

COMINCO LTD.

EXPLORATION

NTS 105 G/7

WESTERN DISTRICT

1994 ASSESSMENT REPORT

HOT PROPERTY

GEOLOGICAL MAPPING

WATSON LAKE M.D., YUKON

PELLY MOUNTAINS AREA

WORK PERIOD

JULY 17, 1994



APRIL, 1995

PAUL A. MacROBBIE

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FIGURE 2 CLAIM MAP (1:10,000)

FIGURE 3 GEOLOGY and GEOCHEMISTRY MAP (1:10,000)

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 1100.

M. Bunker

for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

**1994 ASSESSMENT REPORT
HOT PROPERTY, YUKON TERRITORY**

1. SUMMARY

The HOT property is located 15 kms southwest of Cominco's ABM deposit, west of Big Campbell Creek in the Grass Lakes area, approximately 30 kms southwest of Finlayson Lake and 100 kms southeast of Ross River.

The property was staked to cover airborne geophysical targets identified during a Cominco survey conducted in early 1994.

The rocks underlying this part of southeastern Yukon have been assigned to 2 terranes: the Yukon-Tanana Terrane (YTT) and the Slide Mountain Terrane (SMT). The YTT consists primarily of a layered sequence of metamorphosed rocks comprising a "*lower unit*" of pre-Devonian quartzite, pelitic schist and minor marble, a late Devonian to mid-Mississippian "*middle unit*" comprising carbonaceous phyllite and schist with interbanded mafic and, locally significant, felsic metavolcanics, and an "*upper unit*" of Pennsylvanian marbles and quartzite. Volcanism within the "*middle unit*" was accompanied by the intrusion of 2-3, late Devonian to Mississippian, mafic to felsic metaplutonic suites. Felsic volcanics of the middle unit are host to Cominco's ABM VHMS deposit.

The property is underlain by a mixed metasedimentary package of light to dark grey, banded, quartz-feldspar-biotite-muscovite gneisses/schists and dark green, calcareous amphibolite gneisses with minor, thin marble interbands intruded by quartz-feldspar porphyritic orthogneisses. The quartz-feldspar porphyritic orthogneisses are on strike of, and likely equivalent to, similar Devono-Mississippian porphyrys and orthogneisses found on the Kudz Ze Kayah property to the northeast.

Weak mineralization appears confined to white, coarse-grained, skarned marble interbands comprising diopside-garnet + sphalerite-galena and calcareous metasediments comprising thin calc-silicate-amphibole-biotite + pyrrhotite schists interbanded with white to grey, weakly calcareous quartzites.

No indications of the presence of felsic metavolcanics or base metal mineralization of a VHMS style were found. Still, minor soil geochemistry sampling can be contemplated for this property.

2. LOCATION AND ACCESS

The HOT property is located northeast of the Tintina Fault and west of Big Campbell Creek in the Grass Lakes area, 15 kms southwest of Cominco's ABM deposit, approximately 30 kms southwest of Finlayson Lake and 100 kms southeast of Ross River (Figures 1 and 2). The gravel, all-weather Robert Campbell Highway provides access to within 30 kms of the property. Direct access is by helicopter.

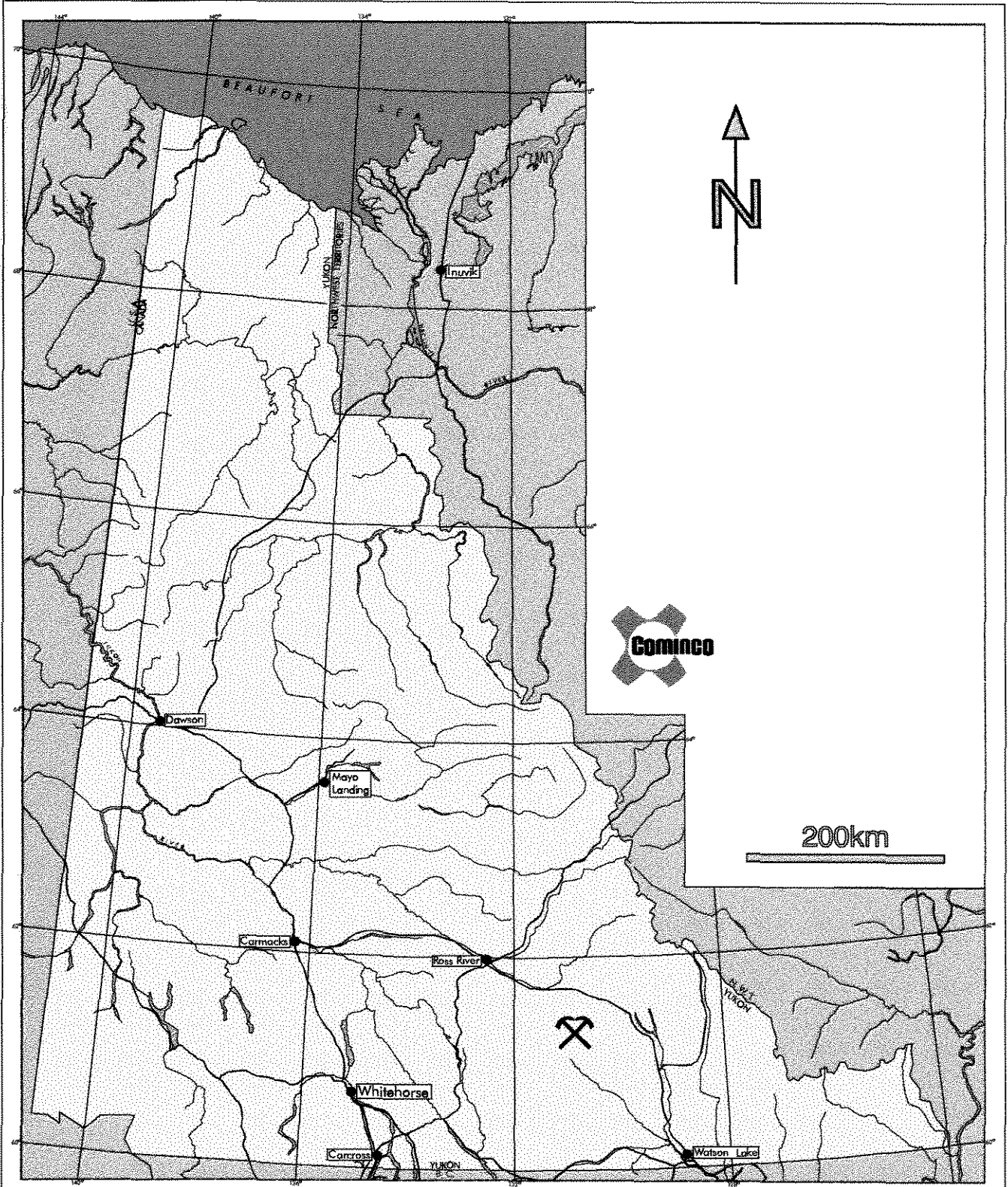
3. PROPERTY AND OWNERSHIP

The HOT property, totalling 18 units due June 22, 1995 (Figure 2), is 100% owned by Cominco Ltd.

<u>NAME</u>	<u>UNITS</u>	<u>CLAIM NO.</u>	<u>DUE DATES</u>
HOT 1-18	18	YB49632-9649	June 22/95

4. PREVIOUS WORK

No previous work by Cominco, other than broad heavy mineral stream sediment sampling of the immediate property drainage in 1977, has been done in the property area.



Drawn by:		Traced by: a. m. a.	
Revised by:	Date:	Revised by:	Date:

**HOT
PROPERTY LOCATION**

105 G/7

Scale: As Shown

Date: April, 1995

Plate: 1

Several showings are located in the vicinity of the HOT property. Minfile #31 (Rob) comprise several showings apparently located 1-2 kms south of the present property. This area along with the Pit showings (Minfile #30), located about 3 kms to the west, were initially staked by Pelly River Mines in 1955 and optioned to Brikon Exploration, which conducted a ground magnetic survey in that same year. The property lapsed and was restaked by Northlake Mines in 1966 (including Minfile #67; Lawn) following an airborne geophysical survey. Northlake conducted grid soil geochemistry sampling, mapping, trenching and an EM survey. No work was recorded and the ground lapsed. The property covered chloritic schists containing several pyritic gossans. Float of massive pyrrhotite-chalcopyrite and massive arsenopyrite veins which assayed trace Au and 68.6 g/t Ag, proximal to an intrusive contact, are reported. Northlake reports veins of pyrite, pyrrhotite and trace galena and a showing comprising a 30 cm thick "quartzite" containing disseminated chalcopyrite and pyrite.

5. 1994 WORK GEOLOGICAL MAPPING

On July 17, 1994, 1:10,000 scale geological mapping and prospecting was carried out by A.B.Mawer (Figure 3).

6. REGIONAL GEOLOGY

The rocks underlying this part of southeastern Yukon have been assigned to 2 terranes: the Yukon-Tanana Terrane (YTT) and the Slide Mountain Terrane (SMT) (Mortensen, 1983a; Mortensen and Jilson, 1985).

The YTT consists primarily of a layered sequence of metamorphosed rocks comprising a "lower unit" of pre-Devonian quartzite, pelitic schist and minor marble, a late Devonian to mid-Mississippian "middle unit" (3F) comprising carbonaceous phyllite and schist with interbanded mafic and, locally significant, felsic metavolcanics (3G), and an "upper unit" of Pennsylvanian marbles and quartzite. Volcanism within the "middle unit" was accompanied by the intrusion of 2-3, late Devonian to Mississippian, mafic to felsic metaplutonic suites (Simpson Range suite and augen and monzonitic orthogneisses). This sequence appears to reflect stable platformal or shelf sedimentation with an intervening period of mafic to felsic arc volcanism developed within a more reduced basinal setting.

A subhorizontal to moderately north to northeast dipping, penetrative ductile deformation fabric (S2) and associated middle greenschist facies (chlorite-biotite grade) metamorphism affects all YTT rocks. This fabric reflects the first, and most significant, deformational and metamorphic event (D1) perhaps related to a continent-arc collision during late Permian to early Triassic time.

The late Devonian to Triassic SMT comprises a heterogenous package of mafic to ultramafic plutonic rocks, mafic volcanics, massive carbonate and chert. This sequence was structurally emplaced as thrust bounded klippen on YTT rocks or as thrust slices imbricated within YTT rocks during a period of crustal shortening (D2). The SMT is thought to represent a disrupted oceanic crust and volcanic arc assemblage thought to be located between the YTT and ancestral North America(?).

Late Triassic immature clastics comprising micaceous argillite, siltstone and sandstone unconformably(?) overlie the deformed and metamorphosed YTT rocks. These sediments are often closely associated with SMT volcanics and are invariably in fault contact with YTT rocks.

The SMT, Late Triassic sediments and Late Triassic to Middle Jurassic plutons are all affected by a period of thrust faulting (D2) during the Jurassic.

7. PROPERTY GEOLOGY

The property area was mapped as being underlain by late Devonian to Mississippian monzonitic orthogneisses (3L) (Mortensen, 1983a).


Outcrop exposure on the property is poor (Figure 3), restricted to a few outcrops in the main creek and well exposed cliffs along either ridge. Although mapped regionally as monzonitic orthogneisses, the property is in fact underlain by a mixed metasedimentary package of light to dark grey, banded, quartz-feldspar-biotite-muscovite gneisses/schists and dark green, calcareous amphibolite gneisses with minor, thin marble interbands intruded by quartz-feldspar porphyritic orthogneisses.


Weak mineralization occurs as skarned interbands of diopside-garnet+sphalerite-galena confined to white,coarse-grained marbles and calcareous metasediments hosted within a sequence of thin calc-silicate-amphibole-biotite+pyrrhotite schists interbanded with white to grey, weakly calcareous quartzites.

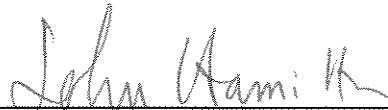
8. CONCLUSIONS and RECOMMENDATIONS

The property is underlain by a package of metasedimentary gneisses and schists intruded by quartz-feldspar porphyritic orthogneisses. These intrusives are on strike of, and likely equivalent to, similar Devonian-Mississippian porphyrys and orthogneisses found on the Kudzu Ze Kayah property to the northeast.

No indications of the presence of felsic metavolcanics or base metal mineralization of a VHMS style were found. Minor soil geochemistry sampling can be contemplated for the property in 1995.

Report by: 
P.A. MacRobbie, P. Geo
Geologist

Endorsed by: 
D. Rhodes,
Senior Geologist

Approved for
Release by: 
J.M. Hamilton
Manager, Exploration
Western Canada

PAM/

DISTRIBUTION:
W.D. Files
Administration Files

REFERENCES

- MORTENSEN, J. K., 1983a. AGE AND EVOLUTION OF THE YUKON-TANANA TERRANE, SOUTHEASTERN YUKON TERRITORY [Ph.D. Thesis]; Santa Barbara, University of California, 155 p.
- MORTENSEN, J. K. AND JILSON, G. A., 1985. EVOLUTION OF THE YUKON-TANANA TERRANE : EVIDENCE FROM SOUTHEASTERN YUKON TERRITORY; *Geology*, 13, p. 806-810.

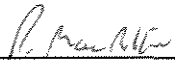
APPENDIX 1
STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Paul A. MacRobbie, of 11164 Southridge Rd., Delta, B.C. hereby declare that I:

1. Graduated from Carleton University, Ottawa, Ontario with a B.Sc. in Geology in May, 1986 and a M.Sc. in Geology in June, 1988.
2. Have been actively engaged in mineral exploration in Western Canada as a permanent geologist with Cominco Ltd. since June, 1988.
3. Am a registered member of The Association of Professional Engineers and Geoscientists of the Province of British Columbia.

Date: April 10, 1995



P.A MacROBBIE, P.Ge
GEOLOGIST

APPENDIX 2
STATEMENT OF EXPENDITURES

HOT PROPERTY

STAFF COSTS	600
DOMICILE	109
GEOCHEMISTRY	-
HELICOPTER	360
COMMUNICATIONS	11
TRUCK RENTAL	24
EXPEDITING	15
DRAFTING	72
TOTAL	1,191

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS 105 G/7

1994 ASSESSMENT REPORT

HOT PROPERTY

GEOLOGICAL MAPPING

WATSON LAKE M.D., YUKON

LAT: 61°25'

LONG: 130°55'

PELLY MOUNTAINS AREA

WORK PERIOD

JULY 17, 1994

APRIL, 1995


PAUL A. MacROBBIE

STATEMENT OF QUALIFICATIONS

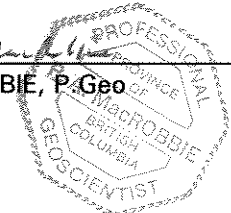
I, Paul A. MacRobbie, of 11164 Southridge Rd., Delta, B.C. hereby declare that I:

1. Graduated from Carleton University, Ottawa, Ontario with a B.Sc. in Geology in May, 1986 and a M.Sc. in Geology in June, 1988.
2. Have been actively engaged in mineral exploration in Western Canada as a permanent geologist with Cominco Ltd. since June, 1988.
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Date: April 10, 1995



P.A MacROBBIE, P. Geo
GEOLOGIST



MAP NO:105G/7

ASSESSMENT REPORT: X

DOCUMENT NO: 093332

PROSPECTUS:

MINING DISTRICT: Watson Lake

CONFIDENTIAL: X

TYPE OF WORK: Geological
mapping

OPEN FILE:

REPORT FILED UNDER: Cominco Ltd.

DATE PERFORMED: July 17, 1994

DATE FILED: June 23, 1995

LATITUDE: 61 25

AREA: Pelly Mountains

LONGITUDE: 130 55

VALUE: \$1100

CLAIM NAME AND #: Hot 1-18

WORK DONE BY: Paul MacRobbie

WORK DONE FOR: Cominco Ltd.

DATE TO GOOD STANDING	REMARKS: The property is underlain by a mixed package of metasedimentary rocks. Minor skarn mineralization was found.

1994 ASSESSMENT REPORT

HOT PROPERTY

GEOLOGICAL MAPPING

WATSON LAKE M.D., YUKON

LAT: 61°25'

LONG: 130°55'

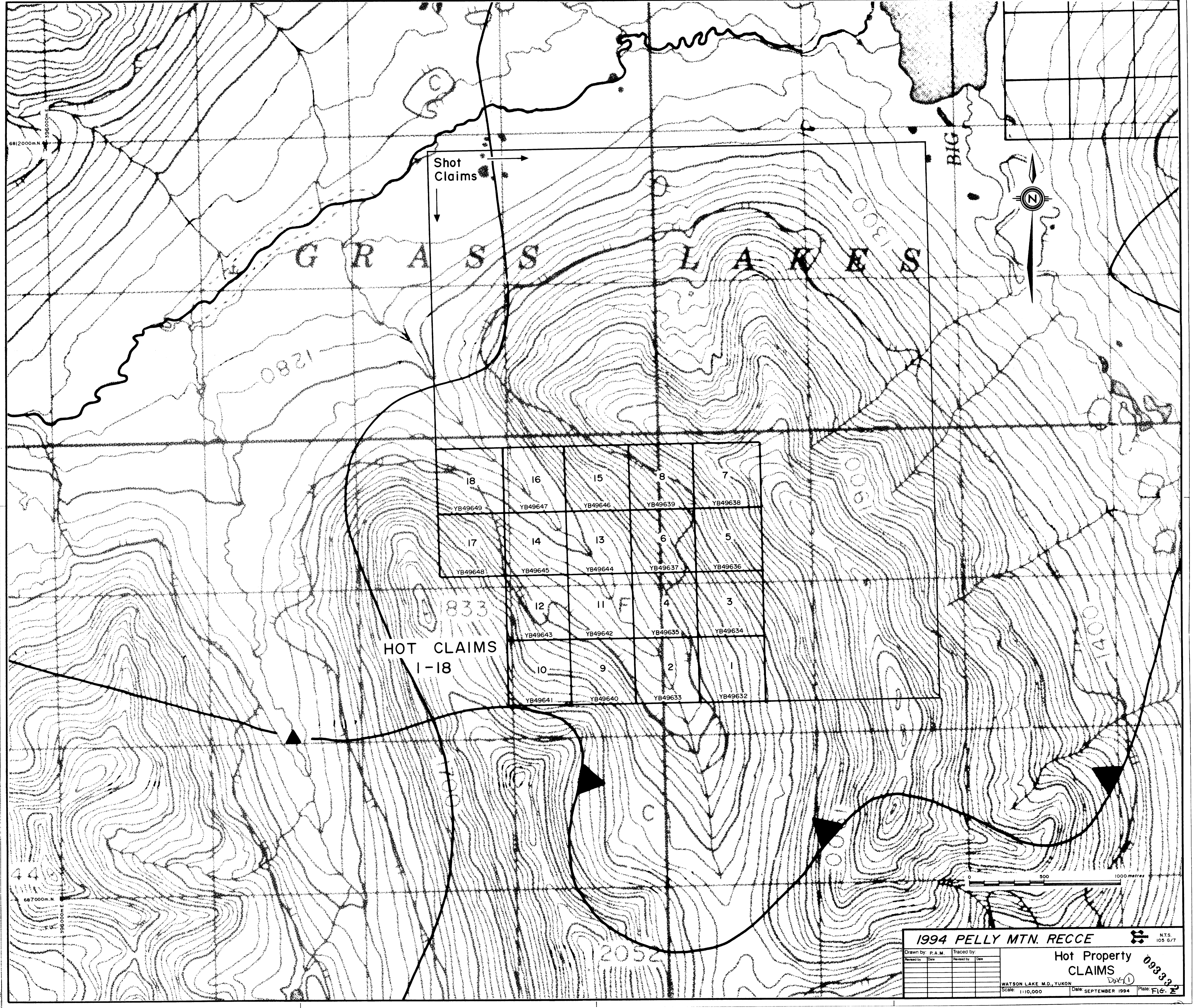
PELLY MOUNTAINS AREA

WORK PERIOD

JULY 17, 1994

APRIL, 1995

093332
093332
PAUL A. MacROBBIE



Shot Claims

GRASS LAKE

BIG

HOT CLAIMS
1-18

18 YB49649	16 YB49647	15 YB49646	8 YB49639	7 YB49638
17 YB49648	14 YB49645	13 YB49644	6 YB49637	5 YB49636
	12 YB49643	11 YB49642	4 YB49635	3 YB49634
	10 YB49641	9 YB49640	2 YB49633	1 YB49632

0 500 1000 metres

1994 PELLY MTN. RECCE NTS.
105 6/7

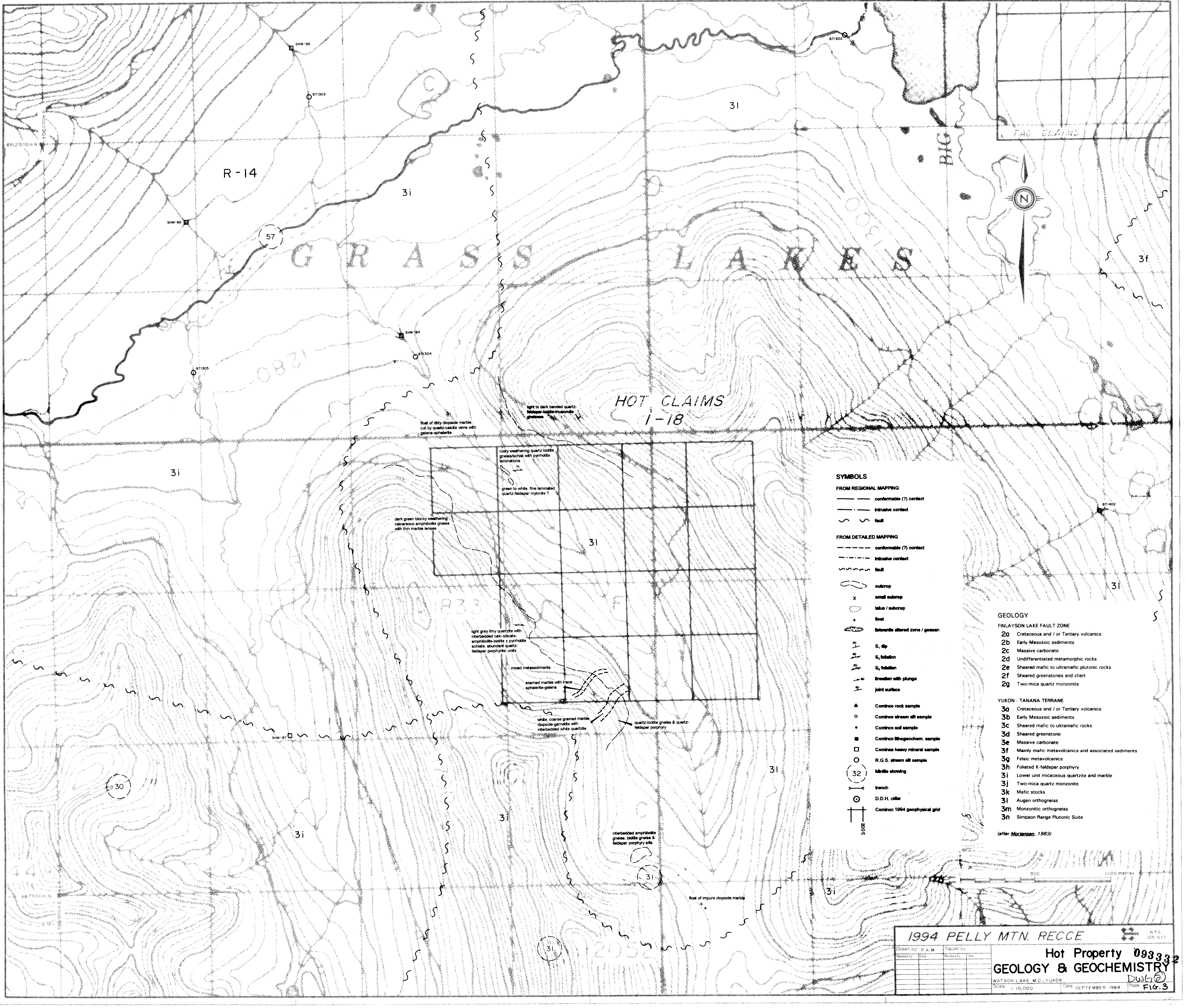
Drawn by: P.A.M.	Traced by:
Revised by: _____	Revised by: _____
Date: _____	Date: _____

Hot Property CLAIMS

WATSON LAKE M.D., YUKON Dyk 1

Scale: 1:110,000 Date: SEPTEMBER 1994 Plate: FIG. 2

09332



R-14

31

TAG CLAIMS

57

GRASS LAKES

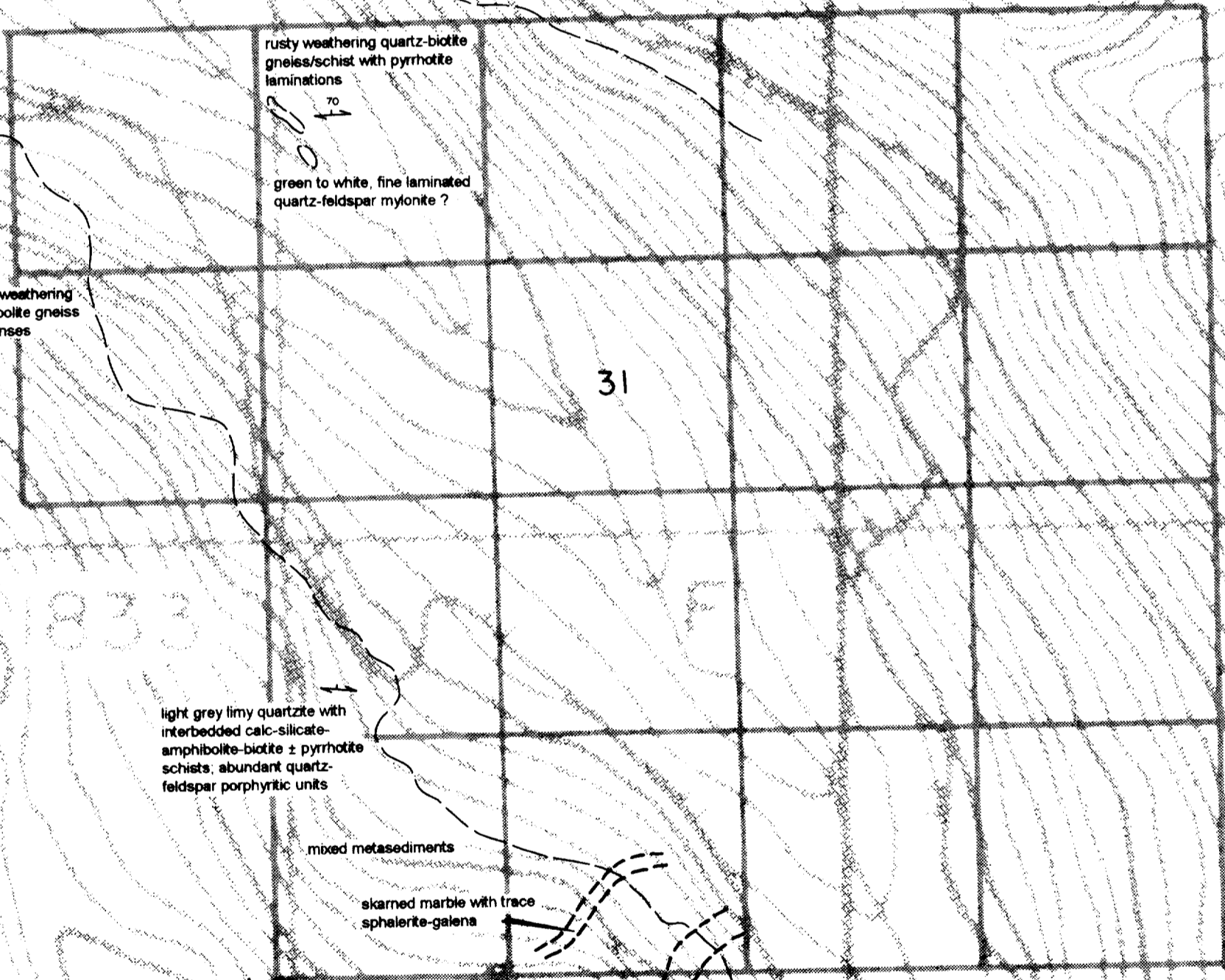
3i



3f

HOT CLAIMS
1-18

3i



SYMBOLS

FROM REGIONAL MAPPING

- conformable (?) contact
- intrusive contact
- ~ fault

FROM DETAILED MAPPING

- conformable (?) contact
- intrusive contact
- ~ fault
- o outcrop
- x small outcrop
- o lake / outcrop
- o float
- o laterally altered zone / gossan
- S₁ dip
- S₂ foliation
- S₃ foliation
- inversion with plunge
- joint surface

GEOLOGY

- FINLAYSON LAKE FAULT ZONE**
- 2a Cretaceous and / or Tertiary volcanics
 - 2b Early Mesozoic sediments
 - 2c Massive carbonate
 - 2d Undifferentiated metamorphic rocks
 - 2e Sheared mafic to ultramafic plutonic rocks
 - 2f Sheared greenstones and chert
 - 2g Two-mica quartz monzonite
- YUKON - TANANA TERRANE**
- 3a Cretaceous and / or Tertiary volcanics
 - 3b Early Mesozoic sediments
 - 3c Sheared mafic to ultramafic rocks
 - 3d Sheared greenstone
 - 3e Massive carbonate
 - 3f Mainly mafic metavolcanics and associated sediments
 - 3g Felsic metavolcanics
 - 3h Foliated K-feldspar porphyry
 - 3i Lower unit micaceous quartzite and marble
 - 3j Two-mica quartz monzonite
 - 3k Mafic stocks
 - 3l Augen orthogneiss
 - 3m Monzonitic orthogneiss
 - 3n Simpson Range Plutonic Suite

(after Mortensen, 1983)

(32)

trench

D.D.H. collar

Cominco 1994 geophysical grid

1994 PELLY MTN. RECCE

Drawn by	P.A.M.	Traced by	
Revised by		Revised by	
Date		Date	

Hot Property 093332
GEOLOGY & GEOCHEMISTRY
 WATSON LAKE, M.D., YUKON
 SCALE 1:10,000 Date: SEPTEMBER 1994 Plate: FIG. 3