

MAP NO:105G/7

ASSESSMENT REPORT: X

DOCUMENT NO: 093245

PROSPECTUS:

MINING DISTRICT: Watson Lake

CONFIDENTIAL: X

TYPE OF WORK:Diamond drilling

OPEN FILE:

REPORT FILED UNDER: Cominco Ltd.

DATE PERFORMED: July 3-8, 1994

DATE FILED: October 20/94

LATITUDE: 61 30

AREA: North Lakes

LONGITUDE: 130 40

VALUE: \$34200

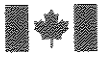
CLAIM NAME AND #: Tag 1-30, Home 1-17, Plate 1-25

WORK DONE BY: Chris Shultze *Shultze*

WORK DONE FOR: Cominco Ltd.

DATE TO GOOD STANDING	REMARKS: Two holes were drilled on the claims to test a weak EM/mag anomaly and stratigraphy. Hole T94-17 was 108.5 meters and T94-18 was 309 meters.





21 October, 1994

Your file    Votre référence

Our file    Notre référence

**DIRECTOR GENERAL, YUKON REGION**

**ATTENTION: REGIONAL MANGER MINERAL RIGHTS**

Enclosed are Drill Logs etc. submitted by Cominco Exploration for assessment on the TAG, HOME and PLATE mineral claims located on 105-G-07.

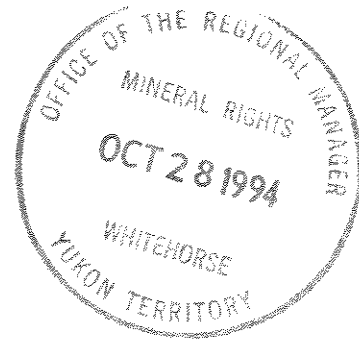
Drilling was as follows:

Drill Hole T94-17	TAG 19	108.5 m
Drill Hole T94-18	TAG 17	<u>309.0 m</u>
TOTAL		417.5 m

Assessment credit requested is \$ 34,200.00. The drill core is stored at the property.

Yours truly,

Patti L. McLeod  
Mining Recorder  
Watson Lake Mining District  
P. O. Box 269  
Watson Lake, Yukon  
Y0A 1C0



NJM  
encl.(s)

cc: Regional Manager, Geological Services

COMINCO LTD.

EXPLORATION

WESTERN CANADA

NTS: 105G/7

OCTOBER 10, 1994

ASSESSMENT REPORT

TAG PROPERTY

DIAMOND DRILLING

WATSON LAKE M.D., Y.T.

LATITUDE: 61° 30' N

LONGITUDE: 130° 40' W

FIELD WORK PERFORMED: JULY 3-5, JULY 6-8

ON TAG 19 AND TAG 17 MINERAL CLAIMS

REPORT BY: H.C. SCHULTZE

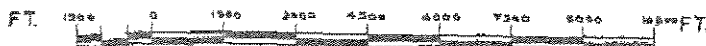


# SHEET 105G-7

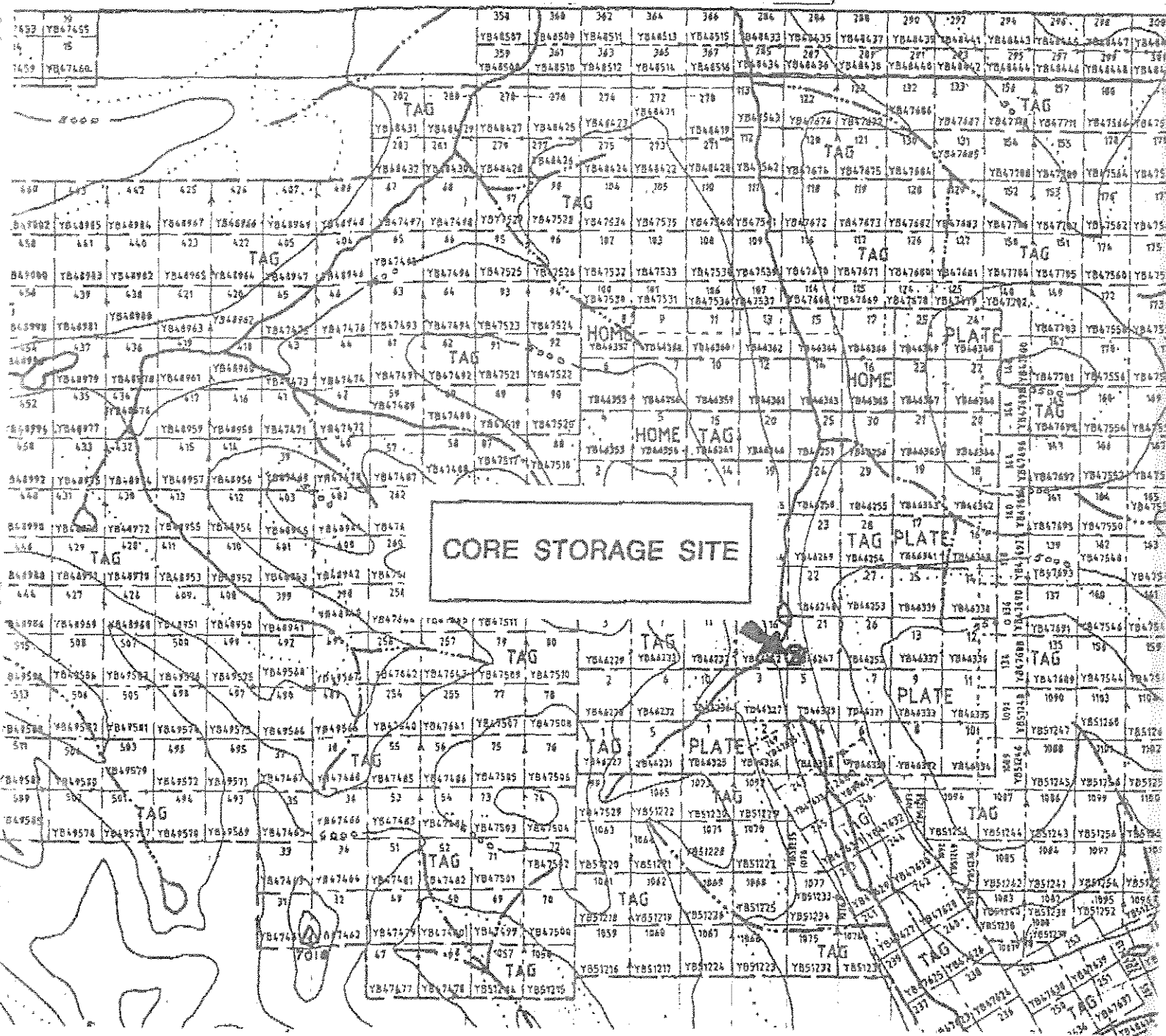
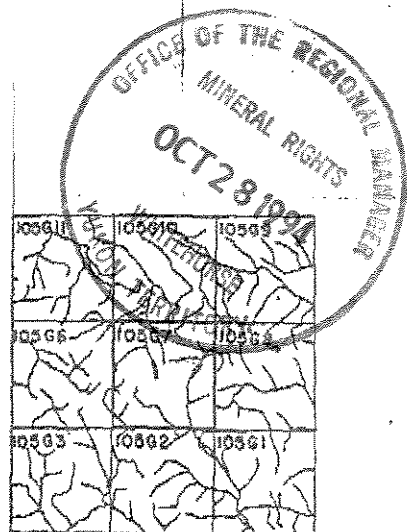
LATITUDE 60°15' To 60°30'  
LONGITUDE 130°30' To 131° 00'

CANADA  
DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES  
NORTHERN ADMINISTRATION AND LANDS BRANCH  
LANDS DIVISION

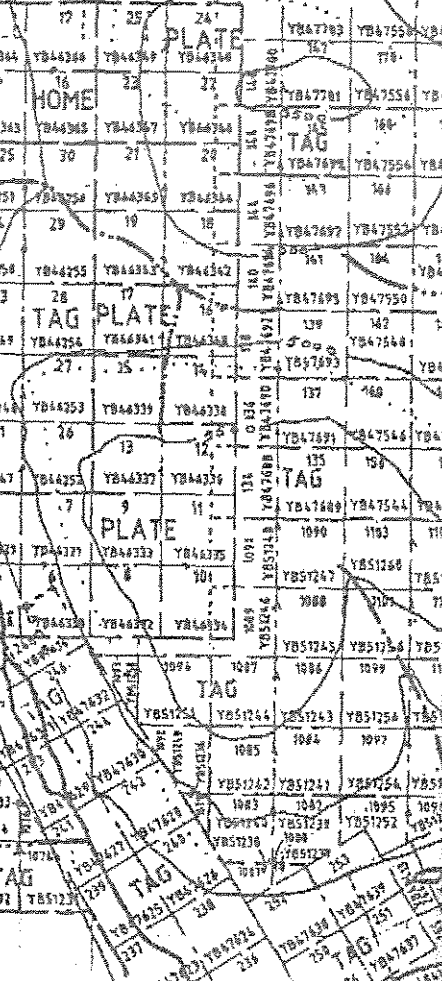
SCALE: 1/2 MILE To 1 INCH



ISSUED UNDER THE AUTHORITY OF THE MINISTER  
OF  
NORTHERN AFFAIRS AND NATIONAL RESOURCES

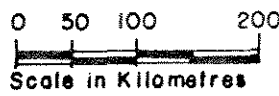
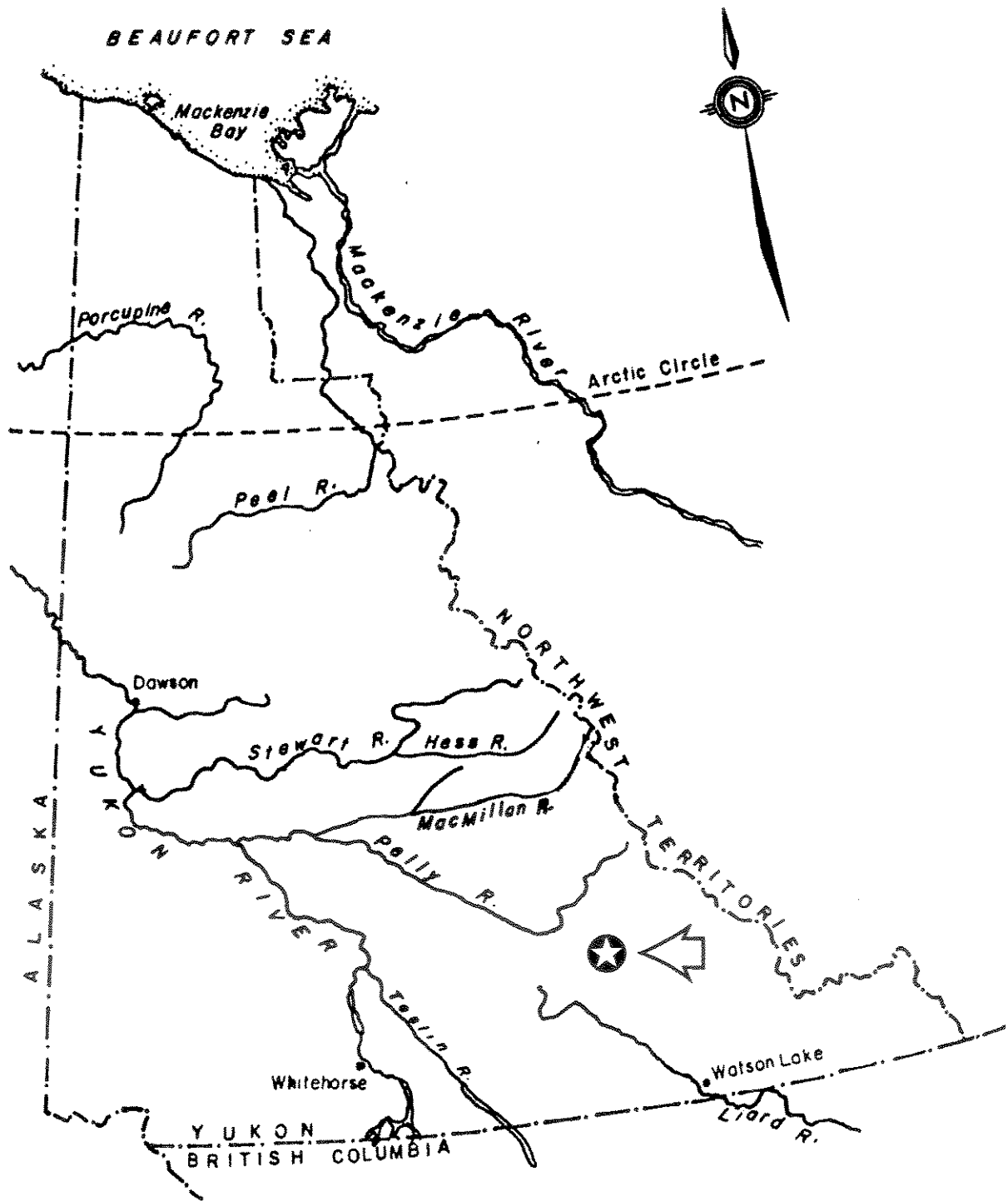


CORE STORAGE SITE



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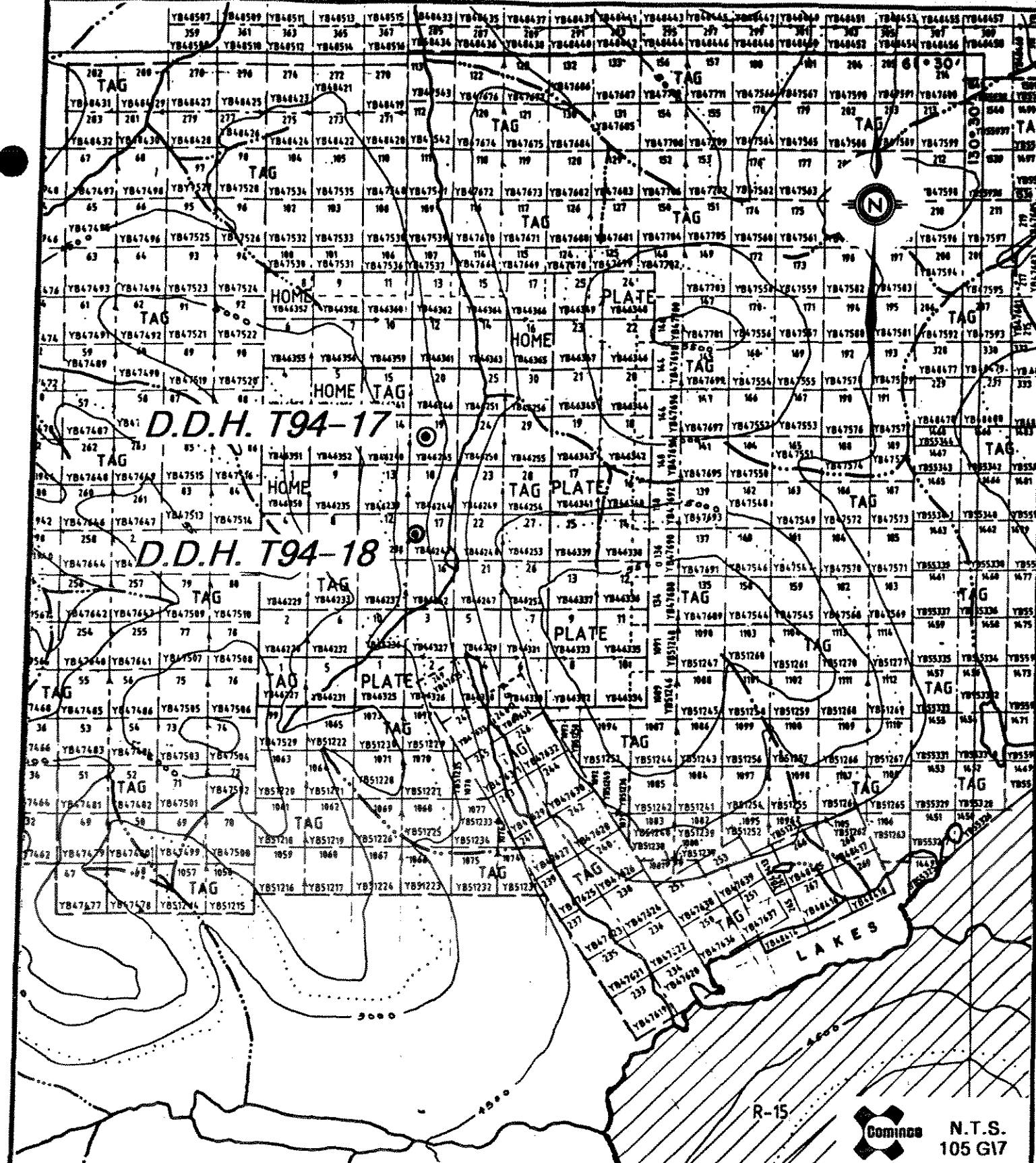
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**Cominco** N.T.S.  
105 G17

**TAG PROPERTY LOCATION**

Scale: 1 : 6,000,000	Date: OCTOBER 1994	Fig: 1
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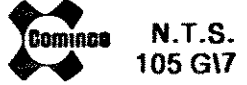


# TAG CLAIM MAP

Scale: 1:50,000

Date: OCTOBER 1994

Fig: 2



## COMINCO LTD.

### EXPLORATION

### WESTERN CANADA

#### SUMMARY

The Tag property is located in the Pelly Mountains of southeast Yukon roughly 200 km northwest of Watson Lake, Y.T. Access is by helicopter or small float plane. The claims are owned 100% by Cominco Ltd and were staked in 1993 with additional claims added in 1994. The property is underlain by metamorphic sedimentary, volcanic, and igneous rocks of the Yukon-Tanana terrane. Two diamond drill holes, T94-17 and T94-18, totalling 417.5 m drilled in July, 1994 are the subject of this report. Neither hole intersected economically significant mineralization however the holes provide important geological information. DDH T94-17 cored intercalated sedimentary and mafic volcanic units while DDH T94-18 cored felsic volcanics exhibiting local alteration underlain by mafic volcanic with minor intercalated sedimentary units

#### LOCATION AND ACCESS

The property is located within the Pelly Mountains of southeast Yukon at latitude 61° 28' N and 130° 36' W within the Watson Lake mining District. The drill area occurs within an unnamed mountain pass at 1400 m elevation existing 20 km south of the all season Robert Campbell gravel highway near Finlayson Lake at 1000m elevation. Topography between the property and highway is gentle and gradually declines from the property elevation to the road 20 km distant. Mountains flanking the pass rise to 2000m in elevation. The area was glaciated historically.

Access is achieved by helicopter. Lakes amenable for small planes with floats occur on the property while a seasonal airstrip exists roughly forty km north-northwest of the property at the north end of Finlayson Lake.

#### TENURE

The Tag is an immense property comprising over 1500 quartz claims. Work described in this report applies to 72 claims staked in 1993. The claims are as follows.

Claim	Tenure No.	Units	Date Recorded	New Due Dates
Tag 1-30	YB46227-256	30 x 1	Aug.20 / 93	Apr. 15 / 99
Home 1-17	YB46350-366	17 x 1	Sep.29 / 93	Apr. 15 / 99
Plate 1-25	YB46325-349	25 x 1	Sep.29 / 93	Apr. 15 / 99

## HISTORY

Cominco became interested in the area in 1992. Soil and silt samples collected by Cominco crews during regional exploration work that year confirmed and expanded upon an anomalous silt sample released in GSC Open File 1648. In 1993 a small follow-up program comprising soil sampling, prospecting, with selective geological traverses was carried out within the anomalous drainage resulting in the discovery of well mineralized massive sulphide float in glacial till and recognition of potential host rocks. Reconnaissance geophysical surveys were immediately implemented over the inferred trace of the prospective units beneath the glacial till and successfully identified a feature representing a possible source for the mineralized float. The first Tag claims were subsequently staked and recorded August 20, 1993 to cover the geophysically responsive feature.

## GEOLOGY

The property is underlain by lower to upper greenschist rank, deformed metamorphic rocks belonging to the Yukon-Tanana Terrane. Rock types found on the property include metamorphic equivalents of quartzitic sandstones, mudstones, carbonaceous mudstones, calcareous mudstones, and carbonaceous limestones, basaltic to rhyolitic volcanics, and granitoid intrusives. Units trend roughly east-west, dip gently northward ( 10 - 35 degrees ), and exhibit compositional layering parallel to a pervasive foliation.

## DIAMOND DRILLING

Records of two diamond drill holes and associated costs are submitted in this report: DDH's T94-17 and T94-18. Drill hole T94-17 was collared and drilled to test a weak ground EM / Magnetics geophysical response mapped by Cominco geophysical crews in 1994 while drill hole T94-18 was drilled to test stratigraphy in an area with no geophysical responses west and along strike of the geophysical feature identified and staked in 1993.


Drill hole T94-17 was drilled to a depth of 108.5 m and cored a thick succession of deformed green chlorite/calcite schists of probable andesite/basalt tuff origin intercalated with blacker chlorite/calcite/silica - locally graphitic rocks with minor pyrrhotite of mudstone origin. No base or precious metals were observed and no samples were submitted for analysis. The weak geophysical responses are believed to result from the locally graphitic and pyrrhotitic character of the units encountered.

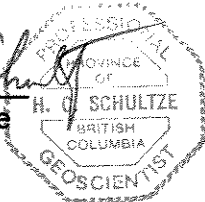
Drill hole T94-18 was completed at a depth of 309 m. A thick sequence comprising essentially quartz / sericite schists of probable rhyolite ash/crystal tuff origin was cored to 231 m followed by chlorite / quartz / biotite / calcite schists possibly representing deformed mafic to intermediate tuffs with minor intercalated clastics. Quartz / sericite / jade green chlorite / iron carbonate / feldspar mineralogies, locally with 3 to 4 % pyrrhotite and weak disseminated Chalcopyrite, occur between 141.1m and 157.5 m and represent alteration assemblages associated with mineralization existing along strike. Results of eight core samples submitted for geochemical analysis are appended to the detailed core log of DDH T94-18 in Appendix D and confirm the anomalous character of the rocks.

## CONCLUSIONS

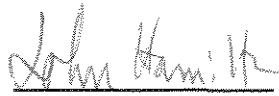
Diamond drill holes T94-17 and T94-18 did not encounter economically significant mineralization. While of negative economic importance they do provide added insight into the geology of the Tag Property. Hole 17 cored intercalated sedimentary and mafic volcanic units while Hole 18 cored felsic volcanics exhibiting local alteration underlain by mafic volcanics with minor sediments.

Submitted by:

  
H.C. Schultze  
Geologist II



Approved for release by:

  
J.M. Hamilton  
Manager, Exploration -  
Western Canada

HCS/  
October 1994

APPENDIX 'A'

STATEMENT OF EXPENDITURES

SALARIES:

H.C. Schultze ( Geologist II )	5 days planning and report writing @ \$280	\$1,400
D. Rhodes ( Sr. Geologist )	3 days logging and supervision @ \$500	1,500

DIAMOND DRILLING:

Drilling		19,610
Labour		2,730
Pad clearing		250
Supplies ( Casing, consumables, etc. )		690

TRANSPORTATION:

Helicopter		9,660
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DOMICILE		3,300
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GEOCHEMISTRY		160
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TOTAL:		\$39,300
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**APPENDIX 'B'**

**STATEMENT OF QUALIFICATIONS**

I, H.C. Schultze of the City of West Vancouver, British Columbia, do hereby certify that:

- 1) I am a graduate of the University of Calgary, 1988 with a B.Sc. degree, Geology Major,
- 2) I am employed by Cominco Ltd. as an exploration geologist,
- 3) I have been actively involved in mineral exploration for the past 6 years,
- 4) I am registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia.

  
\_\_\_\_\_  
H.C. Schultze  
Geologist


October, 1994

**APPENDIX 'C'**

**AFFIDAVIT**

I, H.C. Schultze of the City of West Vancouver, British Columbia , make Oath and say:

- 1) That I am employed as a Geologist by Cominco Ltd. and as such, have personal knowledge of the facts to which I am herein depose,
- 2) That annexed hereto and marked Exhibit 'A' to this my Affidavit is a true copy of expenditures incurred by drilling on the Tag mineral claims between July 3-5 and July 5-8 of 1994,
- 3) That said expenditures were incurred July 3-5 and July 5-8 for the purpose of mineral exploration on the noted claims.

  
\_\_\_\_\_  
H.C. Schultze  
Geologist

October, 1994

**APPENDIX 'D'**  
**DRILL LOGS AND GEOCHEMISTRY**

Property: TAG	District: Watson Lk.	Hole No.: T94-17
Commenced: July 3/94	Location: 105G/7	Length: 108.51 m
Completed: July 5/94	Core Size: NQ	Cor. Dip: -55°
UTM Coordinates: 414651.3E/6816474.1N	Claim Reference: YB46245	True Brg.: 180°
Contractor: D.J. Drilling	Tract/Claim: TAG 19	% Recovery.: 99.5
Logged by: D.Rhodes	Elevation: 1459.7 m	

Description Summary: The core comprises a thick succession of deformed green chlorite/calcite schists of probable andesite/basalt tuff origin intercalated with blacker chlorite/calcite/silica rocks of mudstone origin.

Metres From	To	Plot Code	Description
0	16.8	OVV	<b>CASING/OVERBURDEN</b>
16.8	18.9	MB	<b>MEDIUM GREEN CHLORITE ROCK SPECKLED WITH BIOTITE - POSSIBLE ANDESITE FLOW/DYKE</b> fine grained even textured rock that could be flow or dyke - favour former.
18.9	26.0	MBTB	<b>CHLORITE-CALCITE SCHIST SPECKLED WITH FINE BIOTITE, SMALL CALCITE SPOTS AND BANDED WITH CALCITE - (BASALTIC/ANDESITIC TUFF)</b> Rock is typical of much of section consists of calcareous chloritic schist speckled with fine biotite flakes, some 0.1 to 3 mm white calcareous spots < 5% and cut at 2 to 5 cm intervals with white calcite bands that might represent compositional layering and are now strongly isoclinally folded. Presence of calcareous bands along with local interbeds of blacker chlorite-mudstone rock is thought to most likely indicate a fine tuffaceous origin for rock. Foliation @ 80° to core axis.
22.6	23.2	SE	<b>BLACK SILICEOUS CHLORITE ROCK WITH CALCAREOUS BANDS - FORMER SILICEOUS MUDSTONE</b> Hard, black siliceous chloritic schist with few 5 mm calcite bands - probably meta siliceous mudstone.
23.2	33.8	MBTB	<b>CHLORITE CALCITE SCHIST SPECKLED WITH BIOTITE CUT BY CALCITE BANDS (BASALTIC/ANDESITIC TUFF)</b> as 16.8-18.9 - few blacker chlorite bands/laminae may mark mudstone interbeds within tuffs. Very complex isoclinal folding represented by calcite bands but foliation remains relatively constant at 70° to core axis. Thick relatively homogeneous interval.
33.8	36.9	SE	<b>BLACK CHLORITIC LOCALLY SILICEOUS - LOCALLY CALCAREOUS SCHIST - TUFFACEOUS MUDSTONE</b> Blacker chloritic rock with local green tints that is variably siliceous. Some calcite specks and bands probably variably tuffaceous (locally siliceous) black mudstone - protolith. Foliation @ 70° to core axis.
36.9	37.8	MBTB	<b>CHLORITE/CALCITE SCHIST CALCITE BANDED SLIGHTLY BIOTITE SPECKLING - ANDESITE TUFF?</b> as 18.9-26.0, 23.2-33.8
37.8	41.0	MBTB/SE	<b>INTERMIXED MEDIUM GREEN CHLORITE/CALCITE SCHIST AND BLACK CHLORITE CALCITE SCHIST</b> Interbedded thin mafic tuff horizons and tuffaceous mudstone horizons now metamorphosed to schist with free white calcite bands. Foliation @ 70° to core axis.
41.0	44.2	SE	<b>BLACK MODERATELY SILICEOUS CHLORITE ROCK WITH FEW WISPY CALCAREOUS BANDS - SLIGHTLY GRAPHITIC</b> Black former mudstone now chlorite, relatively siliceous, rust after pyrrhotite speckles lenses in rock, slightly graphitic. Foliation @ 70° to core axis.

Property: TAG

44.2	47.4	MBTB	<p><b>LIGHT GREEN CHLORITE/CALCITE SCHIST-CALCITE-BANDED LIGHT BIOTITESPECKLING - FINE IRON CARBONATE SPECKLING</b></p> <p>Probable andesite tuff with little sediment influx, fine rhombs buff iron carbonate and flakes of biotite speckle rock. Foliation 80° to core axis.</p>
47.4	48.0	SE	<p><b>BLACK MODERATELY SILICEOUS ROCK MUDSTONE GREEN "TUFF" INTERBEDS AT BASE</b></p>
48.0	49.1	MBTB	<p><b>LIGHT GREEN CHLORITE CALCITE SCHIST-CALCITE BANDED-BIOTITE SPECKLED - ANDESITE TUFF</b></p> <p>As described previously. Foliation 80° to core axis.</p>
49.1	56.9	MA/SE	<p><b>RAPIDLY INTERBEDDED BLACK SILICEOUS CHLORITE ROCKS (FORMER SILICEOUS MUDSTONES) WITH CHLORITE CALCITE SCHISTS (ANDESITE TUFFS)</b></p> <p>Same rocks as previously described interbedded at 5 to 30 cm scale. Foliation @ 80° to core axis.</p>
56.9	64.1	MB	<p><b>LIGHT GREEN CHLORITE CALCITE ROCK - LIGHTLY BIOTITE SPECKLED SOME CALCITE BANDS - ANDESITE TUFF (FLOW?)</b></p> <p>Relatively homogeneous rock with few calcite bands almost certainly andesite composition probably tuffs but may be flow.</p>
64.1	70.4	MB/SE	<p><b>INTERBEDDED BLACK SILICEOUS CHLORITE ROCK AND CALCITE BANDED/SPECKLED, BIOTITE SPECKLED SCHIST</b></p> <p>Interbedded mudstones and mafic tuffs-andesites probably (as 49.1-56.9). Good compositional layering. Foliation @ 80° to core axis. Thin spots and wisps of pyrrhotite in sediments.</p>
70.4	74.2	MB	<p><b>LIGHT GREEN CHLORITE CALCITE SCHIST CALCITE BANDED (WEAKLY CALCITE/FINE BIOTITE SPECKLED)</b></p> <p>As described previously - relatively massive homogeneous rock only few calcite bands maybe andesitic flow.</p>
74.2	82.8	SE	<p><b>THICK SEQUENCE OF FINELY BANDED BLACK AND LIGHT GREY CHLORITIC SILICEOUS SEDIMENTS - FORMERLY MUDSTONES</b></p> <p>Black grey and white striped rock at 1 to 30 mm spaces. Dominant bands are black siliceous mudstones, lighter grey bands that are siliceous probably mark fine siltstones while occasional light grey calcareous bands are argillaceous limestones, white bands are calcite and presumably mark calcareous horizons. Rock is remarkably planar laminated and banded with no strong folding readily evident perhaps because of siliceous nature of mudstones. Banding @ 85° to core axis. Rock is weakly magnetic with 3-4% pyrrhotite wisps and blebs and appears graphitic on many slip planes. might be mag/conductor cause. Foliation and compositional layering are very consistent @ 85° to core axis.</p>
82.8	83.4	MB	<p><b>PALE GREEN FINE BIOTITE SPECKLED HOMOGENEOUS ROCK - POSSIBLE DYKE</b></p>
83.4	85.20	SE	<p><b>INTERBEDDED SEDIMENTS MUDSTONES, LESSER SILTSTONES LSTS (as 74.2-82.8. Foliation 80° to core axis).</b></p>
85.2	91.1	FT	<p><b>GRANULAR TEXTURE SILICA/IRON/CARBONATE/MINOR SERICITE ROCK - RHYOLITE TUFF (INTRUSIVE?)</b></p> <p>Quite siliceous rhyolitic rock light grey in colour composed of light grey 0.1 to 5 mm silica grains low phyllosilicate content (sericite?) and abundant fine iron carbonate crystals. Locally larger 1-15 mm long 1-5 mm thick iron carbonate and silica forms might be lapilli. Granular text gives impression of possible rhyolite tuff but might be intrusive.</p>
91.1	94.3	SE	<p><b>BLACK SILICEOUS CHLORITE ROCK - FORMER MUDSTONE WISPILY SILICA MOTTLED.</b></p> <p>Fine Brown weathering needle like mineral present. Foliation approximately @ 70° to core axis.</p>
94.3	96.3	MA	<p><b>LIGHT GREEN CALCITE SPECKLED CHLORITE CALCITE ROCK - POSSIBLY ANDESITE FLOW.</b></p>

**DRILL HOLE RECORD****COMINCO LTD.**Page 3 of 4  
Hole No.: T94-17

Property: TAG

96.3	97.2	SE	<b>BLACK SILICEOUS LIGHT GREY AND BLACK STRIPED CHLORITE ROCKS - FORMER MUDSTONES</b> Foliation @ 70° to core axis
97.2	98.4	MA	<b>LIGHT GREEN CHLORITE CALCITE ROCK SPECKLED WITH FINE CALCITE SPOTS - ANDESITE FLOW OR POSSIBLY INTRUSIVE.</b> Homogeneous even textured rock speckled with 0.1 to 3 mm calcite spots that look vesicle like, rock's even texture suggests flow although finer grain size in top and bottom 10-20 cm may indicate intrusive with chilled margin.
98.4	99.8	SQ	<b>MASSIVE MEDIUM GREY VERY SILICEOUS ROCK - COARSE QUARTZ SILTSTONE OR FINE SANDSTONE</b>
99.8	101.7	SE	<b>BLACK CHLORITIC SILICEOUS BANDED MUDSTONES</b> as 74.2-82.8 but showing more folding and deformation creating slightly swirled convoluted aspect to lighter and darker beds - few calcareous bands. Short 20 cm tuff? bed or intrusive andesite 20 cm above lower contact.
101.7	104.0	MA	<b>LIGHT GREEN SERICITE/CALCITE (SILICA FELDSPAR?) ROCK SPECKLED WITH WHITE CALCITE SPOTS - ANDESITE FLOW OR INTRUSIVE</b> As 97.2-98.4 fine grained margins maybe indicative of chilled margins.
104.0	108.5	SE	<b>BLACK CHLORITIC SLIGHTLY GRAPHITIC SILICEOUS MUDSTONES STRIPED WITH WHITE CALCITE SILICA BANDS AND OCCASIONAL LIGHT GREY LIMESTONE BAND</b> As 74.2-82.8 more folding evident 1-2% fine pyrite locally disseminated in rock. Foliation @ 70° to core axis.
			END OF HOLE @ 108.5 m

**COMINCO LTD.  
RUNS & RECOVERIES**

**DRILL HOLE: T94-17**

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<b>Meterage From</b>	<b>To</b>	<b>Observed</b>	<b>% Recovery</b>
16.8	20.1	3	91
20.1	23.2	3.1	100
23.2	26.2	3.0	100
26.2	29.3	3.1	100
29.3	32.3	2.9	94
32.3	35.4	3.1	100
35.4	38.4	3.0	100
38.4	41.5	3.1	100
41.5	44.5	3.0	100
44.5	47.6	3.1	100
47.6	50.6	3.0	100
50.6	53.7	3.1	100
53.7	56.7	3.0	100
56.7	59.8	3.1	100
59.8	62.8	3.0	100
62.8	64.9	2.1	100
64.9	65.9	1.0	100
65.9	68.9	3.0	100
68.9	72.0	3.1	100
72.0	75.0	3.0	100
75.0	78.0	3.0	100
78.0	81.1	3.1	100
81.1	84.1	3.0	100
84.1	87.2	3.1	100
87.2	90.2	3.0	100
90.2	93.3	3.1	100
93.3	96.3	3.0	100
96.3	99.4	3.1	100
99.4	102.4	3.0	100
102.4	105.5	3.1	100
105.5	108.5	3.0	100

END OF HOLE

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**SPERRY-SUN SURVEYS**

<u>Depth (m)</u>	<u>Azimuth</u>	<u>Dip</u>
23.2	180	55.5
53.7	181	60

Property: TAG  
 Commenced: July 5, 1994  
 Completed: July 8, 1994  
 UTM Coordinates: 414551.4E/6815549N  
 Contractor: D.J. Drilling  
 Logged by: D. Rhodes

District: Watson Lk.  
 Location: 105G/7  
 Core Size: NQ  
 Claim Reference: YB46341  
 Tract/Claim: TAG 17  
 Elevation: 1458.4 m

Hole No.: T94-18  
 Length: 309 m  
 Cor. Dip: 45°  
 True Brg.: 180°  
 % Recovery: Recoveries not recorded.

**Description Summary:** Qtz-sericite schists to 231 m of probable rhyolite ash/crystal tuff origin are underlain by chlorite-quartz-biotite-calcite schists possibly representing deformed mafic to intermediate tuffs with minor clastics. Qtz-sericite-jade green chlorite-iron carbonate-feldspar mineralogies between 141.1 and 157.5 m likely represent alteration assemblages associated with proximal mineralization.

Metres From	To	Plot Code	Description
0	9.8	OV B	<b>CASING/OVERBURDEN</b>
9.8	26.6	FBF	<p><b>QUARTZ/SERICITE (CHLORITE/BIOTITE) SCHIST - FRAGMENTAL</b>                      Thick sequence of felsic quartz rich rocks of probable rhyolite ash/crystal tuff origin with sericite as dominant phyllosilicate but also including variable amounts (0-10% usually, locally more) of chlorite and/or biotite. Dominant texture in rocks is "fragmental" texture in which silica (possibly some feldspar?) forms variably size flattened lensoidal forms ranging from 1-10 mm long 1-5 mm thick in places to plus 4 cm long 0.5-1 cm in others. It is possible that these forms are flattened lapilli however evidence from here and other holes suggests they are boudined and transposed silica rich bands either exhalative silica or silica rich ash layer. Textures vary from coarse to fine and locally ribboned or banded texture in which alternating silica rich and phyllosilicate rich layers can be seen.</p> <p>Rocks maintain more or less same character but with variable biotite/chlorite component as commented on below.</p> <p>9.8-14.2 Light yellow green dominantly sericite/quartz with slight chlorite content. Fragmental forms lensoid 1-2 cm long 1-5 m thick 1-2% very fine disseminate pyrite strong rusty oxidation to 10.3 rusty patches and seams from there down to 13.5 m. Foliation consistent @ 60° to core axis</p> <p>14.2-16.5 Green relatively chlorite rich interval speckled with biotite flakes and quartz forms elongate lenses wider than core 4 cm often 1 cm thick - takes a partially ribboned texture. Foliation consistent @ 60° to core axis. Again 2-3% fine disseminated po/py.</p> <p>16.3-25.8 Light green to yellow green fine to very fine fragmental sericite/quartz rock with minor chlorite colouring rock. Ubiquitous finely disseminated iron sulphides forms wispy darker siliceous forms in bottom part. Foliation @ 60° except 21.6-30.0 where obvious fold nose is evident.</p> <p>25.8-26.6 Darker green brown with layers 3-4 cm 0.5-1 cm silica lenses.</p>
26.6	26.8	SC	<b>BIOTITE CALCITE (SERICITE SCHIST) - SEDIMENT?</b> -50% biotite with sericite and calcite - moderately calcareous sediment horizon?
26.8	30.2	FAF	<b>QUARTZ SERICITE SCHIST</b> - finely fragmental to evenly granular - host like dominantly yellow slightly greener than host but probably still Fa. Foliation 60° to core axis.
30.2	33.5	FEB	<b>CHLORITE LAMINATED QUARTZ SERICITE SCHIST</b> 10 to 20% of rock is dark green, black, chlorite laminae in quartz sericite schist with strong folding/transposition evident.
33.5	35.0	FBPF	<b>QUARTZ SERICITE/CHLORITE/SCHIST WITH FELDSPAR (POSSIBLY IRON CARBONATE)</b> "Fragmental" light green coloured rock due to sericite/chlorite. Speckled with cream coloured grains thought to be feldspar but possibly iron carbonate. Foliation @ 60° to core axis.
35.0	35.5	SD	<b>SERICITE/CHLORITE/(QUARTZ) SCHIST</b> phyllosilicate rich interval - relatively soft well foliated.
35.5	36.6	FBF	<b>FRAGMENTAL QUARTZ/SERICITE/CHLORITE SCHIST</b> Irregular amorphous 1-3 cm silica forms in sericite/chlorite minor biotite. Prominent wispy aggregates of po, less pyrite.

Property: TAG

36.6	37.6	SC/SD	Phyllosilicate rich band sericite/chlorite at top and biotite with calcite toward base. Foliation @ 60° to core axis.
37.6	45.2	FAF	<b>QUARTZ SERICITE SCHIST-HOST LIKE, YELLOW GREY, FINE FRAGMENTAL FORMS</b> 3-4 % disseminated pyrite (po) some bands and shears of 20% sulphides associated with quartz @ 44.3-44.5.
45.2	53.2	FEB	<b>BLACK CHLORITE LAMINATED BANDED QUARTZ SERICITE SCHIST "FRAGMENTAL"</b> Yellow green ribboned to moderately fragmental quartz/sericite schist with 5-10% black chlorite. Foliation @ 80° to core axis.
53.2	65.4	FAF	<b>QUARTZ SERICITE "FRAGMENTAL" SCHIST</b> Granular to finely fragmental yellow grey/green quartz sericite schist. Commonly finely sheared granular silica in sericite schist but at top 6 m some local ribboned textures. 2-3% fine disseminated pyrite - also more abundant with wispy quartz patches and bands. Foliation @ 80° to core axis.
65.4	68.5	FCF	<b>QUARTZ/SERICITE (BIOTITE) FRAGMENTAL SCHIST</b> Similar to previous section but with visible 1-5% biotite flakes - finely fragmental to granular texture.
68.5	87.2	FAF	<b>QUARTZ SERICITE "FRAGMENTAL" SCHIST</b> Host schist with fine granular to finely 1-10 mm wispy fragmental. Strong foliation throughout @ 80° to core axis. 3-5% fine pyrite disseminated and colouring wispy silica mottles darker due to 5-10% pyrite.
87.2	91.2	FAPF	<b>QUARTZ SERICITE "PORPHYRY" SILL/FLOW?</b> Quartz sericite rock dotted with 20-30% white quartz/feldspar grains/fragments that seem to have partly subhedral outlines. Could be transposed fragmental forms but appear numerous enough to indicate porphyritic volcanic possibly a flow or sill. Textural fabric in rock though slight appears to be at 60° to core axis.
91.2	96.5	SC	<b>BIOTITE CALCITE ROCK</b> Rock composed of 60-80% biotite with most of remainder calcite - not particularly schistose. Possibly a sediment originally.
96.5	115.3	FC	<b>QUARTZ SERICITE (BIOTITE, CHLORITE, CALCITE) SCHIST</b> Interval of well foliated quartz sericite finely fragmental to crinkly laminated schist with mottled green and brown textures due to fine dispersion of chlorite/biotite - locally quite calcareous biotite/chlorite rich elsewhere slightly calcareous in places. Rock locally has granular clast speckled look that might indicate original tuffaceous component. Not clear whether mineralogy in places is a response to primary composition or alteration incl. 101.2-102. SC Strongly brown and green mottled biotite/chlorite moderately calcitic rock. 105.9-106.5 SC Biotite/chlorite/calcite rock + finely foliated/laminated - possible sediment. Foliation 85° to core axis. 106.8-107.5 Strongly contorted sericitic interval with patch in middle of quartz, green feldspar - black to brown tourmaline. 111.5-112.2 and 110.6-115.3 FEB Chlorite banded/laminated, 114.3
115.3	136.0	FAR	<b>QUARTZ SERICITE SCHIST RIBBONED</b> Light yellow grey typical ore host rock generally with prominent ribboning involving alternation of 1 to 5 mm silica bands with sericite (highly stretched?) 4-5% pyrite occur in interval, both disseminated and as 10 to 30% disseminated in 2 to 10 mm silica bands and wisps. Foliation in interval is undulatory but generally @ 80° to core axis. <b>Note:</b> Interval shows extensive brittle fracturing and faulting with zone from 123.6-134.5 being broad zone of faulting with numerous intervals of highly fractured rock about sections of rock gouge @ 122.6-124.0 (gouge @ 123.2 and 123.7) 127.8-130.0 (gouge @ 127.9) 128.7-129.0 (gouge @ 128.7) 130.3-131.4 (major gouge 130.8-131.3) 132.3-132.6 (gouge 132.5).

136.0	141.1	FEB	<p><b>CHLORITE BANDED LAMINATED QUARTZ SERICITE SCHIST</b> Usual texture with 10-30% fine black laminations intercalated with white quartz minor sericite laminae some short intervals 5-15 cm of dominantly grey black rock - thought to be mudstone interbedded with felsic volcanics (alteration?). Rock complexly folded/sheared but foliation @ 80-85° to core axis.</p>
141.1	157.5	FF	<p><b>QUARTZ/SERICITE/JADE GREEN CHLORITE/IRON CARBONATE FELDSPAR SCHIST - ORE HORIZON</b> Interval of altered rocks composed of very yellow sericite, quartz bands speckled with cream iron carbonate quartz veins with light coloured feldspar and some jade green chlorite (not as much chlorite as is often the case). Despite unusual mineralogy interval for most part shows good lamination and ribboning of components at 85° to core axis. Quartz veins are evident @ 152.0-152.6. 3-4% pyrite, po., trace occurs as chalcopyrite to minor disseminations and associated with specific 0.5 to 5 cm silica rich bands. Interstitial net textured chalcopyrite and pyrrhotite occurs between 160.1 and 160.6 while coarse splashes of pyrrhotite/chalcopyrite occurs in small quartz veins between 152 and 152.8. It is probable that this interval is the ore horizon minus sulphides.</p>
157.5	181.4	FAF	<p><b>QUARTZ RICH QUARTZ SERICITE COARSE "FRAGMENTAL"</b> Relatively homogenous thick interval of quartz rich rocks in which light grey silica forms 0.3 to 1.5 cm thick 1-4 cm long lensoidal to somewhat amorphous shapes enveloped and wrapped around by a bright slightly greenish yellow sericite that forms 20-30 vol% of rock. 3-4% pyrite, minor po tr cpy occurs as grain aggregates generally in sericite. Foliation is not strongly developed in rock due to abundant quartz forms but fabric is generally @ 80° to core axis. Origin of silica forms remains controversial locally areas of more continuous ribbons of silica suggest forms may be transposed beds of chert or silica ash however large size in this interval makes one wonder whether they might not be deformed lapilli.</p>
181.4	192.9		<p><b>MAFIC FOOTWALL SUCCESSION</b> Sequence of more chloritic, biotitic and calcareous schists that mark probably more intermediate to mafic tuffs (flows?). Interval lacks very chloritic biotitic rocks seen elsewhere in footwall sequence but overall character indicates that these rocks correlate with others seen in footwall.</p>
181.4	183.8	MDPB	<p><b>MEDIUM GREEN CHLORITE/SERICITE/QUARTZ/CALCITE SCHIST SPECKLED WITH BIOTITE FLAKES.</b> Finely foliated phyllosilicate rock, still moderately hard with some silica content but also calcite within matrix and as calcite/quartz veinlets bands cutting rock @ 181.7-182.0 FAULT ZONE with gouge partially decomposed to clay.</p>
183.8	192.9	MG	<p><b>MEDIUM TO LIGHT GREEN SERICITE/CHLORITE/QUARTZ/CALCITE (BIOTITE) SCHIST - rock is slightly lighter than preceding and lacks obvious biotite flakes weakly to moderately calcareous throughout with moderate silica content. (Rock is probably intermediate to slightly felsic in composition.</b>  Interval @ 185.9-188.0 shows slightly brighter green micas beginning to resemble Pistachio mica - also shows 1 to 15 mm white silica laminae and bands at 1 to 20 cm intervals hosting 30-50% red brown sphalerite in texture similar to that in other holes. Estimate overall 4-5% sphalerite 2-3% zinc. Foliation is consistent at 70° to core axis.</p>
192.9	205.3	FD	<p><b>QUARTZ/SERICITE/CALCITE (CHLORITE) SCHIST</b> Dominantly felsic volcanic with predominant minerals being quartz and sericite, calcite occurs in matrix and as bands ribbons with some quartz cutting rock. Minor chlorite produces slightly greener colour to rock and is locally more abundant. From 201.7-202.7 10% pyrite and 2-10% red brown sphalerite occurs in 1-10 mm wide wispy calcite/quartz ribbons and lenses @ 203.0-203.2 jade green chlorite band hosts laminae of red brown sphalerite in bottom 20 cm, a 203.2-203.9 is moderately chloritic 203-.9-204 jade green chlorite with two 5 mm silica/carbonate laminae hosting 10% pyrite 10% red brown sphalerite 2% chalcopyrite. Foliation in interval is consistent at 80-85° to core axis.</p>

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205.3 231.3 FA

**QUARTZ SERICITE SCHIST** (Fine fragmental - granular host type schist composed of 50-70% quartz 50-30% sericite. Sericite is very light yellow producing light yellow grey rock that is lustrous with sericite flakes when dry. Dominant texture seems to be fine 1-10 mm lenticular grains of silica in sericite with 1-5 mm thick undulatory grey to translucent bands of silica hosting 5-20% pyrite, pyrite aggregates. White grains speckling silica may be feldspars. Traces of red brown sphalerite occur occasionally with pyrite. Foliation throughout intervals consistent @ 75° to core axis.

@ 220.7-222.8 chlorite rich interval with 1-10 cm bands of black chloritic material or laminae believed to be mudstones. Foliation @ 75° to core axis.

231.3 252.1 SAM

**BUFF SERICITE/BIOTITE/CHLORITE MOTTLED "QUARTZ AUGEN" SCHIST - SEDIMENT? METAVOLCANIC WACKE/GRIT?**

Rock resembles lithology encountered in bottom of DDH 12 - buff coloured rock somewhat mottled yellow green, green and brown due to variable presence of chlorite and biotite. Buff coloured matrix appear to be mix of silica, sericite and perhaps feldspar. Rock hosts 5-20% grey to white lensoidal 1-20 mm long deformed pebbles, transposed silica bands.

From 239.5 down to 244.0 rock is buff brown lacking green colour and only hosts 1-2% fine pyrite.

From 231.3-239.5 rock is greener and hosts occasional fine laminations on 2 cm bands @ 238.7 that contains pyrite, black sphalerite traces of chalcopyrite.

244.0-252.1 Rock is basically similar in character but with less abundant "augers" and distinctly greener more chloritic (might this zonation mark either side of chilled intrusive?)

Significant bands of sulphides occur @ 243.8 2 cm band with pyrite, red brown, sphalerite.

244.0-244.5 Quartz band (vein?) hosting green coloured feldspar (iron carbonate) patches of jade green chlorite 20% pyrite aggregates, 7% red brown coarsely 1-10 mm xilline sphalerite 1% galena and minor chalcopyrite.

251.7-252.1 Quartz vein/band upper 40 cm hosts 40% pyrite 5% sphalerite, 1% galena minor chalcopyrite lower 20 cm is more coarse white quartz but does host 2% 5-10 m crystalline galena.

252.1 309.0

**CHLORITE QUARTZ BIOTITE CALCITE SCHISTS (MAFIC TO INTERMEDIATE VOLCANICS - TUFFS SOME SEDIMENTS?)**

Interval characterized by dark apple green chlorite coloration throughout with chlorite being dominant component along with silica some sericite and a variable but generally negligible to weak calcite component. Most of rocks are speckled with large 0.5 to 5 mm biotite flakes and aggregates. Quartz forms (feldspar also?) take on fine "fragmental" lensoidal forms often seen in schists. Rock resemble to some degree footwall mafic succession but are generally less calcareous. Origin is uncertain but greenstone character suggests a mafic or intermediate volcanic origin is most likely. While there are local variations foliation in interval is relatively consistent @ 80-95° to core axis. Subdivisions of interval are given below:

252.1 259.3 MHPB

**BIOTITE SPECKLED MEDIUM GREEN CHLORITE/SERICITE/QUARTZ (FELDSPAR?) SCHIST.** Very even textured phyllosilicate rich fine grained rock, moderately hard composed of chlorite and probably sericite, silica and feldspar with 5-10% biotite flakes speckling rock. Rock is very homogeneous and even texture with subtle foliation @ 85° to core axis (perhaps homogeneous even nature of interval might suggest andesitic flow rather than tuffs or epiclastics.

256.3-256.6 More chlorite quartz ribboned interval hosts 5-10% pyrite; 5% po, 2% red brown sphalerite and 0.5% cpy.

259.3-259.4 Quartz rich 4 cm band with pyrite (2.5%) purple brown sphalerite 8% cp + 2% followed by 4 cm of sulphides disseminated in chlorite.

259.5 264 FC

**LIGHT YELLOW GREEN QUARTZ/SERICITE (CHLORITE) SCHIST WITH SLIGHT FINE BIOTITE SPECKLING.** Felsic looking rock with only moderate greenish coloration from quartzite and flecking with fine and few biotite flakes - looks like rhyolite/dacite rock. Foliation @ 85° @ 262.1-262.2 silica band with py and po aggregates, chlorite clasts with magnetite and 0.5 to 1.5 cpv.

264 283.5 FBB/MH

**COMPOSITIONALLY LAYERED BANDED GRANULAR QUARTZ FELDSPAR SERICITE (CHLORITE) SCHISTS ALTERNATING AT 1 TO 20 CM SCALES WITH VARIABLY CHLORITE/SERICITE QUARTZ SILICATE RICH BANDS.** Very variable section that looks like interbedded succession of volcanic derived sandstone to mudstones - possibly with some volcanic tuffs. Fine py, lesser po is common as disseminations and aligned along occasional laminae in rock. Jade green chlorite bands commonly show sulphides over 0.5 - 2.0 cm intervals ie 275.4 2 cm with networking po/cpy. Laminae red brown sphalerite @ 278.7. Locally some 10-40 cm intervals are weakly to moderately calcareous.

264.1-264.3 Quartz vein with 8% red brown sphalerite 10% py 5% po 2% cpy.

283.5 309 MHPB

**BIOTITE SPECKLED CHLORITE/SERICITE/QUARTZ FELDSPAR? SCHISTS - META-ANDESITES** Planar foliated dominantly green chlorite schists with variable sericite, silica feldspar component producing medium to dark green coloration 3-10% biotite speckles rock in large 1-5 mm flakes/flake aggregates.

293-294 rock is moderately calcareous. Composition varies and is reflected in colour from dark green to buff greens. Most of rock hosts 5-10% 1-10 mm long 0.1 to 5 mm thick quartz lenses - fragmental?

2-4% po py occurs disseminated in rock @ 295.5-296 several bands of po and silica with 0.5-2.0% cpy, red brown sphalerite.

285.8-286.2 contorted chlorite/quartz vein with 20% py 5% po, 3% sph 1% cpy.

Foliation is very consistent @ 85° to core axis.

Interval was probably andesitic volcanics originally (tuffs/flows/epiclastics?)

END OF HOLE @ 309 m

<u>Depth (m)</u>	<u>Azimuth</u>	<u>Dip</u>
28.9	174	46.8
62.5	174	50.0
93.0	168	54.5
126.5	174	56.4
150.9	170	56.1
184.4	172	58
214.9	174	59.7
275.8	180	62.1
306.3	181.5	63.4

TAG-WD

Job V 94-0382R

T94-18

Report date 5 AUG 1994

LAB NO	FIELD NUMBER	DRILL INTERVAL		INT.	Cu	Pb	Zn	Ag	Au	Wt Au	Fe	Hg
		from (metres)	to		ppm	ppm	ppm	ppm	ppb	gram	%	ppb
R9405012	94-18	149.50	151.00	1.50	220	2640	3930	5	<10	5	4.09	
R9405013	94-18	151.00	152.70	1.70	6400	107	889	5.2	24	5	5.8	
R9405014	94-18	152.70	154.20	1.50	74	11	130	.4	<10	5	3.94	
R9405015	94-18	184.40	185.90	1.50	81	8	51	.7	<10	5	1.11	
R9405016	94-18	185.90	187.80	1.90	52	4	E17300	1.6	<10	5	.89	
R9405017	94-18	187.80	189.30	1.50	13	13	117	<.4	<10	5	1.37	
R9405018	94-18	244.20	244.60	0.40	396	8250	E46200	29.2	40	5	19.4	
R9405019	94-18	251.70	252.10	0.40	280	E13550	E24750	44.1	36	5	16.9	

## ANALYTICAL METHODS

Cu Aqua regia decomposition / AAS

Pb Aqua regia decomposition / AAS

Zn Aqua regia decomposition / AAS

Ag Aqua regia decomposition / AAS

Au Aqua regia decomposition / solvent extraction / AAS

Wt Au The weight of sample taken to analyse for gold (geochem)

Fe Aqua regia decomposition / AAS

Hg Flameless AAS

## STRIP 1 LITHOLOGIES

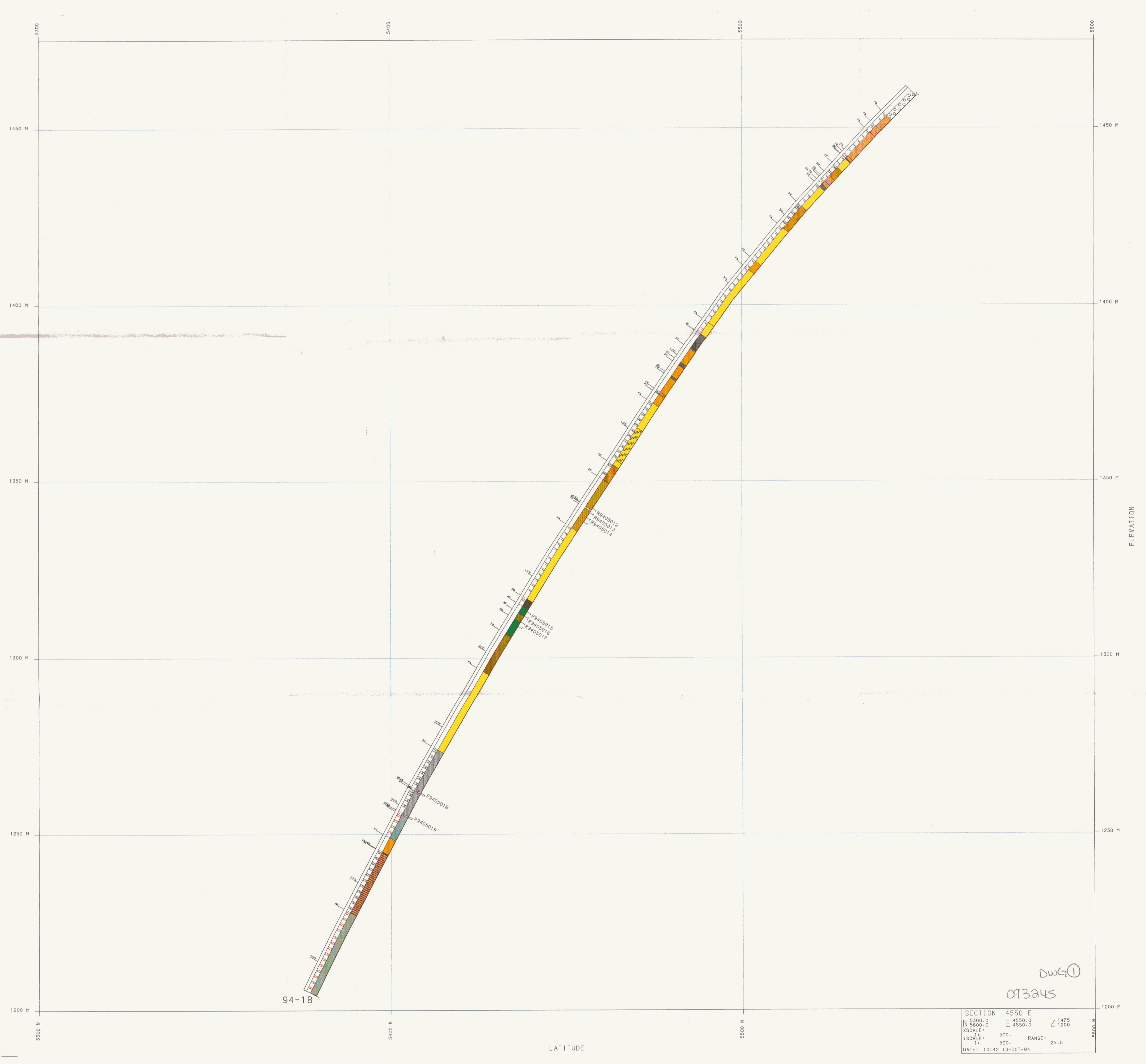
	OVB	OVERBURDEN
	F	META-FELSIC VOLCANICS
	FA	QUARTZ SERICITE SCHIST
	FB	QTZ-SER (CHLORITE) SCHIST
	FC	QTZ-SER (CHL/BIO/FE CARB) SCH.
	FD	QTZ-SER WITH CALCITE BANDS
	FE	QTZ-SER CHLORITE (GRAPHITE)
	FF	JADE GREEN CHL/QTZ /FECO3 FSPAR
	FG	METARHYOLITE FLOW OR SILL
	FH	QTZ-SER IRON CARB. SCHIST
	FO	QTZ-EYES+-FSPR SER SCH(XTL TUFF)
	FT	ASH TUFFS OR XTL TUFFS
	FY	YELLOW SERICITE ALTERATION FF
	M	META-INTERMEDIATE-MAFIC VOLC.
	MA	CHLORITE/CALCITE SCHIST
	MB	CHLORITE/CALCITE/BIOTITE SCH.
	MC	CHLORITE/SERICITE/CALCITE SCH.
	MD	BIOTITE/CALCITE (CHLOR) SCH.
	ME	CHLORITE/SERICITE/CALC/BIOT SCH
	MF	PISTACHID MICA/QTZ /SER SCHIST
	MG	SERICITE/CHLORITE/CALCITE SCH.
	MH	CHLORITE/SERICITE/QTZ SCHIST
	MI	CHLORITE/BIOTITE SCHIST
	MJ	CHLORITE/QUARTZ SCHIST

	S	META-SEDIMENTS
	SA	BIOTITE/SERICITE/QUARTZ/CHLORITE
	SB	BIOTITE/CHLORITE/SERICITE
	SC	BIOTITE-RICH SCH. CALC+-QTZ.CHL
	SD	SERICITE/CHLORITE/QTZ SCHIST
	SE	CHLORITE/CALCITE/GRAPHITE/SER
	SF	CHLORITE/SERICITE/CALC (BIOT) S
	SG	MARBLE (SERICITE) +-CHLOR/BIOT/C
	SQ	QUARTZITE
	QZVN	QUARTZ VEIN
	FLT	FAULT ZONE

## STRIP 2 TEXTURES

	TB	BANDED/LAMINATED
	TF	FRAGMENTAL
	TG	GRANULAR
	TM	MOTTLED
	TR	RIBBONED
	PB	PORPHYROBLASTS - BIOTITE
	PC	PORPHYROBLASTS - CALCITE
	PF	PORPHYROBLASTS - FELDSPAR/CORD
	PI	PORPHYROBLASTS - IRON CARBONAT
	PL	PORPHYROBLASTS - CHLORITE





94-18

DWG ①  
073245

SECTION	4550 E
N	5300.0
E	4550.0
Z	1475
XSCALE	1" = 500'
YSCALE	1" = 500'
RANGE	25.0
DATE	10:42 13-OCT-94

LATITUDE

ELEVATION