COMINCO LTD.

EXPLORATION
NTS 105 G/7 & G/10

WESTERN DISTRICT

093129

1996 ASSESSMENT REPORT

MAJOR PROPERTY

GEOLOGICAL MAPPING/PROSPECTING AND GEOCHEMISTRY

WATSON LAKE M.D., YUKON

PELLY MOUNTAINS AREA

WORK PERIOD

JUNE 15, 1996

LATITUDE: 61°30'

LONGITUDE: 130°45'

AUGUST, 1997

VICTORIA L. BANNISTER

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 $ 800.00.

M. Burke

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

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Cominco Ltd.

Exploration
NTS: 105 G/7 &G/10

Western Canada
August, 1997

1996 ASSESSMENT REPORT
MAJOR PROPERTY, YUKON TERRITORY

1.0 SUMMARY

The MAJOR property, comprising 15 units, is located northwest (8 kms) of Cominco's ABM VHMS deposit, approximately 25 kms west of Wolverine Lake, 20 kms south of Finlayson Lake and 120 kms southeast of Ross River.

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

The rocks underlying this area of the Yukon are assigned to two terranes; the Yukon Tanana Terrane (YTT) and what may be Slide Mountain Terrane material (Mortensen, 1983a; Mortensen and Jilson, 1985). The YTT consists 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*" comprised of carbonaceous phyllite and schist with interbanded mafic and, locally significant felsic metavolcanics, and an "*upper unit*" of Pennsylvanian marbles and quartzites. Volcanism within the "*middle unit*" was accompanied by the intrusion of late Devonian to Mississippian, mafic to felsic metaplutonic suites. Felsic volcanics of the "*middle unit*" are host to Cominco's ABM VHMS Deposit. The Slide Mountain Terrane is comprised of sheared mafic and ultramafic rocks and minor associated sediments forming discontinuous lenses and klippen ranging from metres to kilometres in dimension.

Work completed on the MAJOR property in 1996 included one day of mapping, and one day of prospecting. Results of geochemistry based on both mapping and prospecting generated a few anomalous zinc samples but nothing to suggest further intense mapping or sampling.

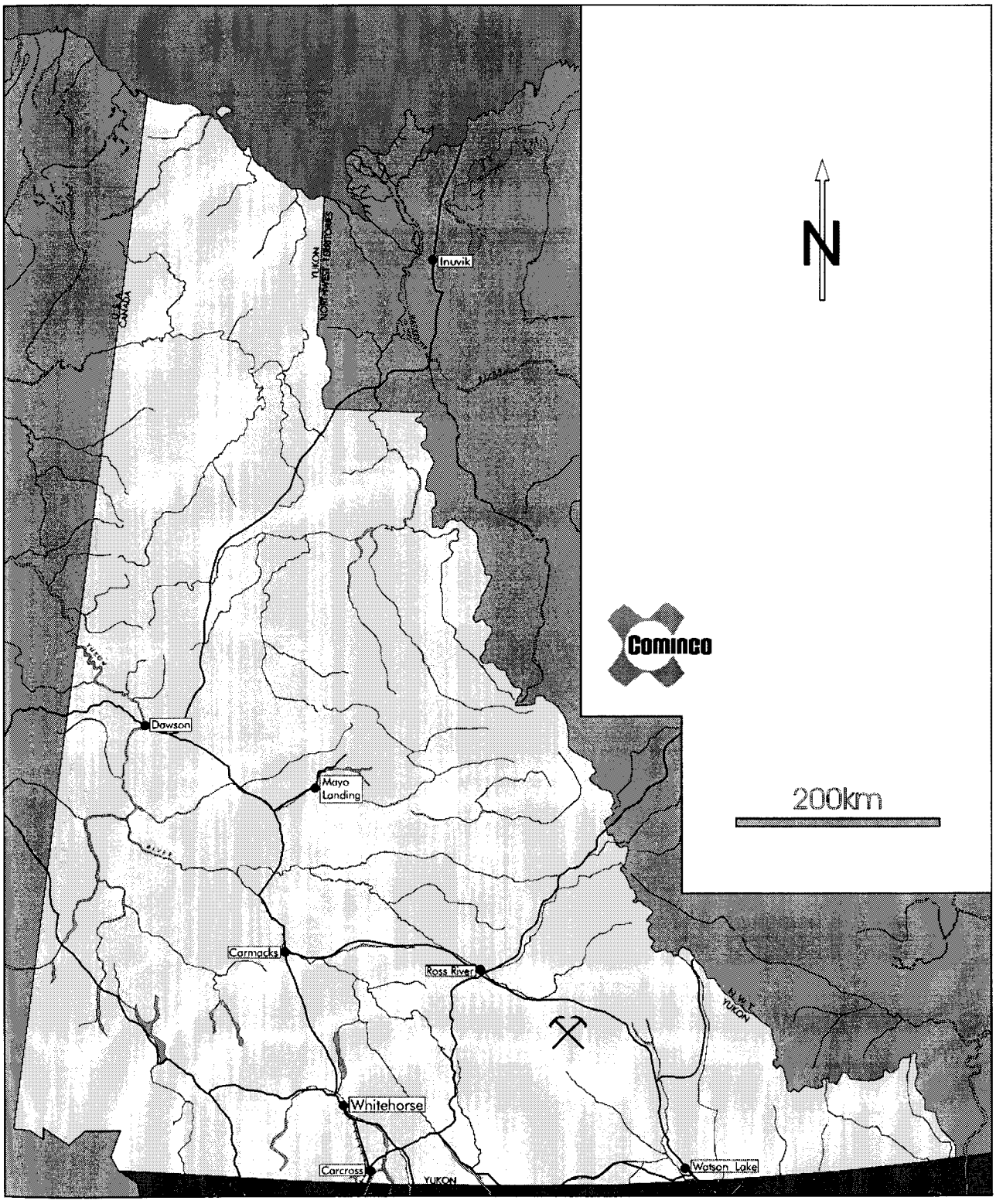
2.0 LOCATION AND ACCESS

The MAJOR property is located 8 kms northwest of Cominco's ABM deposit, approximately 28 kms west of Wolverine Lake and 120 kms southeast of Ross River (Figure 1). The Kudz Ze Kayah camp and private gravel road provides access to within 10 kms of the property. Direct access is by helicopter.

3.0 PROPERTY AND OWNERSHIP

The MAJOR property, comprising 15 units, is 100% owned by Cominco Ltd. (Figure 2).

Name	Units	Claim No.	Due Dates
MAJOR 1-15	15	YB47446-60	



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Revised by:	Date:	Revised by:	Date:

MAJOR PROPERTY LOCATION

105 G7 & G10

Scale: **As Shown** | Date: **August 1997** | Plate: **1**

4.0 PREVIOUS WORK

Cominco conducted and airborne geophysical survey in 1994 followed by soil sampling in the summer of 1994. Prior to this time, in 1977, broad regional heavy mineral stream sediment sampling has been done in the property area.

5.0 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"* (3I) 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. Felsic volcaniclastics of the *"middle unit"* are host to Cominco's ABM VHMS Deposit.

The late Devonian to Triassic SMT comprises a heterogeneous 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(?).

A sub-horizontal 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.

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 Middle Jurassic to Late Cretaceous thrust faulting (D2), during which the Finlayson Lake Fault Zone was formed. This complex fault zone contains both thrust and steep, transcurrent(?) faults and separates the YTT from autochthonous North America (Mortensen, 1983a; Mortensen and Jilson, 1985).

6.0 1996 FIELD WORK

6.1 GEOLOGY AND PROSPECTING

Property scale mapping at 1:10,000 was completed by detailed traverses on the MAJOR property. The following table summarizes the 1996 fieldwork:

PROPERTY	GEOLOGY	PROSPECTING	GEOCHEMISTRY
MAJOR	June 15; LT, DB	June 15; ABM, GJ	None during filing Period

7.0 MAJOR PROPERTY

7.1 GEOLOGY

Mapping and prospecting that was done on the MAJOR produced minimal results, owing to limited outcrop exposure. Outcrop found (seen in Figure 3) was mafic volcanic in nature, displaying no mineralization.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Work completed on the MAJOR property in 1996 included one day of mapping and one day of prospecting. This work produced no occurrences of favourably lithologies and previous geochemical sampling producing no anomalous zones of interest. No further work is recommended.

Report by:

V.L. Bannister
Geologist

Endorsed by:

D. Rhodes
Senior Geologist

Approved for
Release by:

D.W. Moore
Manager, Exploration
Western Canada

VLB/

DISTRIBUTION:
W.D.Files

9.0 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.

MACROBBIE, P. A., 1995. YEAR END REPORT : PELLY MOUNTAIN PROPERTIES, SOIL GEOCHEMISTRY AND GEOLOGICAL MAPPING; Cominco Report, 41p.

MACROBBIE, P. A., 1994. MAJOR PROPERTY ASSESSMENT REPORT 1994. Cominco Report, 12 p.

APPENDIX I

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Victoria L. Bannister, of #103-2168 W. 2nd Ave., Vancouver, B.C. hereby declare that I:

1. Graduated from The University of Toronto, Toronto, Ontario, with a B.Sc. in Geology in May 1993.

2. Graduated from Queen's University, Kingston, Ontario, with a M.Sc. in Geology in May 1996.

3. Have acted as a contract geologist in Ontario and Yukon, Canada and in Martinique and Guyana since the summer of 1991.

4. Have been actively engaged in mineral exploration in Western Canada as a temporary geologist with Cominco Ltd. during the summer and fall of 1996 and as a full-time geologist since November 1996.

Date: August, 1997

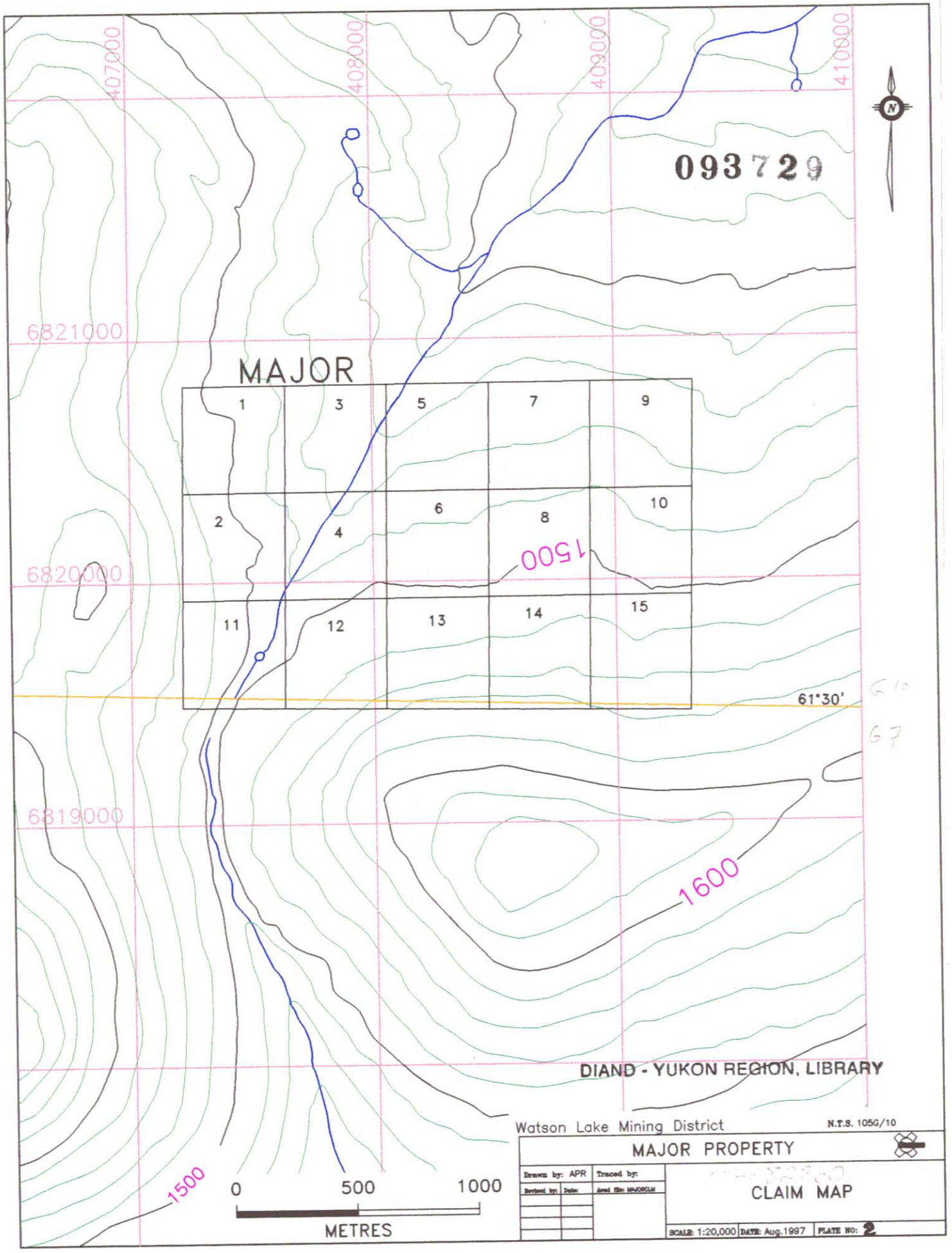
V.L. Bannister, M.Sc.
Geologist I

APPENDIX II

STATEMENT OF EXPENDITURES

MAJOR PROPERTY

EXPENDITURE ITEM	COST $
GEOLOGY STAFF COST	155
PROSPECTING STAFF COSTS	238
DOMICILE	140
HELICOPTER	325
TOTAL	**$ 858**


407000
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093729
6821000
MAJOR
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61°30'
6819000
1600
1500
0
500
1000
METRES
DIAND - YUKON REGION, LIBRARY
Watson Lake Mining District
N.T.S. 105G/10
MAJOR PROPERTY
Drawn by: APR
Traced by:
Revised by:
Date:
Appd. file: MAJORCLM
CLAIM MAP
SCALE: 1:20,000
DATE: Aug.1997
PLATE NO: 2

N.T.S. 105 G/7 & 10

MAJOR PROPERTY

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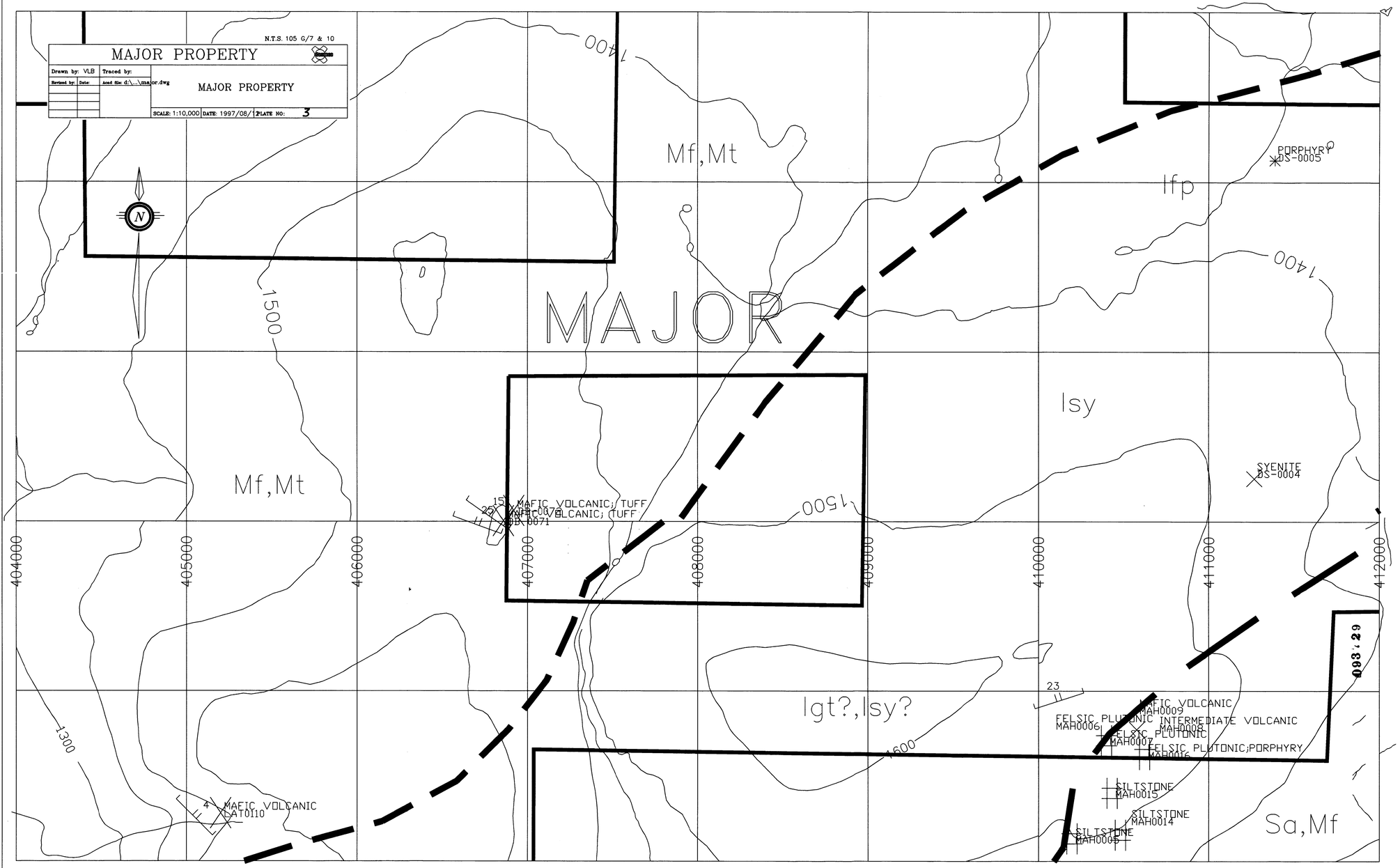
MAJOR PROPERTY

SCALE: 1:10,000 | DATE: 1997/08/1 | PLATE NO: 3



Geology Legend

S Meta-sediments

Sa,Si	argillite,siltstone	
Sg	grit	
Sa,Sq	arenite,quartzite	
Sm	marble	
Sk	wacke	
Sl	limestone	
Sc	chert	
Sb	breccia	

F Felsic metavolcanics

RF	rhyolite		
Ft	tuff	Fta	ash
		Ftl	lapilli
		Ftb	bomb
		Ftv	vitric
		Ftc	crystal
		Fth	lithic
		x	non-specific
Ff	flow	aFt	argillaceous felsic tuff
Fs	sill		
Fd	dike		

MODIFIER

e	graded
r	ribboned
b	banded
m	mottled
g	granular textured
f	fragmental textured
t	tuffaceous
n	carbonatized
a	argillaceous
o	chloritic
l	calcareous
i	silty
h	cherty
p	Fe-sulphidic
z	quartz phyric
d	feldspar phyric
s	spherulitic
b	biotitic
c	carbonaceous
v	feldspathic

N Intermediate metavolcanics

AN	andesite		
Nt	tuff	Nta	ash
		Ntl	lapilli
		Ntb	bomb
		Ntv	vitric
		Ntc	crystal
		Nth	lithic
		x	non-specific
Nf	flow		
Ns	sill		
Nd	dike		

M Mafic metavolcanics

Mf	flow /basalt		
Mt	tuff	Mta	ash
		Mtl	lapilli
		Mtb	bomb
		Mtv	vitric
		Mtc	crystal
		Mth	lithic
		x	non-specific
Ms	sill		
Md	dike	m	lamprophyre

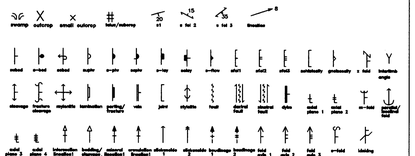
I Meta-intrusives

lu	"Slide Mountain" ultramafics
lfp,lqfp,lfap	porphyries
lgt	granite
lgd	granodiorite
lqm	quartz monzonite
lsy	syenite
lgb	gabbro
ld	diorite
lmo	monzonitic augen orthogneiss
lgm	two mica granite/migmatite

Conformable contact
Intrusive contact
Fault
HLEM Conductor
Talus/subcrop
Outcrop
Small outcrop
Float
Cominco heavy mineral sample
Lithogeochem sample
Rock sample
Drill Hole

SHOWINGS

BARITE
SULPHIDE (VHMS Style)
SULPHIDE (Skarn style)
Fe formation
Mineralized float
"Kill Zone" or Ferricrete



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