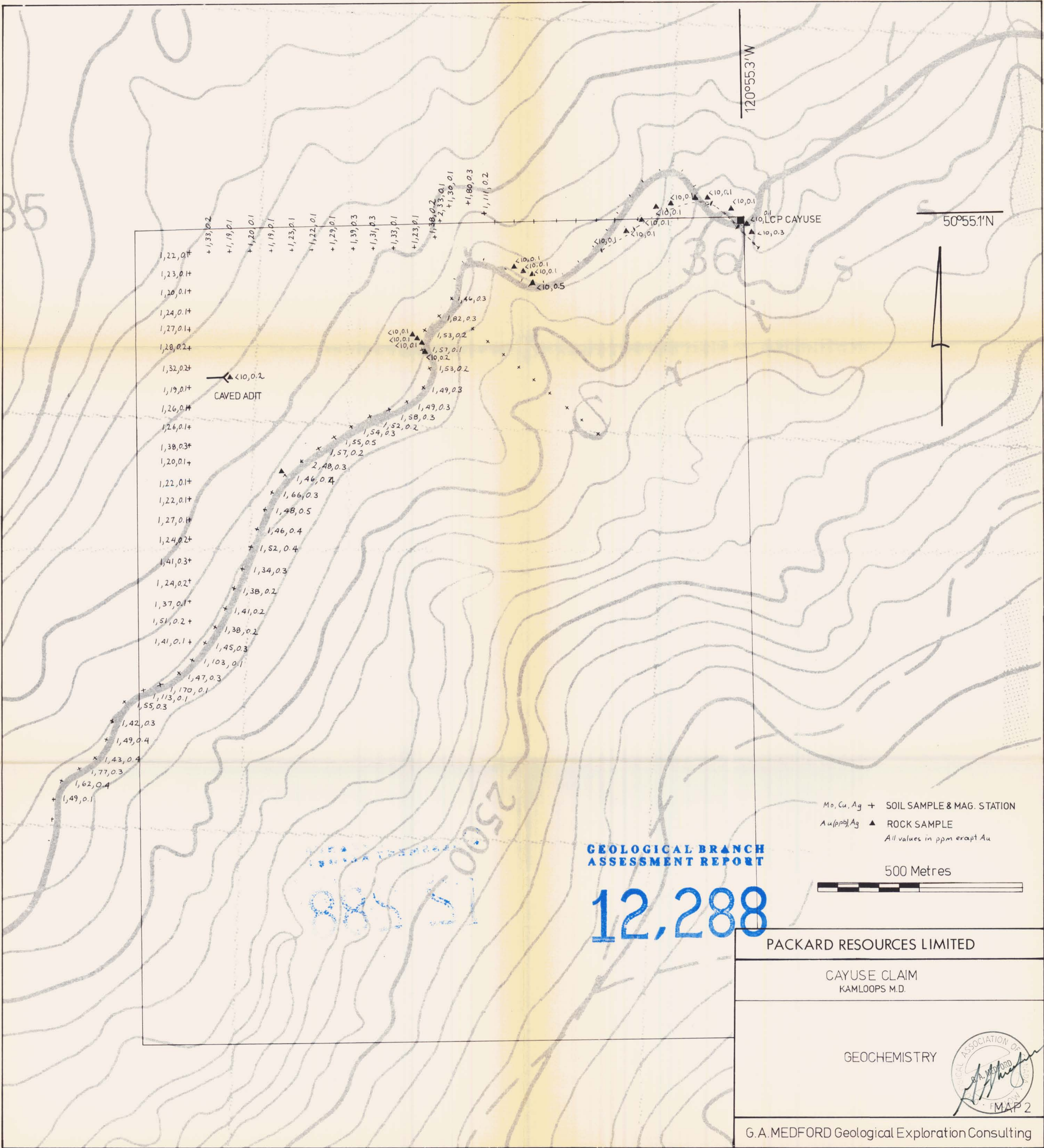
CAYUSE CLAIM
KAMLOOPS M.D.



SAMPLE LOCATION MAP

MAP 1

G.A. MEDFORD Geological Exploration Consulting



1,22,01+
 1,23,01+
 1,20,01+
 1,24,01+
 1,27,014
 1,28,02+
 1,32,02+
 1,19,01+
 1,26,01+
 1,26,01+
 1,38,03+
 1,20,01+
 1,22,01+
 1,22,01+
 1,27,01+
 1,24,02+
 1,41,03+
 1,24,02+
 1,37,01+
 1,51,02+
 1,41,01+
 1,41,01+
 1,47,03
 1,113,01
 1,55,03
 1,42,03
 1,49,04
 1,43,04
 1,77,03
 1,62,04
 1,49,01

<10,0.2
 CAVED ADIT

Mo, Cu, Ag + SOIL SAMPLE & MAG. STATION
 Au(ppb), Ag ▲ ROCK SAMPLE
 All values in ppm except Au

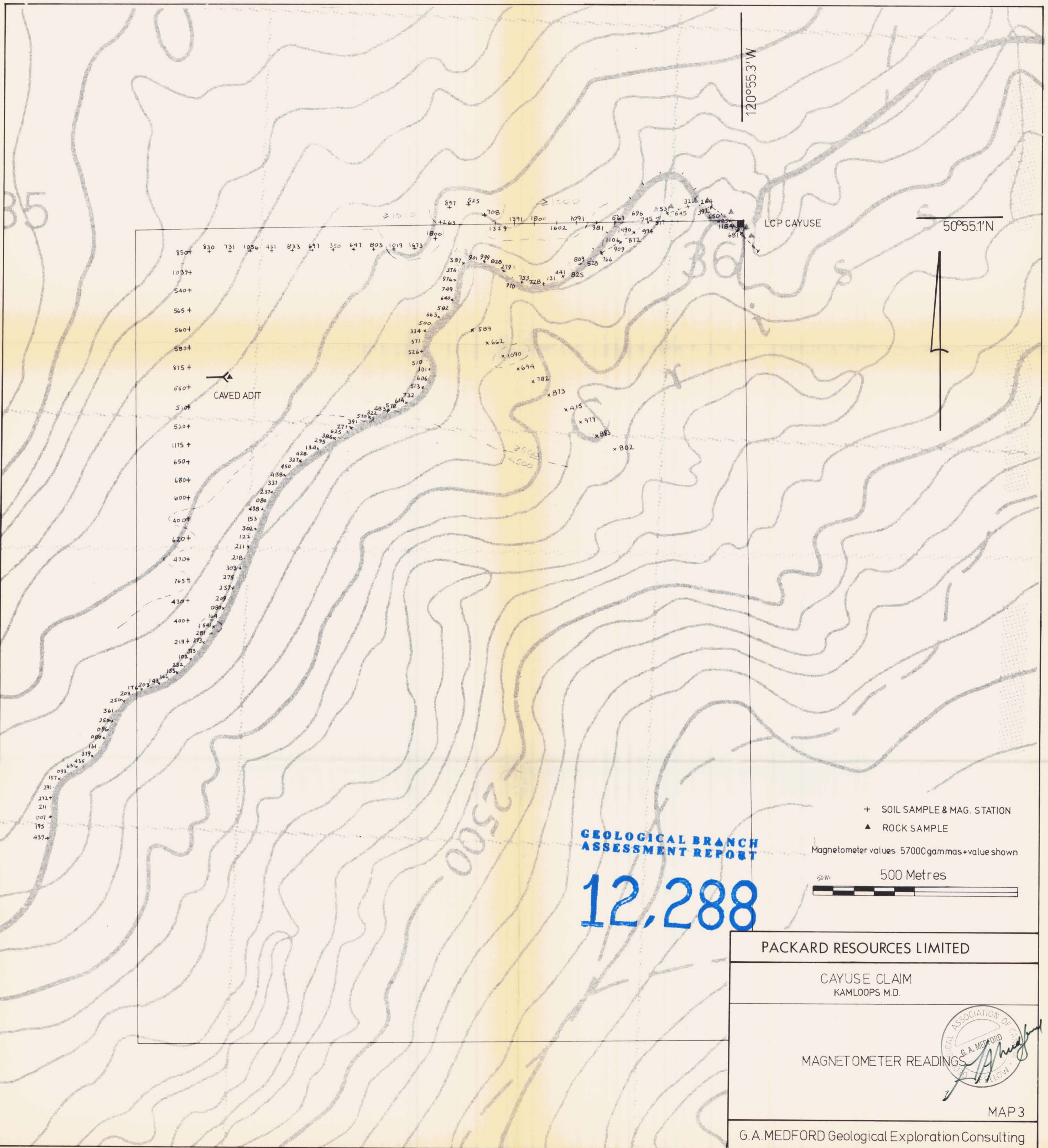


GEOLOGICAL BRANCH ASSESSMENT REPORT

12,288

PACKARD RESOURCES LIMITED
CAYUSE CLAIM KAMLOOPS M.D.
GEOCHEMISTRY
G. A. MEDFORD Geological Exploration Consulting

MAP 2



35

120°55.3'W

50°55.1'N

LCP CAYUSE

36

CAVED ADIT

**GEOLOGICAL BRANCH
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12,288

- + SOIL SAMPLE & MAG. STATION
- ▲ ROCK SAMPLE

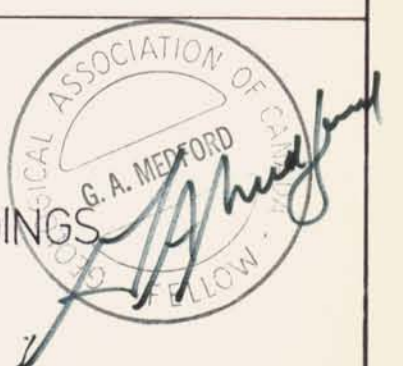
Magnetometer values. 57000 gammas+value shown



PACKARD RESOURCES LIMITED

CAYUSE CLAIM
KAMLOOPS M.D.

MAGNETOMETER READINGS



MAP 3

G.A. MEDFORD Geological Exploration Consulting