

2453

Geological, geophysical and geochemical report on POPPY CLAIM GROUP (Poppy Claims # 1FR, # 2, # 3, # 6, # 7, # 8, # 9, # 10 and # 11) situated in the Greenwood Mining Division, B.C., 3 miles ~~N~~ NW of Greenwood and approximately 3000' North of junction of Poppy Creek and Motherlode Creek

N.T.S. 82E/2W

Latitude 49°07'N; Longitude 119°⁸45⁶'W and owned by PECHINEY DEVELOPMENT LTD.

Field Work between June 2 and June 24, 1970.

Report by

J.P. Guelpa, Geologist
June 24, 1970

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2453 MAP.....

SUMMARY AND CONCLUSIONS

During the month of June 1970, the Poppy claim group, situated 3 miles NNW of Greenwood, staked in July 1969 by a crew of PECHINEY DEVELOPMENT LTD. in the neighbourhood of a copper showing, has been prospected and geological, geophysical (magnetometric) and geochemical (soil sampling) surveys were carried out.

The results show that copper mineralization is known in a small fracture inside the limestone formation close to the contact with sharpstone conglomerate. Although skarns are present, no copper mineralization has been found in these skarns.

Magnetometric and geochemical surveys do not indicate any valuable anomaly. Copper is present in soils in near normal concentration.

No further work is recommended on the Poppy claim group.

J.P. Guelpa, Geol.

A WORK DONE ON POPPY CLAIMS

A preliminary exploration program has been carried out by PECHINEY DEVELOPMENT LTD. on the POPPY GROUP during the month of June consisting of line cutting, geological mapping, and magnetic and geochemical surveys.

Normal access to the group of claims is by 4 wheel drive car from Greenwood.

I Line Cutting

Following a preliminary geological reconnaissance done previously in 1969, a line cutting has been performed in order to make mapping easier and to provide a grid for magnetic and geochemical surveys.

The grid covers chiefly the area supposed to be favorable for an eventual mineralization according to regional and local criterions, i.e. the roughly outlined area of skarn and conglomerate.

Tertiary volcanics and arkoses have not been fully covered ; being well known, they are of no interest as far as Cu mineralization is concerned.

The line cutting was executed by using a Topofil "Chaix". 13 lines have been done with a spacing of 400' and flags every 100'. 30.000 feet of lines have been flagged.

J.P. Guelpa, Geol.

II Geology of Poppy Claims (enclosed map # 2)

1. Description of Formations

Map Unit 1 - Conglomerate (1b)

The conglomerate can be either a massive rock without a conspicuous structure or a brecciated looking rock depending on the size and nature of fragments. The rock on fresh fractures is generally bluish to dark blue and weathered to brownish shades with rusty appearance on natural breakage plans.

It consists typically of smoky grey to white rounded to subangular fragments of chert reaching up to 10 mm in diameter but which happen to be so small that a magnifying glass is required for observation.

In some outcrops the rock is almost entirely composed of small chert fragments embedded in an abundant matrix of quartz and chlorite. Some epidote can be noticed here and there, and it is cut by thin quartz bearing veinlets.

Commonly together with the chert, the conglomerate includes shale and argillite slabs of larger size (up to a few inches) that are responsible for the fragmental appearance of most of the outcrops. Some fragments of igneous rocks have been observed too.

The conglomerate rarely shows a well defined bedding. Closely associated are lenses of argillite of various sizes ranging from a mere slab (as indicated above) to well individualized bodies of a few feet length; furthermore a few small mappable units can be outlined.

Argillites (1e)

They are fine-grained and range to extremely fine-grained more massive silstones. They are dark blue to black on fresh fractures and weathered to brownish shades.

Both conglomerate and argillites bear evidence of alteration, at least partly of metamorphic origin, since it is not uncommon to see in the aluminous material of argillites crystals of cordierite and possibly of andalusite. This is obviously due to the same cause which has produced replacement of limestone as indicated below.

Both conglomerate and argillite are always slightly magnetic and contain a fine mineralization of pyrite and minor chalcopyrite and/or mispickel.

Map Unit 2

On the conglomerate is lying conformably an important formation of limestone which has been nearly fully replaced by pyroxene - garnet-fluorite bearing skarn. The original limestone which is only preserved in a few lenses is a crystalline medium, a coarse-grained, white to cream coloured rock. It is massive most of the time, but large bedded limestone is exposed in some places. The skarn is a much denser massive rock whose colour varies according to the contents in pyroxene (green), garnet (green) and fluorite (yellow).

In some areas, it appears to be rich in epidote; wollastonite is sometimes found close to the preserved limestone. Bedding is observed in some places. The skarn is often invaded by veins of quartz and it happens to be roughly banded. This is, however, unusual. No obvious and continuous mineralization has been found inside the skarn.

A few lenses of sharpstone conglomerate of various size occur inside the limestone-skarn on different levels.

Map Unit 3

A few small outcrops belonging to the same dyke of quartz diorite have been found on claim Poppy # 7. It is a common biotite-hornblende-quartz diorite with an equigranular structure. Nevertheless, one of the outcrops shows a slight planar orientation of mafic minerals roughly conformable with the bedding of adjoining skarn. The relation between this dyke and the volcanics is not a crosscutting one which could be assumed at first sight, but the volcanics form here a thin blanketing partly covering the dyke.

Map Unit 4 - Arkose

The arkoses outcrop mainly on Poppy claim # 3. It is a medium to coarse-grained clastic rock holding lenses of coarser subconglomerate with quartz pebbles up to one inch.

Map Unit 5 - Andesitic and trachyandesitic flow

They are porphyritic trachytic to andesitic pink to grey with minor darker flows.

Phenocrysts are mostly feldspars, but phenocrysts of pyroxene are typical of some flows.

Intrusives

The arkoses and underlying formations are intruded by numerous syenite porphyry small dykes characteristically brownish to pink in colour with a fine crystalline groundmass and tabular to lath-like orthoclase crystals. This rock is referred to as "pulaskite". The dykes are trending NNE to NE.

2. Geological correlations

Following the study of regional geology the units mapped on the Poppy claims are easily correlated as follows:

1. The conglomerate with associated argillites appears to be the sharpstone conglomerate known elsewhere in the Greenwood map area.
2. Limestones and skarns deriving from them are obviously correlated with the limestones which elsewhere overlie conformably the sharpstone conglomerate.

3. The arkoses belong obviously to the Kettle River formation.
4. Porphyritic andesitic and trachyandesitic flows are known under the name of Marron formation.

TABLE OF FORMATIONS

Tertiary	{	6	Dykes of pulaskite
		5	Andesites and trachyandesite = Marron Formation
		4	Kettle River Arkoses
Jurassic	{	3	Dyke of quartz diorite
		2	Limestones and skarns
		1b	Sharpstone conglomerate
		1a	Black argillites

3. Structure

The sharpstone conglomerate and associated argillites trend northeasterly and dip to the NW with moderate values (30° to 50°).

The conglomerate is directly overlain by the limestone and skarn; the contact is conformable and even gradational in some places where the skarn holds small lenses of conglomerate. Between L. 44 and L. 48 8-9 NW there is a conspicuous gradation between silicified skarn turning from brownish to bluish shades and a fine pebbled conglomerate the matrix of which is largely siliceous.

It is well realized that this gradation is obviously due largely to the subsequent alteration; nevertheless, the conformability itself is not doubtful. Limestone and skarn have thus the same average altitude as the conglomerate, but some evidence of tectonic deformation appears, for there are variations in dip and even in strike at the upper part of the formation (North-East corner of Poppy claim # 8).

The arkoses trending North-East and dipping South-East are known to lie unconformably upon the Jurassic formations, but here the value of this unconformability is unknown, i.e. we don't know the altitude of the limestone underneath. Possibly it is roughly the same as where it outcrops and if so, the unconformability is high (Fig. # 1); possibly the limestone was forming here a small anticlinal ondulation and if so, the unconformability is likely low (Fig. # 2). At any rate, because of the subrectilinear drawing of formation outlines between conglomerate and arkose (west half) and chiefly between conglomerate and volcanics (east half), the contact is believed to be a dip-slip fault. Another reason for this interpretation is that - as far as we can judge from such a small area - the conglomerate truly indicates the bottom of the limestone and is not merely a lens inside it. It means that the hypothesis shown in Fig. # 3 is not satisfactory and either Fig. # 1 or Fig. # 2 has to be retained.

A fault trending NW following a creek for awhile put in anormal contact the formations and appears to be mainly a strike-slip fault younger than the NE trending fault which has been displaced together with the map units.

The problem of relationship between tertiary volcanics
and Jurassic limestones

The authors of regional geology have pointed out that the Kettle River arkose is a formation, the thickness of which varies greatly. Figures up to 3000' and 4000' have been suggested, although at the same time it was noticed that the apparent thickness could be much bigger than the true one because of repetitive normal faulting. In the Phoenix area the thickness in diamond drill holes proved to be not more than 150'.

The paper 67-42 from the GSC (Monger 1968) and the enclosed map at the scale of 1" = 1 mile indicates a fault which follows the Ingram Creek for awhile and then which is expected to be the contact volcanites-limestone in the NE corner of Poppy Claim # 7.

Actually, the detailed mapping as it can be seen from the map pattern excludes the possibility of a dip-slip fault. Theoretically the remaining possibility for a tectonic contact would be a flat late-tertiary thrust fault having thrust the volcanics ahead of the arkoses upon the limestone after a period of tertiary erosion. This, however, is entirely hypothetical and unlikely because of the relationship between outcrops and topography. Furthermore, at two different places, limestone and volcanics outcrop only a few feet apart from each other and there is no evidence at all for a faulted zone but only for a strong angular discordance between beds of limestone and flows of lavas.

J.P. Guelpa, Geol.

Thus it appears that the Kettle River arkoses are here absent; the limestone is directly overlaid by post arkose volcanics likely because of an original lack, unless enough time had passed between arkoses and volcanic periods to permit the former to be taken away by erosion.

The gathered data, however, are not incompatible with a very thin arkose formation south of the NE trending fault. In fact, the arkose appears to be roughly conformable with the steepness, and even if it outcrops south of Poppy # 2, its true thickness can be much reduced.

Furthermore, two small outcrops of limestone at the southwest corner of Poppy claim # 2 suggest a "window" through the arkoses which in this case would be really thin.

4. Mineralization

No noticeable mineralization has been discovered inside the skarns; nevertheless, a good showing exists in the non-replaced limestone.

This showing is located on Poppy # 6 in a fractured zone and consists of chalcopyrite plus bornite and chalcocite. The fracture trends north-east, but has not been traced for more than 50' eastwards whereas westwards it proved to be connected to an identical showing previously discovered on the adjoining property.

It has already been stated that the conglomerate and associated argillites always show a fine mineralization in pyrite mainly.

III. Geophysical Survey (enclosed map # 2)

A magnetic survey has been carried out on the Poppy Group according to the grid 400' x 100' using a fluxgate magnetometer MFI (manufactured by SHARPE).

348 measurements have been taken. The survey covers the area of skarns and pyrite mineralized conglomerate which is assumed to be favorable for mineralization. The isogams +400+450+500+550+600+700 have been drawn from the readings but no anomalous area has been found that is worth a more detailed survey. The only high reading +1000 is surrounded, in a radius of 50', by normal readings.

The survey only reveals that there is a coincidence appearing between the trend of most isogams and the strike of geological formations.

IV. Geochemical Survey (enclosed map # 3)

147 soil samples have been taken along the lines covering the more interesting area.

The sampling has been carried out by using a hand drill at a depth of one foot beneath the organic layer which is very thin here. The samples have been put in strong paper bags and sent to Crest Laboratories, Vancouver.

The analysis was made by the method of atomic absorption. Besides this analysis, no anomaly appears to be on the whole area close to normal crustal averages.

B COST OF WORK

I. Salary of Employees

This preliminary exploration program was carried out by myself with the help of a prospector whose name is Charles Teeple from Vancouver. He is a student working as a prospector during summer time for mining companies.

The salary of Charles Teeple amounts to \$ 450 a month and my salary is \$ 1200.

1. Line Cutting

The line cutting was executed by C. Teeple under my supervision. It took him 8 days (from June 2 to June 11) to achieve the work in pretty difficult field conditions (very steep hills, numerous wind-falls) using a "Topofil Chaix".

This work represents a cost of $8 \times 15 = \$ 120$.

2. Geology

Some topographic work was required for which the lines were used that had been cut in the meantime. It consisted mainly in drawing creeks and old logging roads to provide a mapping of outcrops as accurate as possible.

Detailed geological mapping and studying of formations relationship required 11 days of field work. The bed-rock outcrops pretty good except on Poppy claim # 3. Fortunately, this claim is most likely completely covered with arkoses and volcanics which are of little interest for us.

11 days of fieldwork (from June 3 to June 15) represent a cost of \$ 440.

3. Magnetic Survey

It took me 3 days of fieldwork to survey the area which means an expenditure of \$ 120 (June 16 - June 19).

4. Soil Sampling

Soil sampling was carried out by C. Teeple in four days of field work which represents a cost of \$ 60.

5. Miscellaneous

4 days of work were necessary to study the regional geology and to prepare maps and reports which will cost PECHINEY DEVELOPMENT LTD. \$ 160 (June 20 to June 24). In the meantime, C. Teeple assisted me in drafting and colouring maps which means an additional cost of \$ 30.

II. Other Expenses

a) Laboratory expenses

The soil samples were sent to Crest Laboratories, Vancouver, for Cu analysis. The costs for 147 samples amount to \$ 176 plus \$ 7 for the mailing of the samples.

b) Living expenses

During our stay in Greenwood for the purpose of assessment work, C. Teeple had room and board at the Greenwood Hotel and myself at the Supreme Motel. PECHINEY DEVELOPMENT LTD. will have to pay \$ 150 for C. Teeple and \$ 210 for myself for hotel accommodation.

III. The total amount spent by PECHINEY DEVELOPMENT LTD consequently comes to \$ 1473 for this preliminary exploration program.

APPENDIX I

GUELPA, Jean Paul: Doctor of Earth Science (3rd cycle) University of Lyon, France, 1966. Since graduation engaged in various phases of mineral exploration in Quebec with the "Ministère des Ressources Naturelles", and in B.C. with MOKTA CANADA LTD and at present with PECHINEY DEVELOPMENT LTD.

TEEPLE, Charles: Student. Previous experience in line cutting and soil sampling with WESTERN GEOLOGICAL SERVICES in Vancouver Island, B.C.

APPENDIX II

PHONE 688-8586

CREST LABORATORIES (B.C.) LTD.

B.C. REGISTERED ASSAYERS
INDUSTRIAL and RESEARCH CHEMISTS

1068 HOMER STREET
VANCOUVER 3, B.C.
June 24, 1970

Pechiney Development Ltd. (N.P.L.)
Suite 619 - 744 West Hastings Street
VANCOUVER 1, B.C.

Lot No. 236 G: Geochemical Analysis for Copper:

Mesh Size: -80
Analytical Method: Atomic Absorption
Digestion Method: HClO₄ - HNO₃

Sample Number:	Copper ppm	Sample Number:	Copper ppm	Sample Number:	Copper ppm
BL 8	36	BL 34	18	12 - 4SE	24
9	24	35	40	5SE	20
10	24	36	18	6SE	14
11	24	37	20	7SE ^R	12
12	26	38	28	8SE	8
13	22	39	52	9SE	16
14	26	40	16	16 - 2SE	12
15	22	41	20	3SE	16
16	18	42	16	4SE	14
20	22	43	14	5SE	18
21	32	44	10	6SE	32
22	32	45	14	7SE	6
23	44	46	12	8SE	12
24	20	47	12	20 - 6SE	12
25	22	48	14	7SE	12
26	20	8 - 4SE	16	8SE	22
27	32	5SE	16	9SE	50
28	22	6SE	18	10SE	22
29	22	7SE	12	24 - 4SE	24
30	20	8SE	12	5SE	24
31	10	9SE	8	6SE	16
32	14	10SE	8	7SE	10
33	16	12 - 3SE	20	8SE	20

Pechiney Development Ltd. (N.P.L.)

Lot No. 236 G

June 24, 1970

Page 2...

Sample Number:	Copper ppm	Sample Number:	Copper ppm	Sample Number:	Copper ppm
24 - 9SE	30	44 - 4SE	8	44 - 4NW	10
28 - 6SE	24	5SE	10	5NW	8
7SE	18	6SE	12	6NW	22
8SE	20	7SE	12	7NW	12
9SE	10	48 - 1SE	16	8NW	16
10SE	20	2SE	14	9NW	16
32 - 1SE	46	3SE	12	48 - 1NW	8
2SE	28	4SE	8	2NW	14
3SE	20	5SE	14	3NW	8
4SE	16	6SE	14	4NW	12
5SE	28	7SE	14	5NW	14
6SE	32	36 - 1NW	16	7NW	12
7SE	16	2NW	20	7NW	16
8SE	18	40 - 1NQ	12	8NW	13
9SE	12	2NW	18	9NW	14
40 - 1SE	8	3NW	18	10NW	14
2SE	10	4NW	18	11NW	10
3SE	12	5NW	16	12NW	14
4SE	12	6NW	8	36 - 1SE	40
5SE	10	7NW	32	2SE	20
6SE	10	8NW	20	3SE	52
7SE	12	9NW	22	4SE	40
44 - 1SE	12	44 - 1NW	12	5SE	20
2SE	10	2NW	12	6SE	26
3SE	10	3NW	12	7SE	14
				8SE	18

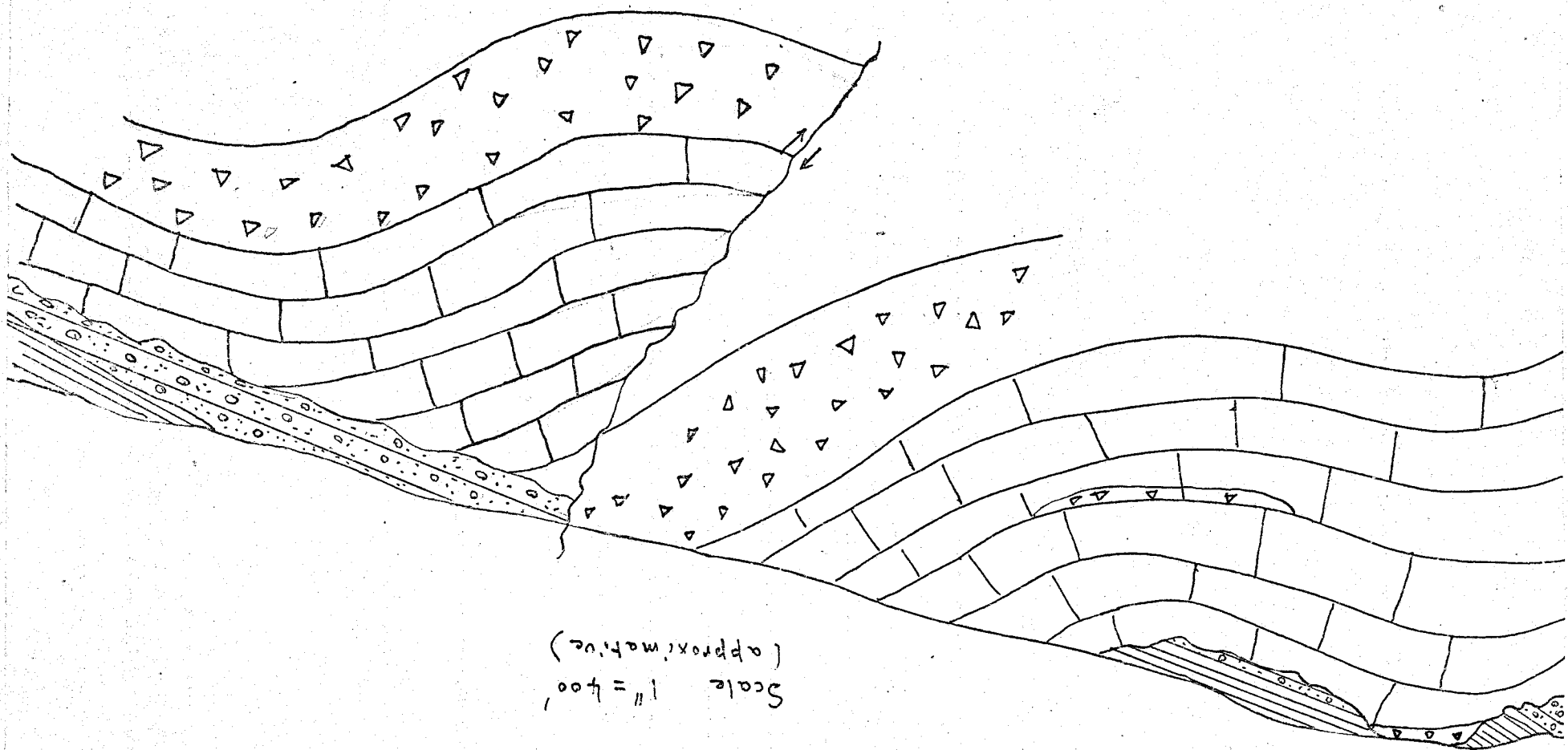
Yours truly,

CREST LABORATORIES (B.C.) LTD.






Bruce Graham

Bruce Graham
Chemist

cc: Mr. Guelpa Jean-Paul
c/o Supreme Motel
GREENWOOD, B.C.



Scale 1" = 400'
(approximate)

- | | | | |
|--|---|---|-----------------|
| <p>Tertiary volcanic</p> <p>Kettle River Arkose</p> | <p> 
  </p> | <p> 
  </p> | <p>Jurassic</p> |
| <p>  </p> | <p>Conglomerate and argillites</p> | | |

S.E.

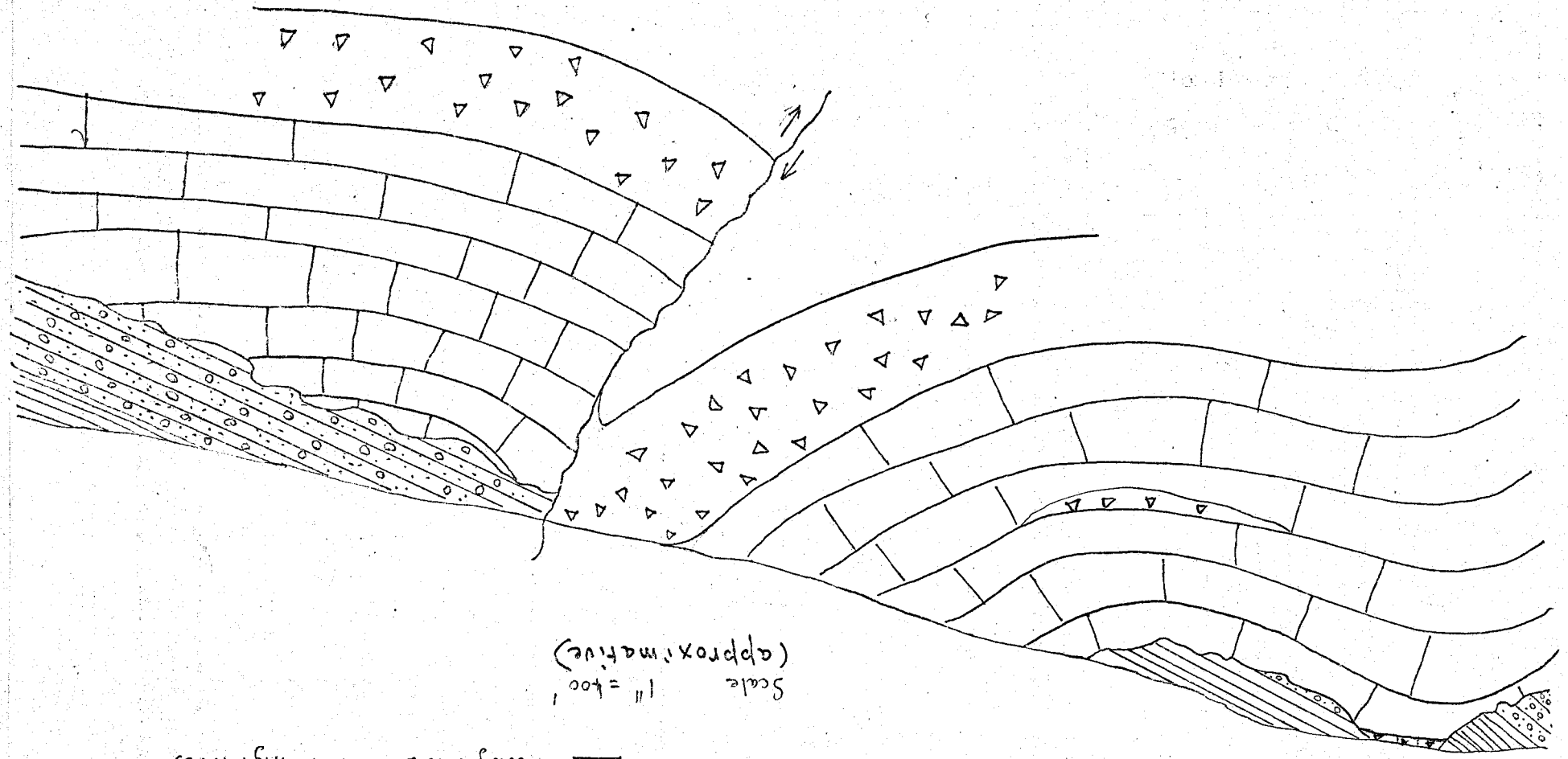
Interpretative cross section
Hypothesis #1

N.W.

Interpretative cross section

FIG. # 2 Hypothesis # 2

N.W.

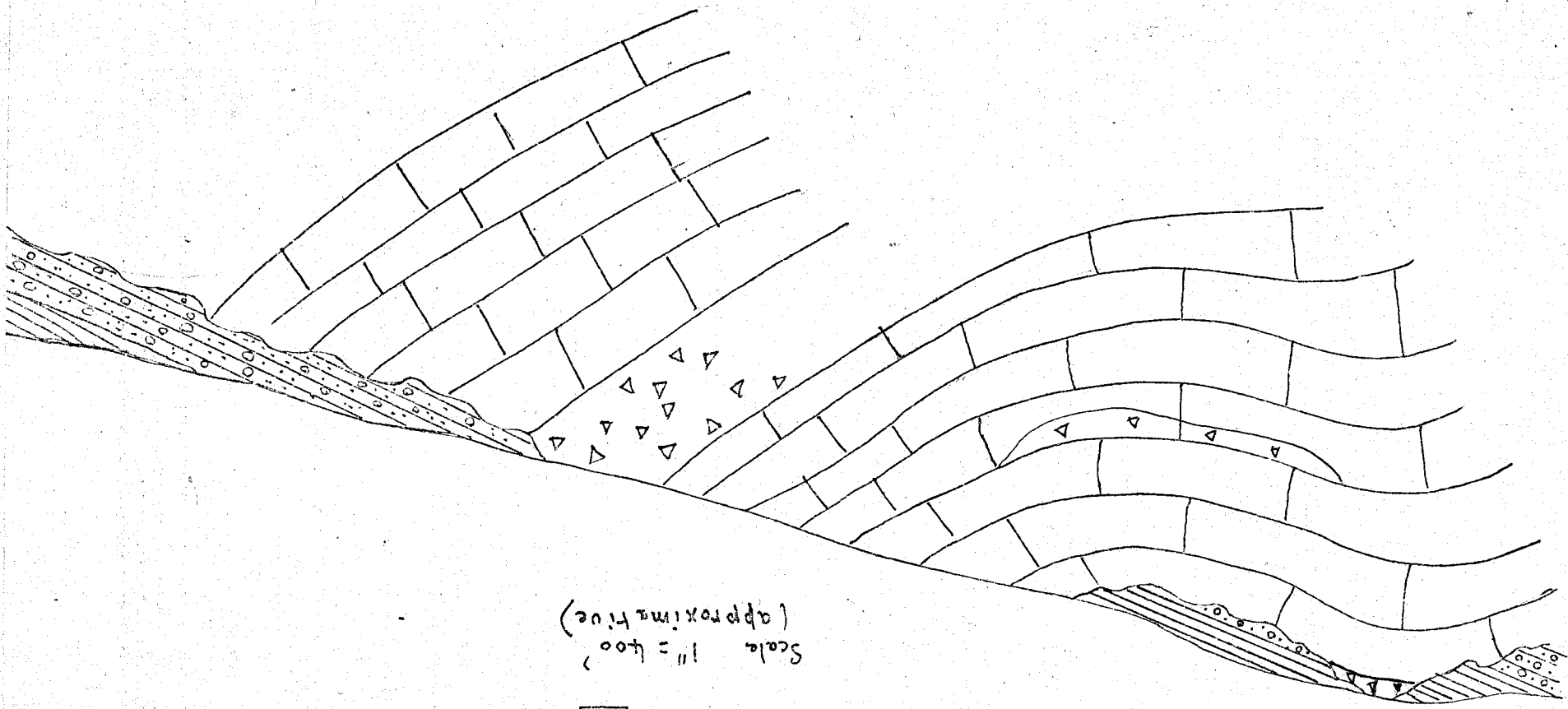


Scale 1" = 400'
(approximate)





- | | | |
|------------|--|---|
| } Tertiary | | Tertiary Volcanics |
| | | Kettle River Arkose |
| } Jurassic | | Conglomerate and Argillites |
| | | Limestone and siltstone with minor conglomerate |
| | | Interbedded lenses of siltstone conglomerate |

S.E.

Interpretative cross section
 Hypothesis #3 (not retained)
 N.W.



Scale 1" = 400' (approximate)

Tertiary		Tertiary volcanics
Jurassic		Kettle River Arkose
		Limestone and sharpstone conglomerate with S.F. minor interbedded lenses of argillites
Jurassic		Conglomerate and argillites

POPPY CLAIMS




LOCATION OF POPPY GROUP

Scale 1:50,000

Author : J.P. GUELPA

Date : June 24, 1970

LEGEND

-  Creeks
-  Access to Poppy claims
-  Highway #3

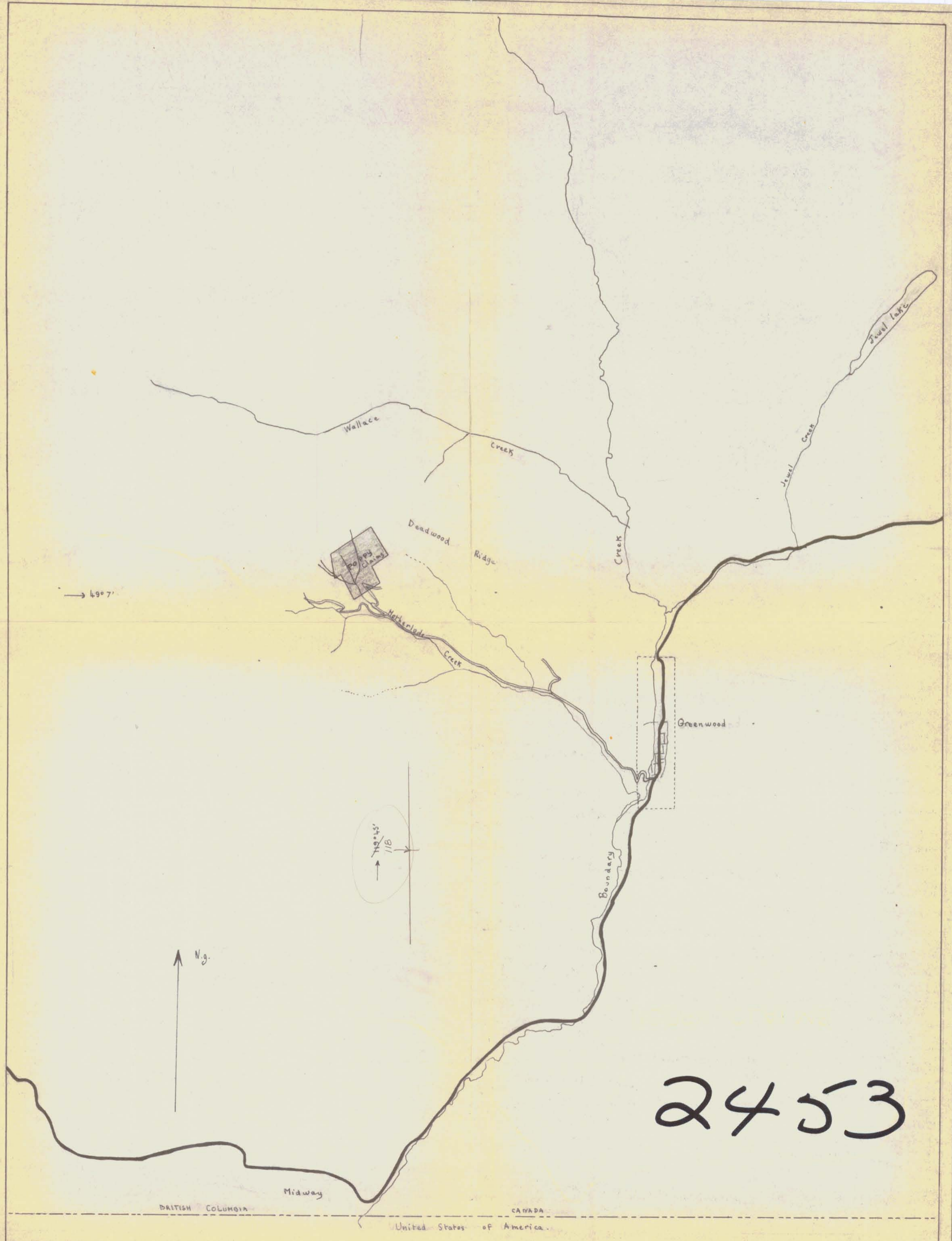
Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 2453 MAP #4

To accompany geological report by Jean-Paul GUELPA, geologist
 on the Poppy Group (Poppy claims No. 1FR, 2, 3, 5, 7, 8, 9, 10, 11)
 North-west of Mother Lode creek.

Greenwood Mining Division, dated June 24, 1970

J.P. Guelpa, geologist

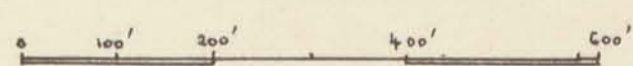
J.P. Guelpa



POPPY CLAIMS

GEOLOGY

SCALE : 1" = 200'



AUTHOR : J.P. GUELPA

DATE : JUNE 24th, 1970

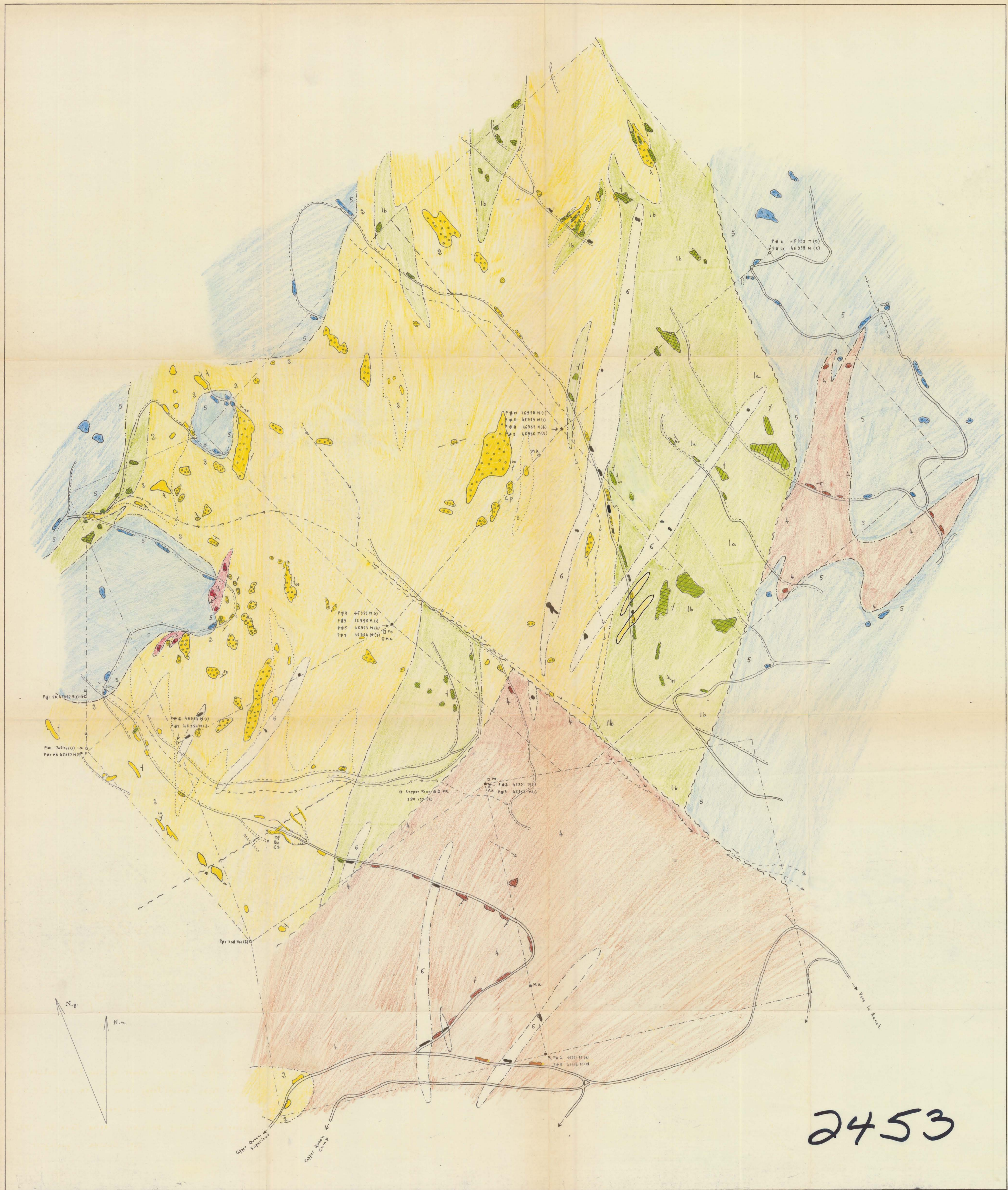
LEGEND

- TERTIARY**
 - 6 Polaskite dykes
 - 5 Andesitic and Trachyandesite, Merron formation
 - 4 Kettle River arkose
 - 3 Dyke of Quartz diorite
- JURASSIC**
 - 9 Limestone and skarn
 - 8 Sharpstone conglomerate
 - 7 Argillites associated with sharpstone conglomerate
- Formation outlines
- Inferred petrographic facies outlines (limestone-skarn and conglomerate-argillites)
- Creek
- Logging Road
- old logging road (no more drivable)
- Claim boundary
- Claim post
- Fault
- Bedding Joint
- Mineralisation Cu
- Cp Chalcopyrite
- Bo Bornite
- Cs Chalcocite

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2453 MAP #5

To accompany geological report by Jean-Paul GUELPA, geologist on the Poppy group (Poppy claims Nr. 1FR, 2, 3, C, 7, 8, 9, 10, 11) North West of Mother Lode Creek.
Greenwood Mining Division, dated June 24, 1970
J.P. Guelpa, geologist.

J.P. Guelpa

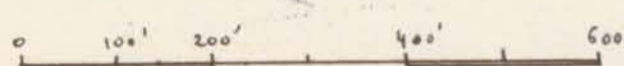


2453

POPPY CLAIMS

GEOCHEMISTRY
GRID MAP
CLAIMS NAMES

Scale : 1" = 200'



Author : J.P. GUELPA

Date : June 24, 1970

LEGEND

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **2453** MAP #7

60 > ● > 50 ppm.

50 > ● > 30 ppm.

30 > ● > 10 ppm.

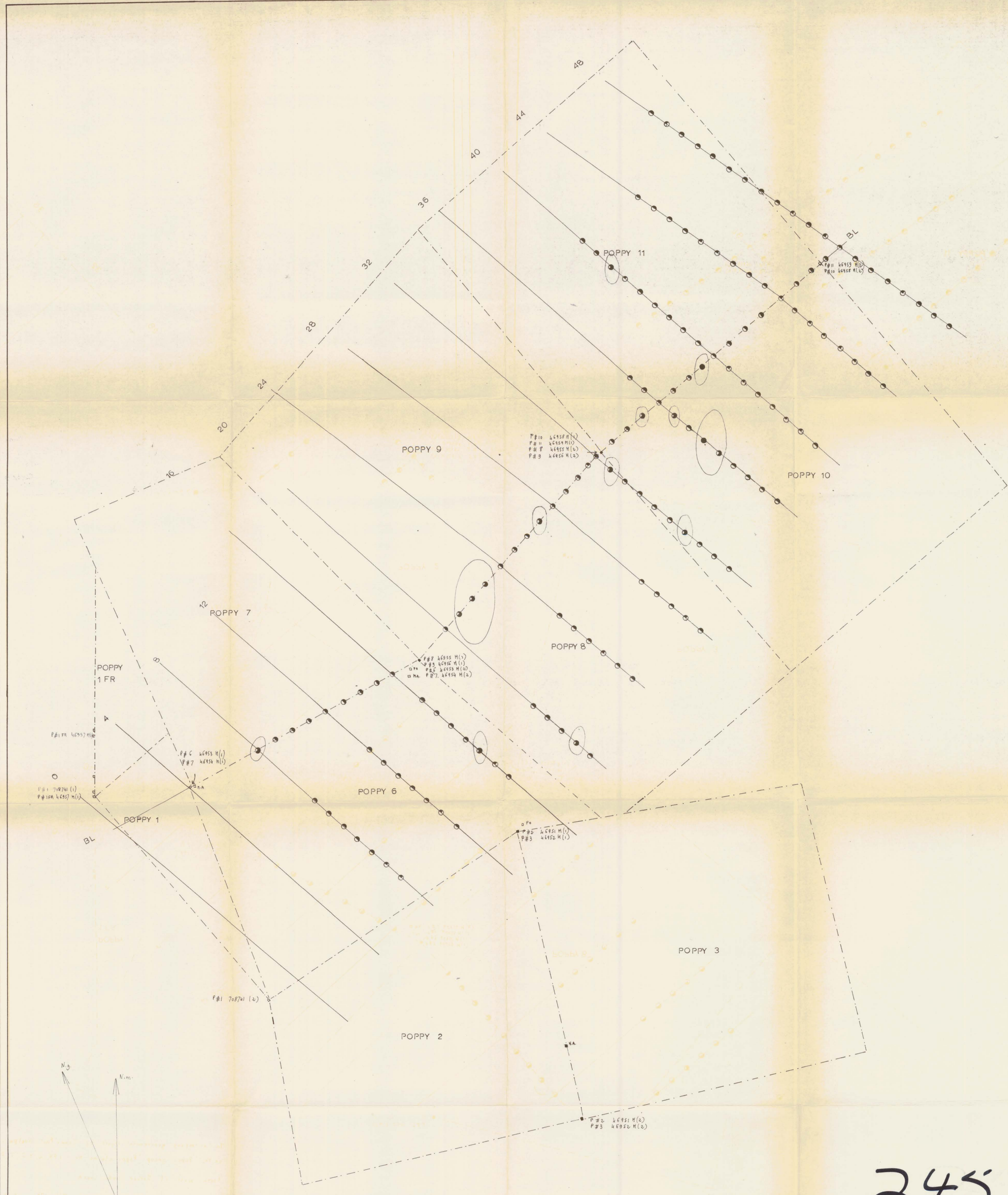
10 > ●



area with reading > 30 ppm.

To accompany geochemical report by Jean-Paul Guelpa, geologist
on the Poppy group (Poppy claims Nr. 1FR, 2, 3, 6, 7, 8, 9, 10, 11)
North-West of Mother Lode Green
Greenwood Mining Division, dated June 24, 1970

J.P. Guelpa, geologist



2453

POPPY CLAIMS

MAGNETISM

Scale : 1" = 200'



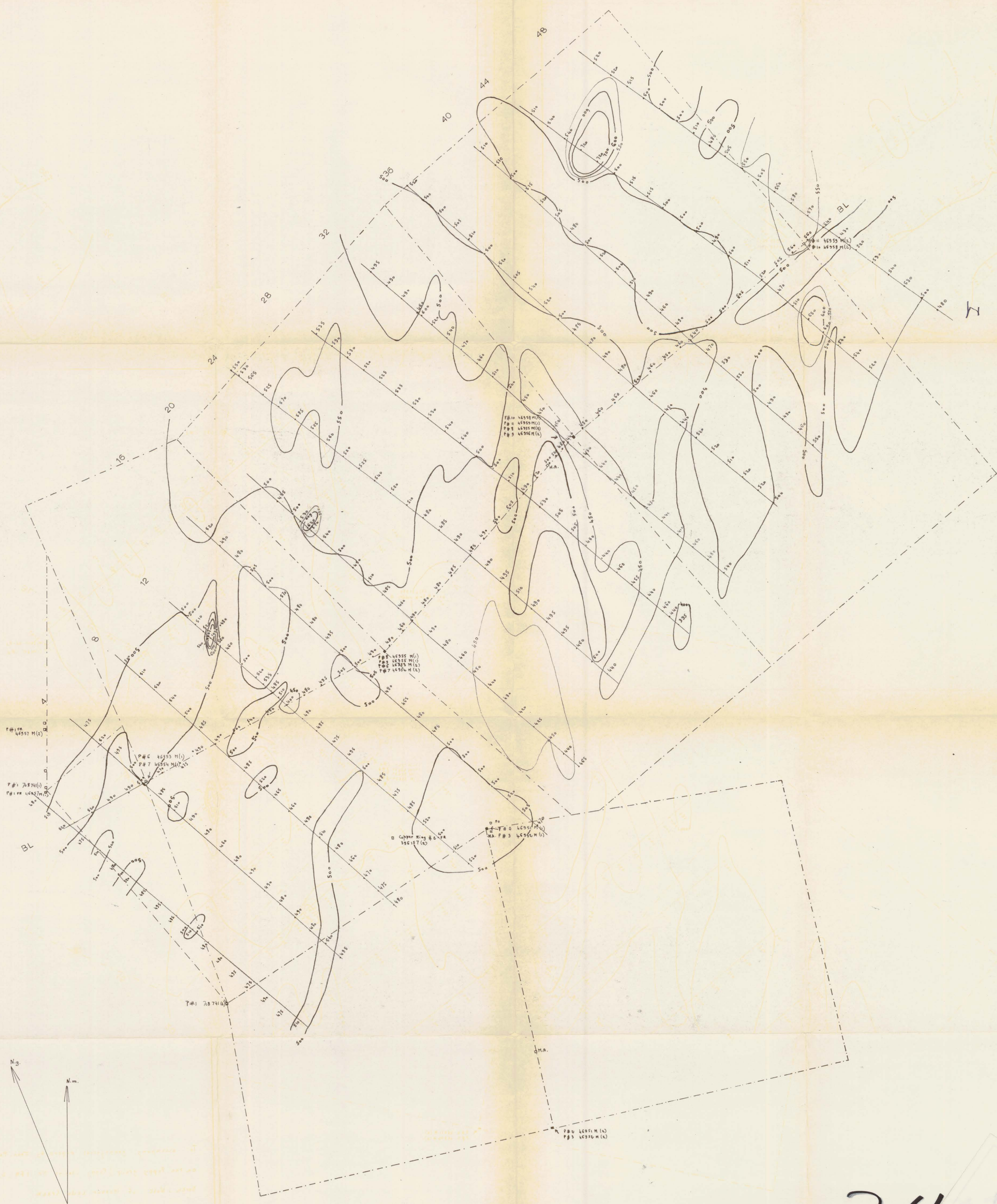
Author : J.P. GUELPA

Date : June 24, 1970

LEGEND

Isogams : +1000, +700, +600, +550, +500, +450, +400.

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 2453 MAP #6



To accompany geophysical report by Jean-Paul GUELPA, geologist
 on the Poppy group (Poppy Claims Nr. 1FR, 2, 3, 6, 7, 8, 9, 10, 11)
 North-West of Mother Lode Creek
 Greenwood Mining division, dated June 24, 1970
 J.-P. GUELPA, geologist

J.P. Guelpa
J.P. Guelpa

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