

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS 105 G/11



1994 ASSESSMENT REPORT

NIM PROPERTY

SOIL GEOCHEMISTRY AND GEOLOGICAL MAPPING

WATSON LAKE M.D., YUKON

PELLY MOUNTAINS AREA



WORK PERIOD

JULY 24, 1994

APRIL, 1995

PAUL A. MacROBBIE

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

**1. SUMMARY**

The NIM property is located south of the Robert Campbell Highway between Mink Creek and the Hoole River, about 75 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 and the Slide Mountain Terrane. The Yukon-Tanana Terrane 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 properties appear underlain by rocks correlated to mixed sediments/mafic volcanics of the "middle unit", comprising variably Fe-carbonate altered, fissile chlorite-feldspar + quartz phyllites and phyllitic schists (mafic to intermediate volcanics?) with minor intercalated grey to black argillites. Numerous weak Cu (53-67 ppm) anomalies with a strong Cr-Fe<sub>±</sub>Ni-V association are present.

No felsic volcanics or base metal mineralization was found on the property. The variably carbonaceous argillite intervals likely explain the AEM conductor. No soil anomalies of interest were identified. No further work is recommended.

**2. LOCATION AND ACCESS**

The NIM property is located northeast of the Tintina Fault, south of the Robert Campbell Highway between Mink Creek and the Hoole River, approximately 75 kms southeast of Ross River (Figures 1 and 2). The gravel, all-weather Robert Campbell Highway provides access to within 15 kms of the property. Direct access is by helicopter.

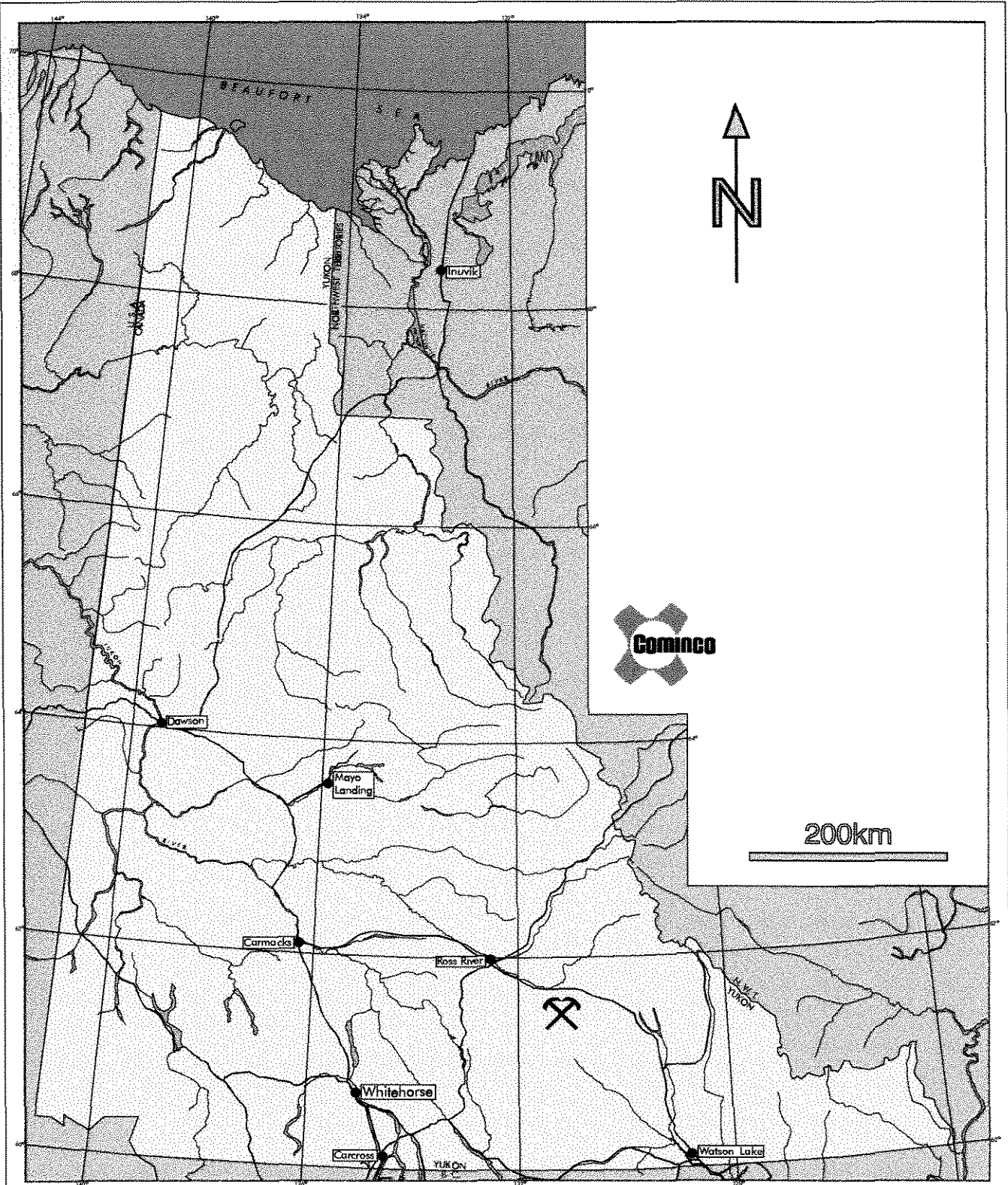
**3. PROPERTY AND OWNERSHIP**

The NIM property, totalling 15 units due July 7, 1995 (Figure 2), is 100% owned by Cominco Ltd.

<u>NAME</u>	<u>UNITS</u>	<u>CLAIM NO.</u>	<u>DUE DATES</u>
NIM 1-15	15	YB51006-1021	July 7/95

**4. PREVIOUS WORK**

No previous work by Cominco has been done in the immediate property area. The property area was previously staked (Minfile #24; God or Bev) by Atlas Exploration in 1966 following an airborne EM and Mag survey. Atlas conducted soil sampling and mapping in 1966. The property was allowed to lapse.



Drawn by: \_\_\_\_\_ Traced by: a. m. a.

Revised by: \_\_\_\_\_ Date: \_\_\_\_\_ Revised by: \_\_\_\_\_ Date: \_\_\_\_\_


NIM  
PROPERTY LOCATION

105 G/11

Scale: As Shown

Date: April, 1995

Plate: 1

## 5. 1994 WORK

### GEOLOGICAL MAPPING

On July 24, 1994, 1:10,000 scale geological mapping and prospecting was carried out by N.J.Callan (Figure 3).

### GEOCHEMISTRY

A total of 45 soil samples were collected. Data is presented in Figure 3 and Appendix 2.

The soil samples were analyzed for Cu, Pb, Zn, Ag, As, Cd, Co, Ni, Fe, Mo, Cr, Bi, Sb, V, Sn, W, Sr, Y, La, Mn, Mg, Ti, Al, Ca, Na and K by I.C.P., Au by Aqua Regia decomposition/AAS and Ba by XRF at Cominco Exploration Research Laboratory (CERL) in Vancouver.

## 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 AND GEOCHEMISTRY

The property is underlain by unit 3F, as described by Mortensen (1983a).

The central part of the property exposes large outcrops of variably Fe-carbonate altered, fissile chlorite-feldspar + quartz phyllites and phyllitic schists (mafic to intermediate volcanics?) with minor intercalated grey to black argillites. This mixed mafic volcanic/sedimentary sequence trends NE with moderate SE dips of 20-36 degrees.


Numerous weak Cu (53-67 ppm) anomalies with a strong Cr-Fe±Ni-V association are present.

## 8. CONCLUSIONS and RECOMMENDATIONS


No felsic volcanics or base metal mineralization was found on the property. The variably carbonaceous argillite intervals may explain the AEM conductor. No soil anomalies of interest were identified.

No further work is recommended.

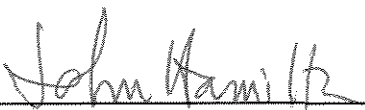
Report by:

  
\_\_\_\_\_  
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

9. 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**

**1994 GEOCHEMISTRY DATA**

Property	LabNo	FieldNo	S	M	O	S	Col	Sz	O	W	Dph	WS	FW	P	Cu	Pb	Zn	Ag	As	Ba(1cp)	Cd	Co	Ni	Fe	Mo	Cr	Bi	Sb	V	Sn	W	Sr	Y	La	Mn	Mg	Ti	Al	Ca	Na	K	Au	Wt	Ba(xrf)
Nim	S9416417	242603	3	1	2	**	3B	4	3	2	45	2	B2	**	44	9	50	0.4	16	284	1	17	50	3.02	1	75	2	2	55	5	1	65	13	11	800	0.99	0.02	1.79	1.79	0.01	0.03	5	10	1523
Nim	S9416418	242604	3	1	2	**	3B	24	3	2	45	2	B2	**	44	7	70	0.2	18	171	1	21	58	3.14	1	77	2	2	57	4	1	56	16	14	827	1.12	0.02	1.84	1.83	0.01	0.04	5	10	1318
Nim	S9416419	242605	3	1	2	**	3B	24	3	2	45	2	B2	**	67	8	58	0.4	18	330	1	22	77	3.49	1	105	2	2	68	1	1	47	14	12	891	1.22	0.03	1.94	1.31	0.01	0.04	5	10	1735
Nim	S9416420	242606	3	1	2	**	3B	34	2	2	45	2	B2	**	54	9	72	0.2	16	287	1	21	67	3.50	1	91	2	2	63	3	1	43	12	11	718	1.26	0.03	1.94	1.29	0.01	0.04	5	10	1572
Nim	S9416421	242607	3	1	2	**	2Y	34	2	2	50	2	B2	**	30	11	65	0.2	22	217	1	19	54	3.58	2	65	2	2	68	3	1	30	12	14	787	1.28	0.03	1.95	0.83	0.01	0.05	5	10	1629
Nim	S9416422	242608	3	1	2	**	2B	24	2	1	55	2	C	**	28	14	81	0.2	20	338	1	17	14	2.55	1	27	2	2	60	2	1	77	12	19	1059	0.67	0.01	1.53	1.48	0.01	0.03	5	10	1324
Nim	S9416423	242609	3	1	2	**	3B	24	2	2	45	2	B2	**	53	9	99	0.2	11	188	1	10	23	1.94	1	25	2	2	38	2	1	99	19	15	800	0.59	0.01	1.08	2.87	0.01	0.03	5	10	1147
Nim	S9416424	242610	3	1	2	**	3B	4	3	2	45	2	B2	**	27	2	14	0.2	10	103	1	3	8	0.62	1	5	2	2	8	3	1	53	27	33	275	0.12	0.01	0.88	1.32	0.03	0.02	5	10	1063
Nim	S9416425	242611	3	1	2	**	3B	4	3	2	45	2	B2	**	49	5	43	0.2	5	70	1	3	14	0.43	1	2	2	2	5	3	1	63	19	16	357	0.06	0.01	0.72	1.89	0.04	0.01	5	10	973
Nim	S9416426	242612	3	1	2	**	3B	4	3	1	45	2	B1	**	61	2	33	0.2	22	100	1	3	20	0.61	1	8	2	2	9	1	1	85	14	12	330	0.18	0.01	0.89	2.79	0.02	0.03	5	10	742
Nim	S9416427	242613	3	1	2	**	2Y	4	2	2	40	2	B2	**	53	9	80	0.2	69	165	1	27	72	4.80	2	86	2	2	91	3	1	34	19	20	1184	1.78	0.04	2.30	0.77	0.01	0.07	5	10	1379
Nim	S9416428	242614	3	1	2	**	2G	23	2	2	30	3	B2	**	54	9	71	0.2	21	195	1	26	91	5.17	1	149	2	2	99	3	1	37	20	21	656	2.24	0.04	2.87	1.11	0.01	0.06	5	10	1430
Nim	S9416429	242615	3	1	2	**	2B	5	1	2	40	3	B2	**	53	7	75	0.2	17	215	1	30	86	5.16	1	124	2	2	97	6	1	35	20	21	803	2.01	0.03	2.64	0.93	0.01	0.07	5	10	1642
Nim	S9416430	242616	3	1	2	**	3B	5	1	2	45	2	B2	**	73	6	63	0.2	25	294	1	27	81	4.18	1	118	2	2	87	3	1	83	20	19	813	1.83	0.04	2.49	1.75	0.01	0.05	5	10	1548
Nim	S9416431	242617	3	1	2	**	3B	4	2	2	45	3	B2	**	65	9	52	0.2	10	333	1	17	57	3.17	1	81	2	2	64	3	1	81	23	17	556	1.13	0.02	1.85	1.50	0.01	0.05	5	10	1715
Nim	S9416432	242618	3	1	2	**	3B	4	2	2	45	3	B2	**	37	11	46	0.2	17	291	1	16	41	2.76	1	58	2	2	50	4	1	53	14	13	560	0.89	0.02	1.82	1.20	0.01	0.04	5	10	1615
Nim	S9416433	242619	3	1	2	**	3B	34	2	1	45	3	B1	**	63	9	49	0.2	25	448	1	12	39	2.32	1	43	2	2	47	3	1	113	30	23	598	0.70	0.01	1.44	2.81	0.01	0.03	5	10	1594
Nim	S9416434	242620	3	1	2	**	2B	34	2	1	40	3	B2	**	26	11	62	0.2	19	255	1	21	52	4.12	1	70	2	2	80	2	1	34	12	15	825	1.39	0.04	2.26	0.67	0.01	0.06	5	10	1623
Nim	S9416435	242621	3	1	2	**	2B	34	2	1	40	2	B2	**	19	9	54	0.2	11	118	1	17	51	4.18	1	83	2	2	95	2	1	10	3	6	711	1.28	0.07	1.98	0.18	0.01	0.05	5	10	1469
Nim	S9416436	242622	3	1	2	**	1B	34	1	1	40	2	B2	**	56	7	83	0.2	25	190	1	31	90	5.76	1	122	2	2	120	3	1	16	7	9	753	2.22	0.04	3.34	0.32	0.01	0.07	5	10	1484
Nim	S9416437	242623	3	1	2	**	B	34	1	1	45	2	B2	**	26	8	57	0.2	32	217	1	20	60	4.05	2	89	2	2	88	3	1	23	8	11	638	1.60	0.02	2.30	0.45	0.01	0.07	5	10	1497
Nim	S9416438	242624	3	1	2	**	2B	3	1	1	30	2	B2	**	38	7	67	1.0	6	249	1	39	257	5.68	1	640	2	2	130	1	1	32	5	6	488	1.99	0.21	2.55	0.48	0.01	0.28	5	10	1440
Nim	S9416439	242625	3	1	2	**	2B	23	1	2	40	3	B2	**	57	9	63	0.2	16	288	1	22	61	4.34	1	89	2	2	107	3	1	46	21	23	747	1.81	0.05	2.49	0.82	0.01	0.09	5	10	1607
Nim	S9416440	242626	3	1	2	**	2B	23	1	2	40	2	B2	**	42	8	66	0.2	20	306	1	22	55	4.26	2	81	2	2	107	2	1	71	25	30	656	1.77	0.05	2.50	1.25	0.01	0.11	5	10	1635
Nim	S9416441	242627	3	1	2	**	2B	23	1	2	40	2	B2	**	57	8	67	0.2	17	385	1	22	64	4.37	1	95	2	2	106	7	1	62	27	28	692	1.81	0.04	2.55	1.18	0.01	0.07	5	10	1624
Nim	S9416442	242628	3	1	2	**	2B	23	1	2	40	2	B2	**	45	7	80	0.2	8	316	1	25	65	5.57	1	87	2	2	125	6	1	49	32	37	755	1.91	0.04	2.64	1.01	0.01	0.09	5	10	1679
Nim	S9416443	242629	3	1	2	**	1B	4	1	2	40	2	B2	**	8	2	5	0.2	1	49	1	1	4	0.33	1	5	2	2	5	1	1	17	2	3	61	0.08	0.01	0.74	0.28	0.04	0.02	5	10	1224
Nim	S9416444	242630	3	1	2	**	1B	34	1	2	45	2	B2	**	22	8	67	0.2	16	431	1	22	28	5.15	1	36	2	2	132	2	1	46	15	12	713	2.07	0.15	3.61	1.08	0.03	0.18	5	10	1705
Nim	S9416445	242631	3	1	2	**	1B	34	2	2	40	2	B2	**	23	11	47	0.2	21	229	1	14	29	2.92	1	48	2	2	63	5	1	26	15	15	613	0.91	0.02	1.81	0.47	0.01	0.04	5	10	1490
Nim	S9416446	242632	3	1	2	**	1B	3	2	2	40	2	B2	**	24	9	56	0.2	23	216	1	17	38	3.51	1	52	2	2	79	3	1	28	12	15	681	1.27	0.04	2.00	0.71	0.01	0.06	5	10	1585
Nim	S9416447	242633	3	1	2	**	1B	34	2	2	40	2	B2	**	20	10	58	0.2	7	211	1	15	42	3.10	2	59	2	2	58	3	1	21	5	8	717	1.00	0.02	1.75	0.41	0.01	0.05	5	10	1538
Nim	S9416448	242634	3	1	2	**	1B	23	1	2	45	1	B2	**	37	10	71	0.2	22	236	1	30	62	5.12	1	82	2	2	142	6	1	42	7	10	1180	2.09	0.07	2.80	0.80	0.01	0.11	5	10	1393
Nim	S9416449	242635	3	1	2	4	1R	3	1	2	45	1	B2	**	58	5	104	0.2	4	237	1	39	47	7.28	1	46	2	2	122	5	1	53	26	25	1404	1.18	0.01	1.78	1.17	0.01	0.17	5	10	1262
Nim	S9416450	242636	3	1	3	**	3B	23	1	2	20	4	B2	**	37	7	89	0.2	9	448	1	31	33	5.62	1	19	2	2	184	6	1	92	28	15	1605	2.80	0.20	3.70	2.05	0.02	0.83	5	10	1126
Nim	S9416451	242637	3	1	3	**	2B	4	2	2	40	4	B2	**	25	2	26	0.2	1	123	1	7	9	1.60	1	12	2	2	34	2	1	34	11	11	461	0.58	0.02	1.19	0.91	0.04	0.06	5	10	1218
Nim	S9416452	242638	3	1	3	**	2B	23	1	2	30	4	B2	**	18	5	79	0.2	21	81	1	24	26	5.95	6	33	2	2	68	9	1	30	31	81	974	3.36	0.02	3.89	0.74	0.01	0.05	5	10	817
Nim	S9416453	242639	3	1	2	**	3B	34	1	2	40	4	B2	**	26	2	30	0.2	3	261	1	10	18	2.34	1	27	2	2	55	1	1	39	14	14</										

**APPENDIX 3**  
**STATEMENT OF EXPENDITURES**

**NIM PROPERTY**

STAFF COSTS	581
DOMICILE	218
GEOCHEMISTRY	765
HELICOPTER	864
COMMUNICATIONS	30
TRUCK RENTAL	64
FREIGHT	198
EXPEDITING	40
DRAFTING	192
<b>TOTAL</b>	<b>2,952</b>

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS 105 G/11

1994 ASSESSMENT REPORT

NIM PROPERTY

093326

SOIL GEOCHEMISTRY AND GEOLOGICAL MAPPING

WATSON LAKE M.D., YUKON

PELLY MOUNTAINS AREA

LAT: 61°35'

LONG: 131°18'

WORK PERIOD

JULY 24, 1994

APRIL, 1995

M.F.# 105G DAY

PAUL A. MacROBBIE

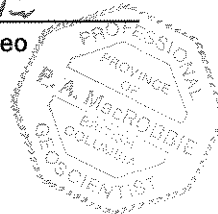
## STATEMENT OF QUALIFICATIONS

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.
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



MAP NO:105G/11

ASSESSMENT REPORT: X

DOCUMENT NO: 093326

PROSPECTUS:

MINING DISTRICT: Watson Lake

CONFIDENTIAL: X

TYPE OF WORK:Geochem, geology

OPEN FILE:

REPORT FILED UNDER: Cominco Ltd.

DATE PERFORMED:July 24, 1994

DATE FILED:June 23, 1995

LATITUDE:61 35

AREA:Pelly Mountains

LONGITUDE:131 18

VALUE:\$2900

CLAIM NAME AND #:Nim 1-15

WORK DONE BY:Paul MacRobbie

WORK DONE FOR:Cominco Ltd.

DATE TO GOOD STANDING	

REMARKS:Weak anomalies of up to 53-67 ppm Cu were identified but no felsic volcanics or base metal mineralization were found on the property.

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS 105 G/11

1994 ASSESSMENT REPORT

NIM PROPERTY

SOIL GEOCHEMISTRY AND GEOLOGICAL MAPPING

WATSON LAKE M.D., YUKON

PELLY MOUNTAINS AREA

LAT: 61°35'

LONG: 131°18'

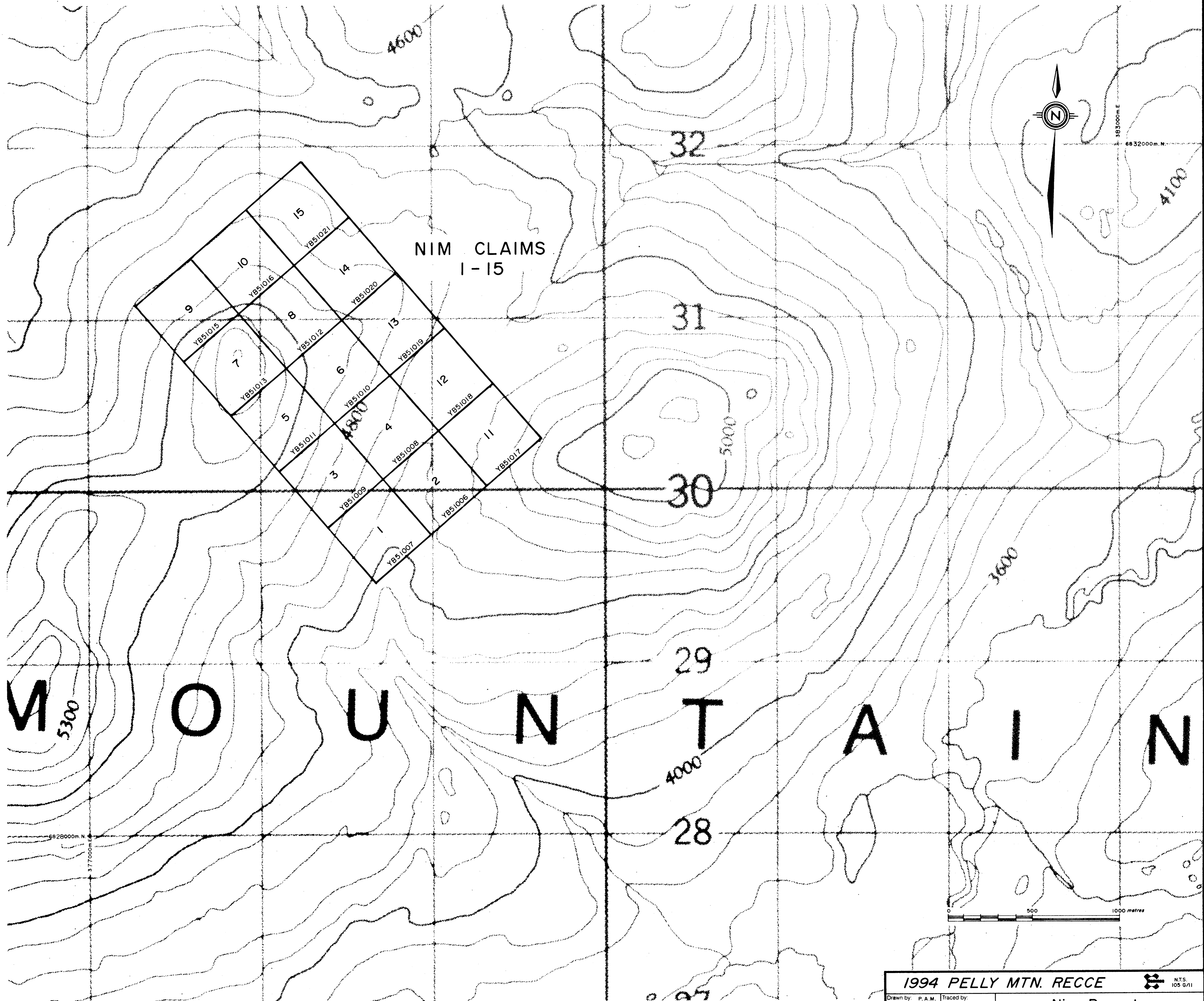
WORK PERIOD

JULY 24, 1994


093326

APRIL, 1995

PAUL A. MacROBBIE



W O U N T A I N

**1994 PELLY MTN. RECCE**  N.T.S. 105 6/11

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

**Nim Property CLAIMS 093326**  
DWG ①

WATSON LAKE M.D., YUKON  
Scale: 1:10,000 Date: SEPTEMBER 1994 Plate: Fig. 2

