

**RECEIVED**  
MAR 31 1999  
GEOSCIENCE ASSESSMENT  
OFFICE

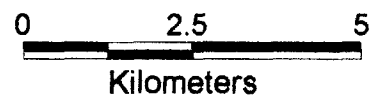
- Falconbridge Limited Claim Block
- Ontario Northland Railway
- + 1997 Diamond Drill Hole
- 1998 Diamond Drill Hole

42105NE2001 2.19347 HOBSON



010

2.19347



<b>FALCONBRIDGE LIMITED</b> Timmins Exploration	
Coral Rapids Limestone - P.N. 8264 42 1/05	
<b>PROPERTY AND DDH</b>	
Drawn M.S.C.	Date 06/05/98
Supervised M.S.C.	File 99budget.wor

RECEIVED

1. MAIN ROCK DIVISIONS

- 15 Phanerozoic Sediments
- 14 Huronian Supergroup
- 13 Metamorphic (Unknown)
- 12 Gneiss
- 11 Schist
- 10 Diabase
- 9 Felsic Intrusive
- 8 Intermediate Intr. Rocks
- 7 Mafic Intrusive Rocks
- 6 Ultramafic Intr. Rocks
- 5 Sedimentary Rocks
- 5,s Sulphide (>40%)
- 4 Felsic Volcanic Rocks
- 3 Intermediate Volcanic Rocks
- 3,C Heterolithic Volcanic Rocks
- 2 Mafic Volcanic rocks
- 1 Ultramafic Volcanic Rocks

2. TEXTURAL/GEOCHEMICAL MODIFIERS

- |    |                         |   |                       |
|----|-------------------------|---|-----------------------|
| a  | Fine Grained            | A | Primitive (Y<20)      |
| b  | Medium Grained          | B | Evolved (Y>20<60)     |
| bx | Breccia                 | C | Heterolithic          |
| c  | Coarse Grained          | D | Feldspar Phyrlic      |
| d  | Quartz-Feldspar Phyrlic | E | Chert                 |
| e  | Amygdaloidal/Vesicular  | F | Wacke                 |
| f  | Primary Fragmentals     | G | Leucoxene Bearing     |
| g  | Graphitic/Argillaceous  | H | Basaltic Komatiite    |
| h  | Tholeiitic              | J | Pyroxenite            |
| i  | Alkalic                 | K | Net Textured          |
| j  | Calc-Alkalic            | L | Peridotite            |
| k  | Komatiitic              | M | Dunite                |
| l  | Flows (banded)          | N | Ophitic               |
| m  | Massive                 | P | Porphyritic           |
| n  | Variolitic/Spherulitic  | Q |                       |
| p  | Pillowed                | R | Polysutured           |
| q  | Quartz Phyrlic          | S | Fractured             |
| r  | Oxide Iron Formation    | T | Gabbroic Textured     |
| s  | Sulphides, Exhalites    | U | Pyroxene Spinifex     |
| t  | Pyroclastic             | V | Olivine Spinifex      |
| u  | High Mg                 | W | Skeletal/Crescumulate |
| v  | High Fe                 | X | Adcumulate            |
| w  | High Al                 | Y | Mesocumulate          |
| x  | Andesite                | Z | Orthocumulate         |
| y  | Icelandite              |   |                       |
| z  | Highly Evolved (Y>60)   |   |                       |

ROCK NAMES MUST HAVE ALL MODIFIERS COMMA DELIMITED AND CAN BE NO LONGER THAN 15 CHARACTERS, COMMAS INCLUDED. Example: 3,\*y,d,<DAC>,\*t

3. ALTERATION MODIFIERS

- Ab Albitization
- Bl Bleached
- C> Carbonaceous
- Cb Carbonatization
- Ch Chloritization
- Ep Epidotization
- F> Iron Carbonatization
- He Hematization
- K> Potassic Alteration
- Ka Kaolinitization
- Rs Rust Stained
- Se Sericitization
- Si Silicification
- Sr Serpentinization
- Tc Talc-Carbonatization
- Tk Talc

4. Textural./Structural MODIFIERS

- |     |                           |    |                              |
|-----|---------------------------|----|------------------------------|
| *a  | Tuff (67% <2mm)           | *n | Graded Bedding               |
| *b  | Lapilli Tuff (2-64mm)     | *o | Cross bedding                |
| *c  | Lapillistone (76% <264mm) | *p | Fault Gouge                  |
| *ct | Cataclastic               | *q | Augen                        |
| *d  | Block (>64mm)/Xenolith    | *r | Porphyroblastic              |
| *e  | Autoclastic/Hyaloclastic  | *s | Hornfels                     |
| *f  | Thickly Laminated         | *t | foliated/sheared             |
| *g  | Thinly Laminated          | *u | folded                       |
| *h  | Clast Supported           | *v | boudinage                    |
| *i  | Matrix Supported          | *w | fragmental (felsic>mafic)    |
| *j  | Granule (grit 2-4mm)      | *x | fragmental (mafic>felsic)    |
| *k  | Pebble (4-64mm)           | *y | Crystal Tuff (>50% of frags) |
| *l  | Cobble (64-256mm)         | *z | Lithic Tuff (>50% of frags)  |
| *m  | Boulder (>256)            |    |                              |

ALTERATION CODES

- | FORM     |                          |
|----------|--------------------------|
| S        | Spots                    |
| F        | Fracture/vein controlled |
| P        | Pervasive                |
| STRENGTH |                          |
| S        | Strong                   |
| M        | Moderate                 |
| W        | Weak                     |

Example: EpPW = Epidote, Pervasive, Weak

MINERALIZATION CODES

- | FORM |                          |
|------|--------------------------|
| D    | Disseminated/Blebs       |
| F    | Fracture/vein controlled |
| M    | Massive                  |
| B    | Bedded                   |
| C    | Clasts/Fragments         |

Example: CpB3% = Chalcopyrite, Bedded, 3%

PERCENTAGE

Numeric percentage, or percentage range (i.e. 1-3%), must always be specified

5. MINERALOGICAL NAMES

Ak	Actinolite	Fc	Fuchsite	Pn	Pentlandite
Alb	Albite	Gn	Galena	Py	Pyrite
Al	Almandine	Gt	Garnet	Px	Pyroxene
Am	Amphibolite	VG	Gold	Po	Pyrrhotite
Ah	Anhydrite	Gf	Graphite	Qt	Quartz
Ad	Andalusite	GS	Gravel & sand	Ro	Rhodochrosite
Ay	Anthophyllite	Gyp	Gypsum	Ru	Rutile
Ap	Apatite	Hem	Hematite	Sur	Serpentine
Ar	Argentite	Hb	Hornblende	Sc	Sericite
Asp	Arsenopyrite	Hy	Hypersthene	Sh	Scheelite
Asb	Asbestos	Il	Ilmenite	Sid	Siderite
Aug	Augite	I-F	Iron Formation	Sil	Silica
Az	Azurite	Jr	Jarosite	Slm	Silliminite
Ba	Barite	Ky	Kyanite	Sps	Spessarite
bi	Bismuthite	Ls	Limestone	Sph	Sphalerite
Bi	Biotite	Lm	Limonite	Ti	Sphene (Titanite)
Bo	Bornite	Mag	Magnetite	Ag	Silver
Ca	Calcite	Mc	Malachite	Sp	Spinel
Cn	Chalcedony	Ma	Marcasite	Spd	Spodumene
Cc	Chalcocite	Mi	Mica	St	Staurolite
Cp	Chalcopyrite	Mk	Microcline	Sb	Stibnite
Chl	Chlorite	Ml	Millerite	Sul	Sulphides
Ch>	Chloritoid	Mo	Molybdenite	S-M	Mass.Sulphides
Cr	Chromite	Mu	Muscovite	S-D	Diss.Sulphides
Cpx	Clinopyroxene	Ne	Nepheline	Tk	Talc
Co	Cobalt Minerals	Nc	Niccolite	Te	Telluride
Cv	Covellite	Ni	Nickel minerals	Tt	Tertrahedrite
Ct	Cordierite	Ov	Olivine	Ta-Cl	Tantalite-Columbite
Dp	Diopside	Or	Orthoclase	Tl	Tourmaline
Dol	Dolomite	Opx	Orthopyroxene	Tr	Tremolite
Epi	Epidote	Pl	Phlogopite	Wo	Wollastonite
Fel	Feldspar	Pg	Plagioclase	Zr	Zircon
Fl	Fluorite				

6. ROCK TYPE / PROTOLITH

<QFG>	Quartzofeldspathic	<PER>	Peridotite	<CHM>	Chem. Precip.
<QTZ>	Quartzite	<SER>	Serpentinite	<SLA>	Slate
<MAR>	Marble	<DUN>	Dunite	<KIM>	Kimberlite
<SKA>	Skarn(Calc-Silicate)	<PRX>	Pyroxenite	<CAR>	Carbonatite
<PHY>	Phyllite	<LMP>	Lamprophyre	<AMP>	Amphibolite
<TON>	Tonalite	<SST>	Sandstone	<MIG>	Migmatite
<SYN>	Syenite	<ARK>	Arkosic sandstone	<PEG>	Pegmatite
<GRA>	Granite	<WCK>	Graywacke	<LEU>	Leucocratic
<MON>	Monzonite	<CGL>	Conglomerate	<MEL>	Melanocratic
<GRD>	Granodiorite	<SLT>	Siltstone	<UNK>	Unknown Protolith
<APL>	Aplite	<ARG>	Mudstone-argillite	<UMF>	Ultramafic
<FEL>	Felsite	<EXH>	Chert/exhalite	<MAF>	Mafic
<QDI>	Quartz Diorite	<QIF>	Silicate IF	<AND>	Andesite
<GAB>	Gabbro	<OIF>	Oxide IF	<DAC>	Dacite
<NOR>	Norite	<SIF>	Sulphide IF	<RYD>	Rhyodacite
<ANT>	Anorthosite	<CIF>	Carbonate IF	<RHY>	Rhyolite
<DIO>	Diorite	<SHA>	Shale	<SCL>	Sulphide Clasts
		<LST>	Limestone	<RWW>	Reworked Volcanic Debris

7. HURONIAN SUPERGROUP

<i>Cobalt Group</i>	
BR	Bar River Formation
GL	Gordon Lake Formation
LR	Lorrain Formation
GW	Gowganda Formation
<i>Quirke Lake Group</i>	
SP	Serpent Formation
ES	Espanola Formation
BC	Bruce Formation
<i>Hough Lake Group</i>	
MS	Mississagi Formation
PC	Pecors Formation
RL	Ramsey Lake Formation
<i>Elliot Lake Group</i>	
MK	McKim Formation
MT	Matinenda Formation
SL	Salmay Lake Formation
DL	Dollyberry Formation
TH	Thessalon Formation
LC	Livingstone Creek Formation

8. PHANEROZOIC SEDIMENTARY FORMATIONS

MOOSE RIVER BASIN		TIMISKAMING OUTLIER	
MtFm	Mattagami Formation	ThFm	Thomloe Formation
LRFm	Long Rapids Formation	EtFm	Earlton Formation
WIFm	Williams Island Formation	WaFm	Wabi Formation
MIFm	Murray Island Formation	DPFm	Dawson Point Formation
MRFm	Moose River Formation	FrFm	Farr Formation
KwFm	Kwataboahagan Formation	BuFm	Bucke Formation
SRFm	Stooping River Formation		
SXFm	Sextant Formation		

DRILL LOGS



FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 33.00	< OB > Casing Overburden	-May include Mattagami Fm				
33.00 TO 137.30	< 15, LRFm, <S HA>> Phanerozoic Sediments Long Rapids Fm. shale	-black to blue green finely laminated clay/shale  -33-60.45 dominantly blue green shale w/ 3-20cm bands of black shale, fairly competent w/ some plastic sections  -60.45-83.94 dominantly black shale to fine sandstone w/ 0.01-1m bands of blue green clay, minor bioturbation noted beneath several of the clay bands  -83.9-103 as 33-64 but w/ patchy dolomitization noted 97.5-100, large gastropod or belemnite cast intersected 95.1-95.65m  -103-111.5 as 60-84 but more extensively bioturbated, common soft sediment deformation textures (excellent ball and pillow structures @ 105.38)  -111.5-121 essentially all black shale w/ marcasite/pyrite beds and blebs  -121-129.5 sub equal amounts of black shale and blue clay, extensive bioturbation beneath clay beds, shell fragment rich beds noted @ 129m  -129.5-137.3 dominantly blue grey clay w/ minor black shale interbeds, patchy dolomitization after 132, sections rich in brachiopod shell fragments  -lower contact sharp, slightly irregular, at high angle to c.a.  # 48.40-48.41 < S0 88° > Bedding			-trace fine marcasite, bedded and as blebs to 1cm  # 111.00-120.00 < MaB0.0-1.0%> 0.0-1.0% bedded/banded marcasite  # 117.38-117.41 < SphF0.0-1.0%> 0.0-1.0% fracture/vein controlled sphalerite -yellow green mineral in 1-2mm late calcite vein oriented @ low angle to c.a., appears to be sphalerite as found in Young Mine in Tenn. --> gives rotten egg smell when dilute HCl dropped on vein	
137.30 TO 175.17	< 15, WIFm, <L ST>, bx> Phanerozoic Sediments Williams	-white to tan massive medium to fine grained dolostone, tan to grey fine to medium grained limestone, grey to brown mudstone, extensively brecciated with mixed fragments, matrix of calcite, dolomite or grey clay		-pervasive to patchy weak to strong dolomitization		-trace to locally 5% py as bedding // laminations and as vug and fracture filling

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	Island Fm. limestone breccia	<p>-137.3-138 fine to medium grained grey dolostone, vuggy, vugs to 2-3cm filled w/ sparry Fe-calcite, sulphides (Py) in vugs, stylolites, fractures, 3-5%</p> <p>-138-144 tan to white fine to medium grained limestone, vuggy, blocky, fractured, pieces knit w/ tan to orange lime mud RQD=5, 1.5m core not recovered 138-141, 1.4m core not recovered 141-144</p> <p>-144-144.4 matrix supported breccia, grey clay matrix, fragments include LRFm</p> <p>-144.4-147 clast supported breccia, limestone and dolostone fragments to .7m w/ minor clay matrix --&gt; reference piece @ 144.6 dolomitic fragments surrounded by sulphide rim (seems to be just py) with micrite cement, sparry calcite in vugs --&gt; implies multiple brecciation episodes, one w/ mineralizing event</p> <p>-146.4-146.8 medium grained dolomitic limestone fragment w/ up to 10% sulphides along bedding/stylolitic planes, rotated so planes are subparallel c.a.</p> <p>-147-151.3 as 138-144 RQD=10</p> <p>-151.3-155.7 non-consolidated plastic grey mud w/ small fragments of limestone and one cohesive section of black shale which appears to be LRFm from 155-155.52, 1m core not recovered 150-153</p> <p>-155.7-161.65 finely laminated fine grained white to tan moderately dolomitized limestone w/ orange to ochre partings and stylolites, moderately fractured, weakly vuggy, becomes progressively more fractured and block to bottom of interval RQD=30, 0.3m core not recovered 159-162</p> <p>-161.65-164.3 dark grey to dark brown calcareous shale, extensively fractured and knit w/ calcite veins, calcareous layers make unit very competent, minor small fragment component</p>				



HOLE NUMBER: HOB15-01

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-164.3-165.1 white fine grained gypsum bed				
		-165.1-165.71 as 162-165 but more fragmental				
		-165.71-169.5 medium grained grey calcarenite, very blocky, RQD=0, 1m core not recovered				
		165-168, 0.5m core not recovered 168-171				
		-169.5-170.9 as 165.1-165.7				
		-170.9-171.95 massive medium to fine grained calcarenite				
		-171.95-173.1 calcareous grey shale, massive to finely laminated, solution textures or bioturbation noted 171.95-172.35				
		-173.1-175.17 fine to medium grained grey fossiliferous limestone, mostly corals w/ some brachiopods				
		-end of unit is gradational to grey mudstone/shale				
		#156.30-156.31 #S0 84° Bedding				
175.17 TO 220.20	<15, WIFm, <S HA>> Phanerozoic Sediments Williams Island Fm. shale	-grey to blue green thinly laminated to massive shale/clay				-trace py noted
		-very monotonous unit, fairly competent to plastic				
		-177-178.5 fossiliferous, brachiopod shells, some coral				
		-stromatoporida (?) noted @ 219.8				
		-gradational lower contact over 2m from greyshale to shaly brown limestone to limestone				
		#186.10-186.11 #S0 89° Bedding				

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DRILL HOLE RECORD

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## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
220.20 TO 228.57	*15, MIFm, <L ST>	-dark brown to grey fine to medium grained fossiliferous limestone				
228.57 TO 253.36	Phanerozoic Sediments Murray Island Fm limestone	-220.2-221.15 dark brownish grey finely laminated shaley limestone to calcareous mudstone  -221.15-223.95 grey fine to medium grained fossiliferous limestone w/ brachiopod shells, crinoid columnals, rare ostracods, unidentified shell fragments -223.95-228.57 sparsely fossiliferous grey fine to medium grained limestone, fractured and knit by late calcite veins w/ trace py, weakly to moderately vuggy    220.70-220.71  *{S0 84°}* Bedding				-223.95-228.57 limestone, fractured and knit by late calcite veins w/ trace py, weakly to moderately vuggy
228.57 TO 253.36	*15, MRFm, bx	-light to dark grey limestone, dolostone and rare gypsum fragments in grey calcareous shale to calcite matrix				sulphide bearing vugs noted @ 242.05, 247.4
253.36 TO 260.98	Phanerozoic Sediments Moose River Fm. breccia	-228.57-230.3 grey calcareous shale w/ up to 40% small fragments, mostly shale but about 1/3 limestone, fragments to 4cm  -230.3-231.0 mostly gypsum fragments, RQD<40  -231-241 light grey limestone fragments w/ minor vitreous brown dolomite fragments, minor gypsum in a clay supported breccia w/ grey calcareous shale/clay matrix --> 70% fragments RQD=60%  -241-253.36 as above w/ predominantly carbonate matrix, sulphide bearing vugs noted @ 242.05, 247.4				
253.36 TO 260.98	*15, KwFm, <L ST>	-interbedded brown to grey-blue fine sandstone to shale and massive fine to medium grained limestone				
260.98 TO 265.00	Phanerozoic Sediments Kwataboahegan Fm. limestone	-253.36-254.2 massive stylonitic grey limestone w/ brown shaly partings  -254.2-256 brown to blue-grey fine sandstone to shale w/ minor limestone interbeds to 1-2cm -256-258 interbedded 2-5cm bedsof limestone and brown shale				

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-258-260.98 as 253-254				
260.98 TO 263.19	«15,SRFm,«L ST» Phanerozoic Sediments Stooping River Fm. Limestone	-white to tan massive fine to medium grained sparsely fossiliferous limestone w/ clastic fragments to cobble size near base of unit  -260.98-263.19 massive stylolitic limestone w/ brown to yellow-brown shaley partings and detrital quartz grains to pebbles to Precambrian cobbles towards base of unit				
263.19 TO 267.00	«12,Bi,Fel, Qt» Gneiss biotite feldspar quartz	-red to pink highly weathered quartz-feldspar-biotite gneiss, RQD=50, .5m core not recovered				
267.00 TO 267.00	«E.O.H.»					

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HOLE NUMBER : HOB15-01

ASSAYS SHEET

DATE: 17/03/1999

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Mn ppm
AU02505	137.30	138.00	0.70	11	56	10	19.0	0	0									
AU02506	146.43	146.82	0.39	11	35	9	9.0	7	0									
AU02507	240.00	241.00	1.00	12	11	12	8.0	0	0									
AU02508	241.00	242.17	1.17	14	35	13	7.0	0	0									

HOLE NUMBER : HOB15-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME	ALUM ID	
AU02731	138.00	138.10	0.10																										
AU02732	159.40	159.50	0.10																										
AU02733	171.00	171.20	0.20																										
AU02734	222.20	222.30	0.10																										
AU02735	227.90	228.00	0.10																										
AU02736	231.13	231.25	0.12																										
AU02737	247.30	247.40	0.10																										
AU02738	252.75	252.90	0.15																										
AU02739	255.30	255.45	0.15																										
AU02740	259.60	259.73	0.13																										
AU02741	260.53	260.68	0.15																										
AU02742	261.55	261.65	0.10																										

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GEOCHEMICAL ASSAY

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HOLE NUMBER: HOB22-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 22.00	«OB» Casing Overburden					
22.00 TO 42.00	«12,<GRA>» Gneiss granite	-medium grained pink to green quartz-feldspar-biotite gneiss -fresh looking @ top of hole -becomes more weathered, saprolitic @ 25.9m -medium to coarse grained felsic intrusive dikes (possibly pegmatitic) account for 40-50% of rock after 33m -22-25 RQD=80 -25-26 0.5m core not recovered -26-29m 0.9m core not recovered, RQD=30% -29-32m 1.9m core not recovered, RQD=0 -32-35m 0.9m core not recovered, RQD=10% -35-38m RQD=70%			-none noted	
42.00 TO 42.00	«EOH» End-Of-Hole					

HOLE NUMBER: HOB22-01

## DRILL HOLE RECORD

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 33.00	<{OB}> Casing Overburden	-may include Mattagami Fm.				
33.00 TO 58.30	<15, LRFm, <S HA>> Phanerozoic Sediments Long Rapids Fm. shale	Black to dark grey to blue grey bituminous shale intercalated with blue grey mudstone.  - 33.0 to 45.8 Black to dark grey bituminous shale. Sparce cubic to fine disseminated py throughout the unit. Core is badly broken up, RQD=<10%.  -45.8 to 54.9 grey-blue fossiliferous mudstone/clay intercalated with black to dark grey bituminous shale. Some ichnofossils occurances at 48.85, 49.4, 50.2 and 52m. Small lenticular beds from 52.7 to 53.88. Bedding @ 85° tca. The blue clay interbeds contain small (1cm) shell fossils.  -54.9 to 58.3, grey blue brecciated, fossiliferous mudstone/clay. Fossils are mostly shell fragments between 2mm and 10mm. Fine and nodular py locally.  - 0.5m lost core between 36 and 39m.  ‡52.70-53.88‡<{S0 85° }> Bedding			Cubic and nodular py found throught the black shale. (<1‡) Sizes range between 1mm to 13mm. Fine disseminated py in the blue clay/mudstones between 57.55 to 58.3 with the last 5cm before the contact between the two major units being semi-massive.	
58.30 TO 99.66	<15, WIFm, <A RG>, <LST>, b x* Phanerozoic Sediments Williams Island Fm. mudstone-ar gillite limestone breccia	Grey to tan brecciated limestone intercalated with grey to dark grey to tan to ochre mudstone /argillite.  -58.3 to 74.84 Brecciated tan limestone in a grey clay/mudstone matrix. From 60 to 63.5 core is stained yellow due to possible ground water leaching. The limestone @ 63.2 contains a "smokey quartz" colored, cubic mineral ?? Moderate pyrite content for the first 1.5 m (~1-2‡ py) of unit. Core is badly broken up with poor recovery  -lost 3m of core @ 60 to 63m, 2m @ 66 to 69m and 2m @ 69 to 72m. RQD=10‡.  -74.84 to 77.46 dark grey calcareous argillite with pale grey elongated cacite bleb.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-77.46 to 81.75 Finely laminated tan to grey to dark brown, porous limestone. Bedding is @ 80° tca. Core becomes grey from 78.3 to 79.1 then becomes porous and tan. 2m of lost core between 81 to 84m. RQD=20%.				
		-81.75 to 95.77 Tan to grey to ochre becciated mudstone/clay intercalated with tan brecciated limestone. The mudstones vary in colors begining grey then tan to ochre to tan. Limestone sections are interbedded with black organic/bituminous beds. The mudstone sections are quite uniform while the limestone is badly broken up. RQD =30-40%.				
		-95.77 to 98.14 dark grey mudstone. Unit is quite uniform, RQD=90%, ichnofossils "worm tubes" occuring at 96.2 and 97.6 and from 96.81 to 97.45 the entire length seems to be of this pattern.				
		-98.14 to 99.66 tan to grey calcareous, fossiliferous limestone. Unit begins tan in color and increaeases in fossil content as it turns to grey. Fossils are mostly shell fragments ranging in sizes between 2mm to 10mm. Lower contact with the Lower Williams Island formation appears to be 60° tca.				
		{78.00-78.50}{@80°} Bedding				
99.66 TO 147.85	*15, WIFm, <S HA>> Phanerozoic Sediments Williams Island Fm. shale	Grey-blue slightly fossiliferous, calcareous shale.  -102.3 to 103.5, grey blue shale with 20 to 40% fossil content. Fossils consist of mostly brachiopod shells and shell fragments, some crinoid stems and corals.				
147.85 TO 156.01	*15, MIFm, <L ST>> Phanerozoic Sediments Murray Island Fm limestone	Tan to grey fossiliferous, brecciated, limestone.  -Top of unit, fossils are mostly brachiopod shells ranging in size between 2mm to 30mm.  -150.9 to 153.3 fossils are almost exclusively well defined crinoid stems from 5mm to 10mm in				

HOLE NUMBER: HOB24-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		width and some are 3cm long.				
		-153.3 to 156.01, unit becomes brecciated and slightly grey with a darker tan mudstone matrix. Bottom contact is 65° tca. RQD for the unit is good @ 80%.				
		{156.01-156.01} {S0 65°} Bedding Contact between the Murray Island and the Moose River Formations.				
156.01 TO 178.63	{15, MRFm, <A RG>, <LST>, b x}	Tan to light grey becciated, vuggy, poreous, finely laminated, limestone with grey mudstone and grey mudstone matrix.				
	Phanerozoic Sediments Moose River Fm.	-156.01 to 159.3 finely laminated, slightly gypsiferous limestone. Bedding is approximately 70° tca				
	mudstone-ar gillite limestone breccia	-159.3 to 159.8 grey mudstone/clay, unit is quite ductile and sticky.				
		-159.8 to 178.63 vuggy, porous, brecciated limestone intercalated with a grey mudstone matrix. Vugs are calcite filled, range in size from 5mm to 20mm. The limestone breccia is finely laminated, jagged with pieces in no particular orientation bound together with a dark grey mudstone. Clasts become smaller and less jumbled and angular downhole. Bottom contact is broken up. RQD for unit is approx. 30%. Lost core: 2m 156 to 159 1.5m 159 to 162 1.2m 162 to 165 1.5m 165 to 168				
178.63 TO 183.00	{15, SxPm, <A RK>}	Brown to red, fine to medium grained sandstone. Unit is strongly hematized, varies from clay-like to medium grained in texture and does not appear to be badly consolidated as in other holes. RQD=40. Unit also contains small lighter colored section, which could be limestone.				
	Phanerozoic Sediments Sextant Fm arkosic sandstone					
183.00 TO 183.00	{EOH}	End-Of-Hole				

HOLE NUMBER: HOB24-01

DRILL HOLE RECORD

LOGGED BY: Andre Taillefer

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HOLE NUMBER : HOB24-01

ASSAYS SHEET

DATE: 17/03/1999

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Mn ppm
AU02501	58.13	58.63	0.50	21	315	6	60.0	0	0									
AU02502	60.40	60.80	0.40	17	1515	8	31.0	0	0									

HOLE NUMBER: HOB24-01

ASSAYS SHEET

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HOLE NUMBER : HOB24-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AU02714	63.20	63.26	0.06																										
AU02715	148.30	148.40	0.10																										
AU02716	150.60	150.70	0.10																										
AU02717	155.60	155.80	0.20																										
AU02718	156.50	156.70	0.20																										
AU02719	172.30	172.50	0.20																										
AU02720	178.30	178.40	0.10																										

HOLE NUMBER : HOB24-01

GEOCHEMICAL ASSAY

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HOLE NUMBER: HOB25-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 33.00	*{OB}* Casing Overburden	-may include Mattagami Fm.				
33.00 TO 123.10	*15, LRFm, <S HA> Phanerozoic Sediments Long Rapids Fm. shale	Black to grey bituminous shale intercalated with grey-blue shale/clay.  -The first 14m is composed mostly of blue clay with small sections of slightly harder, black bituminous shale. Unit becomes increasingly composed of mostly black bituminous shale with thin sections of blue-grey shale. Ichnofossils (worm tubes) occurring at 52.35, 53.9, 54.5, 61.0, 61.8 and 63.75. Py content is limited at first to single nodules at 50m and 67.15 but from 66.9 to 71.42 py content is very fine, disseminated and thinly bedded.  -71.42 to 83.3 Grey-blue shale intercalated with thin layers of grey bituminous shale.  -83.3-84.25 thinly laminated black bituminous shale  -84.25-87.5 grey shale w/ wispy bituminous interbeds, mildly bioturbated  -87.5-89.1 grey shale w/ up to 30% dolomitic concretions  -89.1-89.93 grey shale w/ fine laminations  -89.93-99.1 dominantly black shale w/ minor sections blue grey shale, strongly bioturbated, dolomitic sections to 3-7cm width, py concretion noted @ 93.05  -99.1-110 finely laminated black bituminous shale, disseminated fine py, py (marcasite) concretions noted, calcite filled late 1-2mm wide fractures noted RQD=40 overall, RQD=0 102.5-103.5, 105-107  -110-123.1 dominantly blue grey shale w/ black bituminous shale interbeds to 30cm (10cm common), minor bioturbation, trace py, minor		-minor dolomitization noted throughout	Fine py nodules at 50m and 67.15.  -66.9 to 71.44 very finely disseminated py and thin beds of py.  -py (marcasite?) concretion noted @ 107.2m -fine py bed noted @ 109.65	

HOLE NUMBER: HOB25-01

DRILL HOLE RECORD

LOGGED BY: Andre Taillefer

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		dolomitization RQD=45				
		-lower contact irregular, possibly structural				
		{83.50-83.51} {S0 67°} » Bedding				
123.10 TO 160.50	{15,WIFm,<L ST>,bx* Phanerozoic Sediments Williams Island Fm. limestone breccia	-grey to tan fine to medium grained limestone with ochre to black shale interbeds				
		-common brecciation of units				
		-123.1-127.8 unit starts w/ 15cm section of grey limestone with bedding @ 40° to c.a. -probably a fragment within breccia				
		-vuggy limestone fragment with py deposited within vugs @123.3m				
		-remainder of interval to 127.8m composed of ground and broken fragments of tan limestone w/good porosity and permeability, some showing internal brecciation and calcite cementing. RQD=15, 1m core not recovered.				
		-127.8-129.75 unit dominated by ochre to red shale w/ minor grey shale and vuggy limestone @ 129m				
		-129.75-135 ground and broken fragments of white to tan limestone, larger fragments showing subvertical fractures sealed w/ ochre mud RQD=10 1.4m core not recovered 129-132m, 1m core not recovered 132-135m				
		-135-140.38 limestone fragments bound together by ochre to blue clay matrix, minor limestone fragments to 135.5, unit becomes black mud to 138 RQD=0, 1m core not recovered				
		-unit becomes cohesive weakly laminated grey to black calcareous shale				
		-140.38-146.3 porous permeable white to tan limestone fragments, commonly vuggy RQD=0, 1.5m core not recovered 141-144, 1m core not recovered 144-147				



HOLE NUMBER: HOB25-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-146.3-150 matrix grey to ochre clay matrix with sections of clast supported breccia, trace py noted 147-149.5 RQD=60				
		-150-150.9 gypsum fragments in ochre matrix				
		-150.9-153.5 tan limestone fragments, RQD=0				
		-153.5-156 heterolithic pebble breccia, matrix supported, ochre to brown clay to very fine sand matrix, fragments dominantly shale w/ some gypsum				
		-156-160.5 gypsum, thin interbeds of grey shale and massive grey limestone. Unit ends w/ 1m of rust yellow coloured massive weakly fossiliferous limestone, top contact @ low angle to c.a., probably disrupted fragment in collapse breccia				
		-lower contact lost in plastic clay				
160.50 TO 206.10	*15, WIFm, <S HA> Phanerozoic Sediments Williams Island Fm. shale	-light to dark grey plastic clay to shale, sparsely fossiliferous  -very monotonous unit  -very fossiliferous 163.5-164.85, contains minute bryozoa, echinoderm fragments, large (10cm) ammonite or gastropod shell w/ py in open spaces, brachiopod shell fragments  -possible cross-bedding, and/or soft sediment deformation noted @ 167.95  -most textures lost in plastic deformation due to drilling, core covered in fines  -fine mm scale laminations noted 186.5-186.9  -minor calcareous layers @ 187.6, 192.3m  -drying fractures parallel bedding indicate change in bedding orientation @ 198m, possible slumping?  -some limestone fragments from underlying Murray Island Fm in lower 0.4m				

HOLE NUMBER: HOB25-01

DRILL HOLE RECORD

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-lower contact irregular, @ high angle to c.a., trace fine py noted @ contact				
		167.80-167.81  * S0 64° > Bedding				
		199.50-199.51  * S0 37° > Bedding				
206.10 TO 212.29	<15,MIPm,<L ST>* Phanerozoic Sediments Murray Island Fm limestone	-massive fine to medium grained grey fossiliferous limestone -becomes increasingly vuggy towards end of unit, vugs filled w/ sparry calcite crystals -minor in situ brecciation, fragments knit w/ white calcite -fossils dominantly echinoderm columnals (spectacular specimens @ 206.4m) w/ minor brachiopod shell fragments				
		-lower contact called @ colour and texture change and start of brecciation, loss of fossils				
212.29 TO 234.80	<15,MRFm,bx * Phanerozoic Sediments Moose River Fm. breccia	-tan to grey medium to fine grained massive to laminated limestone and dolostone, brecciated, commonly w/ blue grey clay matrix -212.29-213.15 translucent grey fine grained dolostone breccia knit w/ white calcite -213.15-214.5 heterolithic matrix supported breccia w/ grey clay matrix, fragments to 2-3 cm -214.5-215.45 pelletal or oolitic limestone -possible shell fragments in grey clay @ 215.7m -216.75-222 massive fine to medium grained grey limestone fragments RQD=10 1.4m core not recovered 216-219m -limestone/dolostone becomes extremely vuggy				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		<p>after 221m, some vugs filled w/ dolomite grains (may be calcite but carbonate stain is too cold to react)</p> <p>-unusual brown "laminated" material found in vugs @ 225.1m possibly organic or maybe an evaporite mineral</p> <p>-core becomes sacroidal dolomite, extremely vuggy and porous, 225.4-227? RQD=10, 0.5m core not recovered 225-228</p> <p>-228-234.8 dominantly vuggy massive fine grained dolostone w/limestone, brecciated, some fragments show multiple brecciation episodes</p> <p>-lower contact appears structural, ground dolostone fragments in contact w/ bleached brown laminated calcarenite</p>				
234.80 TO 237.40	<p>«15,SRFm,&lt;S HA»» Phanerozoic Sediments Stooping River Fm. shale</p>	<p>-fine to medium grained brown laminated calcarenite w/ cherty (?) nodules/fragments, subrounded, many with shapes which imply no transport</p> <p>-unit matches GSC description of some beds of Stooping River Fm, but may be ochre stained Moose River Fm</p> <p>-lower contact gradational, marked by end of "nodules"</p> <p>  236.60-236.61  «S0 70°» Bedding</p>				
237.40 TO 238.75	<p>«15,SxFm,&lt;S ST»» Phanerozoic Sediments Sextant Fm sandstone</p>	<p>-fine to medium grained moderately sorted, moderately mature dark brown to red sandstone w/ clay matrix</p> <p>-no discernable bedding</p> <p>-lower contact gradational to saprolite, made more difficult to discern because of brown clay coating to core</p>				

HOLE NUMBER: HOB25-01

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
238.75 TO 243.00	«9,c,<GRA>> Felsic Intrusive coarse grained granite	-strongly saprolitic and oxidized for upper 1m, becomes good coarse grained granite @ last 0.5m of core				
243.00 TO 243.00	«EOH» End-Of-Hole					

HOLE NUMBER: HOB25-01

DRILL HOLE RECORD

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HOLE NUMBER : HOB25-01

ASSAYS SHEET

DATE: 17/03/1999

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Mn ppm
AU02503	156.00	157.00	1.00	12	22	29	11.0	0	0									
AU02504	163.50	165.00	1.50	26	35	30	35.0	0	0									

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ASSAYS SHEET

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HOLE NUMBER : HOB25-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02 %	AL203 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME	CHEM ID	ALUM	
AU02721	123.15	123.35	0.20																											
AU02722	144.10	144.20	0.10																											
AU02723	154.60	154.85	0.25																											
AU02724	159.45	159.60	0.15																											
AU02725	206.20	206.30	0.10																											
AU02726	212.00	212.13	0.13																											
AU02727	212.75	212.90	0.15																											
AU02728	226.00	226.15	0.15																											
AU02729	233.30	233.40	0.10																											
AU02730	235.50	235.60	0.10																											

HOLE NUMBER: HOB25-01

GEOCHEMICAL ASSAY

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 7.00	<{OB}> Casing Overburden					
7.00 TO 20.20	<15,MRFm,<L ST> Phanerozoic Sediments Moose River Fm. limestone	-fine to medium grained lenticular to wavy bedded finely laminated grey limestone w/ interbedded clay/shale and thin sandstone interbeds -7-13m rubbly limestone, very poor core recovery, possibly still overburden -13-14.3m breccia w/ calcareous shale/clay matrix, matrix supported, disrupted laminations present throughout -14.3-16.7m clay/shale, calcareous, redox reaction fronts visible, varicoloured blue-brown -16.7-20.9m wavy to lenticular bedded limestone w/clay shale partings and shale to sandstone interbeds near base of unit, small vugs to 2-3mm common    19.90-19.91  *{S0 87*}> Bedding			-none noted	
20.20 TO 38.20	<15,SxFm,bx * Phanerozoic Sediments Sextant Fm breccia	-dark red strongly hematized poorly consolidated immature arkosic sandstones to pebble conglomerates. -extremely poor core recovery noted between 20.2 and 38.0m. -over 16m of lost core noted. -downhole contact is marked by the occurrence of unbedded, strongly in situ leached sapprolitic gneiss -due to abundance of lost core, true contact location may occur within section of lost core.		-strong pervasive hematization overprints entire section.	-no sulphides observed	
38.20 TO 90.10	<12,<GRA>> Gneiss granite	-brick red chlorite/biotite granitic gneiss -gneiss is relatively massive, locally becoming weakly banded. -chlorite may be retrograde mineral produced through the leach decomposition of biotite -from uphole contact to 62.0m, unit is badly leached containing numerous intervals of poorly consolidated material accompanied by several intervals of lost core. -1.5m lost core occurs between 38.0 and 41.0m. -1.3m lost core observed between 41.0 and 44.0m -0.20m lost core between 44.0 and 47.0m.		-strong pervasive hematization, decreasing in intensity downhole from 50.0m.	-no sulphides observed.	



HOLE NUMBER: HOB31-01

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
90.10 TO 90.10	*EOH* End-Of-Hole					

HOLE NUMBER: HOB31-01

DRILL HOLE RECORD

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HOLE NUMBER: HOB33-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 46.50	<{OB}> Casing Overburden	-may include Mattagami Fm.				BW casing reamed to 75m.
46.50 TO 68.80	*15,LRFm,<A RG>,<SHA> Phanerozoic Sediments Long Rapids Fm. mudstone-ar gillite shale	Fine grained, interbedded black to dark brown bituminous to blue-grey to grey shales intercalated with light green mudstones.  -Black organic shale in the first 15m of unit with the exception of a greenish mudstone bed from 47m to 47.5m. Nodules and thin beds of py occur throughout the black shale with carbonate filled fractures occurring mostly @ 48m to 51m. From 57m to 68.8 Black shale beds become interbedded with the blue-gray shale with the two units mixing by "worm tubes". From 64.5 to 66.1 beds of thin, dark brown, intercalated, gradational shale occur @ 90°tca. Lower contact is difficult to measure due to broken rock.			small nodules of py throuout the black argillite, with nodules varying in sizes from 1mm to 1.5cm. Unit also contains py beds generally <1mm thick with the exception of an 8mm thick bed @ 56.8m.	
68.80 TO 104.00	*15,WIFm,<A RG>,<LST> Phanerozoic Sediments Williams Island Fm. mudstone-ar gillite limestone	-Upper unit consists of light to dark tan, vuggy, porous, fossiliferous, brecciated and muddy limestones intercalated with light to dark gray calcareous argillite/mudstone.  -68.8 to 78.45 unit is composed of tan limestone interbedded with gray calcareous argillite and from 69.7 to 72.0 brecciated mudstone. Beds are ~80° tca. Limestone becomes orangish @ 72.3 due to hemetite staining. Unit becomes broken up and porous between 72.4 to 73.0 and vuggy between 76.1 to 77.45 with vugs between 2mm to 1m.  -77.45 to 80.4 unit is a dark gray to tan argillite containing white calcite fragments.  -80.4 to 84.6 porous, tan limestone core recovery is very poor, RQD <10%.  -84.6 to 90.4 gray to tan brecciated clay/mudstone. Unit changes often in color and texture (tan to gray - clay to mudstone)  -90.4 to 93.1 slightly fossiliferous limestone. Unit contains a few shell fragments and is badly broken up with bitumin? at the	80°		py nodules occur at 68.9m ,94.4, 95.9m, 100.7 and between 86 and 87m. -Nodules are of fine cubic py and vary in sizes between 3mm to 3.5cm.	

HOLE NUMBER: HOB33-01

DRILL HOLE RECORD

LOGGED BY: Andre Taillefer

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		broken seams. RQD= 10%.				
		-93.1 to 96.8 similar to 84.6 to 90.4 except unit contains several fine py nodules and two bituminous sections containing small(1 mm) calcite pebbles and py nodules.				
		-96.8 to 104.0 gray mudstone. Unit is homogeneous to 98.8m then becomes very fossiliferous with mostly coral and shell fragments, and becomes tan in color briefly with large white coral sections. large Py nodule amongst the fossils at 100.7m lost core @ 70.5m and 74.5				
104.00 TO 144.95	«15,WIFm,<S HA>» Phanerozoic Sediments Williams Island Fm. shale	The lower section of the Williams Island formation is composed of homogeneous, dark gray to blue-gray shale.  -Bedding appears to be @ 80° tca.  -Unit becomes clay-like at the contact with the Murray Island formation.	80°			
144.95 TO 154.88	«15,MIFm,<L ST>» Phanerozoic Sediments Murray Island Fm limestone	Brown to grey, fossiliferous, limestone commonly brecciated with grey clay interbeds/matrix. -From 145.0 to 146.5 strongly fossiliferous tan limestone composed of mostly brachiopod shells from 3mm to 4cm. 30 cm grey clay section @145.5 RQD = 10.  -146.5 to 151.95 fossiliferous, lenticular brown to grey limestone. Brachiopods and crinoid stems dominant after 150.0m, some vugs filled with calcite. RQD = 60.  -151.95 to 155.25 brecciated vuggy, fossiliferous limestone. Vugs filled with sparry calcite, crinoid most common, brachiopods and ostracods, stylolitic fractures, RQD = 20.  -155.25 to 155.88. Fossiliferous limestone breccia with grey shale / clay matrix / interbeds. Solution collapse. Approximately 40% clay,			Trace py.	

HOLE NUMBER: HOB33-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
154.88 TO 179.42	«15,MRFm,<L ST>,bx» Phanerozoic Sediments Moose River Fm. limestone breccia	Tan to grey finely laminated limestone breccia with grey shale matrix  -154.88-156.4 dominately grey clay with small angular limestone fragments, gypsum noted at 156.04 and 156.36  -156.4 to 167.7 finely laminated tan limestone stylonitic, minor gypsum interbeds, good porosity, minor clay section @ 158.3 to 159.35, 160.45 to 160.85, 161.7to 162.0, 165.8 to 161.4.  - minor echinoderm fossils @ 160.1 to 161.3, trace py, minor vugs with sparry calcite, low to moderate porosity and permeability, RQD = 5, 1m core not recovered 162 to 165. - 167.7 to 171.0 Large increase in porosity, 10% of unit small vugs 1-2 cm in size, trace gypsum.  -171.0 to 177.0 approximately 50% ground core and small fragments, RQD=5,  -177 to 179.42 limestone breccia with limestone matrix, becomes more hematite colored @ bottom 50 cm, lower contact irregular.				
179.42 TO 181.00	«15,SxFm,<S ST>» Phanerozoic Sediments Sextant Fm sandstone	Red to brown immature fine sandstone to pebble conglomerate.  -Rapid grain size changes from fine sandstone to pebbles upper meter of unit. 24cm gneiss boulder, strongly hemetised at 179.05 to 179.29, Unit is poorly consolidated,porosity is low to moderate, permeability low to good. RQD = 10.				
181.00 TO 181.00	«EOH» End-Of-Hole					

HOLE NUMBER: HOB33-01

DRILL HOLE RECORD

LOGGED BY: Andre Taillefer

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HOLE NUMBER : HOB33-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	TiO2 %	P2O5 %	MnO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME ID	ALUM	
AU02701	146.30	146.40	0.10																										
AU02702	150.80	150.95	0.15																										
AU02703	155.00	155.10	0.10																										
AU02704	156.70	156.80	0.10																										
AU02705	169.00	169.10	0.10																										
AU02706	177.30	177.40	0.10																										
AU02707	180.40	180.55	0.15																										

HOLE NUMBER: HOB33-01

GEOCHEMICAL ASSAY

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 60.00	{OB} Casing Overburden	May include Mattagami Fm.				
60.00 TO 118.52	{15.LRFm,<A RG>,<SHA>} Phanerozoic Sediments Long Rapids Fm. mudstone-ar gillite shale	<p>Fine grained black to dark grey to blue-grey shale interbedded with light green mudstone</p> <p>-60.0 to 67.3 black bituminous/oily shale, thinly bedded @ 80° tca, intercalated with blue-grey shale with "worm tubing" occurring at 61.3, 61.7 and 65.5. Fine disseminated py nodules appear sparsely throughout the black shale.</p> <p>-67.3 to 78.28 Blue grey shale becomes more dominant, blue-grey shale is softer than dark grey shale.</p> <p>-78.28 to 86.3 blue gray shale interbedded with black organic, thinly bedded shale and light green mudstone. Mudstone units occur at 78.28 to 78.6, 78.9 to 79.03 and again at 86.03 to 86.3 and are fairly hard and blocky with dolomitic nodules.</p> <p>-86.3 to 89.8 gray to black shale, thinly bedded with bedding @ 80° tca.</p> <p>-89.8 to 94.42 grey-blue to dark grey shale interbedded with grey to grey-blue mudstone. Echnofossils (worm tubings) can be seen @89.8, 90.7 and at 91.3. The mudstone unit at 90.7 to 90.9 is blue-grey at the top and dark grey at the bottom with worm tubing descending to the bottom. The mudstone at 94.08 to 94.42 is grey similar in composition to previous units with the exception of small (5mm) py nodules.</p> <p>-94.42 to 107.12 dark gray calcareous shale, disseminated py beds and nodular py occur throughout with nodules between 5mm and 2cm in size. Carbonate filled joints are also found locally.</p> <p>-107.12 to 188.52 grey to grey blue shale interbedded with pale green mudstone. Shale is finely bedded, gradational with some py nodules</p>			<p>Fine disseminated py nodules occurring mostly in the black shales from 60.0 - 67.3 and from 89.57 to 107.1 and again from 113.0 to 114.94. Nodules measure between 2mm to 4cm and thin beds of fine disseminated py are also common through the same units. Some nodular py also occurring in the blue-gray shale from 116.6 to 117.5</p>	



FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
118.52 TO 154.30	*15, WIFm, <A RG>, <LST>* Phanerozoic Sediments Williams Island Fm. mudstone-argillite limestone	<p>and thin beds. Mudstone unit is light green calcareous and contains some fossils (brachiopod shells) from 115.5 to 116.0m Lower contact difficult to measure due to broken core.</p> <p>Upper unit is composed of tan to grey, brecciated, vuggy limestone with tan to grey to ochre mudstone.</p> <p>-118.52 to 131.8 tan vuggy limestone, intercalated with grey limestone breccia with grey mudstone matrix, badly broken up (RQD=&lt;10), vugs are calcite filled and range in size from 1mm to 4cm. Grey limestone is more uniform than the tan units.</p> <p>-131.8 to 135.05 Dark grey calcareous argillite containing white, stretched calcite blebs.</p> <p>-135.05 to 139.05 slightly porous, brecciated, gray to tan limestone. Poor core recovery RQD =&lt;10, lost 2m of core from 135 to 138m.</p> <p>-139.15 to 143.9 tan to grey brecciated clay/mudstone. Disseminated py at 140.35, Mudstone is less brecciated at 142.8 to 143.2. Bedding is measurable @ -80° tca.</p> <p>-143.9 to 146.95 calcareous grey to tan limestone. Core is dark grey from 144.15 to 144.9 due to thin bituminous beds. Poor core recovery RQD= 20%.</p> <p>-146.95 to 150.0 brecciated tan to grey to ochre clay/mudstone. Unit is generally tan in color with grey bedding seams except from 147.38 to 147.88 where it is ochre (hemetite stained ?) and blue in color. Bedding is 75° tca.</p> <p>-150.0 to 152.7 gray to tan fine grained, massive limestone. Unit is gray in color but changes to tan between 151.85 to 152.45. Bottom contact with the lower Williams Island Formation is broken up and unmeasurable.</p>			Disseminated py clusters @ 140.35	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
154.30 TO 196.20	«15,WIFm,<S HA» Phanerozoic Sediments Williams Island Fm. shale	Lower Murray Island Formation consists of sparsely fossiliferous, ductile grey-blue clay/shale.  -154.3to 156.16 unit is fossiliferous shale, with mostly brachiopod shells and fragments and large white coral fossils. Py blebs appear in the contact with the corals and the shale at 156.13.  -156.16 to 196.2 Grey blue to grey clay to shale, bedding planes are @ 60° tca, and unit becomes fossiliferous at the last 10cm before the contact with the Murray Island Formation, which is 65° tca.				Minor disseminated py blebs at contact between the shale and coral fossil @ 156.3
196.20 TO 206.00	«15,MIFm,<L ST» Phanerozoic Sediments Murray Island Fm limestone	Tan to grey, fossiliferous, slightly brecciated limestone  -196.2 to 198.1 strongly fossilised tan limestone, mostly brachiopod shells, minor crinoid stems. Shells vary in size from 2mm to 2.5 cm  -198.0 unit becomes brecciated with a darker tan to brown matrix.  -200.3 to 202.5 abundant crinoid stems from 2mm to 5mm, some brachiopod shells and ostracods. Well formed calcite crystals occur in vugs @ 202.5 and 204.2  -204.5 to 204.95 finely laminated (oriented 70° tca) tan to brown limestone. Bottom contact is unmeasurable. RQD for entire unit is good @ ~ 60%				none seen
206.00 TO 228.00	«15,MRFm,<L ST»,bx» Phanerozoic Sediments Moose River Fm. limestone breccia	Finely laminated, porous, vuggy, becciated limestone with gray mudstone matrix.  -206.0 to 207.42 grey limestone breccia with grey mudstone matrix.  -207.42 to 209.1 thinly laminated tan to brown gypsiferous, brecciated limestone. Bedding oriented at 70°tca. Unit contains a few calcite vugs ranging in size from 5 to 10mm.				none seen

HOLE NUMBER: HOB34-01

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		<p>-209.1 to 211.1 Brecciated limestone. Unit contains small to large angular clasts of limestone in a grey mudstone matrix. Core RQD = 40%</p> <p>-211.1 to 212.5 light tan to brown, thinly laminated limestone.</p> <p>-212.5 to 213.13 brecciated limestone, similar to 209.1 to 211.1 except clasts are grey and light tan in color.</p> <p>-213.13 to 216.05 thinly laminated tan to gray to dark brown limestone. Several thin beds of bituminous material appear in this unit. Bedding is @ 50°tca, Core is poreous from 213.60 to 214.2. RQD is 40%.</p> <p>-216.05 to 228.0, vuggy brecciated, tan to grey limestone. Vugs vary in size from 3mm to 3cm in width and are filled with spary calcite. core recovery is poor, RQD is 10%. 1.8m of lost core between 222 and 225m. Hole was abandoned due to bad ground.</p>				
228.00 TO 228.00	•EOH• End-Of-Hole					

HOLE NUMBER: HOB34-01

DRILL HOLE RECORD

LOGGED BY: Andre Taillefer

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HOLE NUMBER : HOB34-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TI02 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME ID	ALUM	
AU02708	196.20	196.30	0.10																										
AU02709	199.90	200.10	0.20																										
AU02710	205.60	205.80	0.20																										
AU02711	207.60	207.80	0.20																										
AU02712	218.80	219.00	0.20																										
AU02713	225.70	225.90	0.20																										

HOLE NUMBER : HOB34-01

GEOCHEMICAL ASSAY

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 24.00	<{OB}> Casing Overburden					
24.00 TO 42.30	*15, LRFm, <A RG>, <DOL> Phanerozoic Sediments Long Rapids Fm. mudstone-ar gillite dolostone	-Dark grey to black carbonaceous argillite. -From 24.0 to 32.8m, formation characterized by semi gradational intercalated beds containing variable amounts of organic hydrocarbons. 3-5cm diameter nodular of PY observed at 26.35m. -From 32.8m, to 40.0m intercalations of bioturbated calcareous mudstone become intercalated with organic argillites. Locally ichnofossils (worm tubes)? can be observed extending out from the lower contacts of calcareous sections into underlying organic material. -No other macroscopic fossils identified. -From 40.0 to lower contact, formation is characterised by thinly laminated calcareous and organic mustones. Bedding defines lamination, occurring 80° TCA. -Lower contact is sharp, parallel to bedding.    29.80-29.90  *{PAI}> Fault -Calcite infilled breccia of angular argillitic sediments occurs adjacent to thin seam of ground core.		-Minor fracture filling calcite. -Between 29.8 and 29.9m, calcite infills small fault breccia zone.	-Minor nodular Py observed between 26.0 and 27.0m.	
42.30 TO 126.50	*15, WIFm, <A RG>, <LST>, < SHA> Phanerozoic Sediments Williams Island Fm. mudstone-ar gillite limestone shale	-Upper member of Williams island formation characterised by heterogeneous intercalations of brecciated and vuggy fossiliferous, and muddy limestones gradational into beds of calcareous mudstones and organic argillites. -Between 44.1 and 49.6m, interval is composed of framework supported fragments of brecciated corals and clastic limestone. Unit is highly vuggy stained yellow due to effects of ground water leaching. -Between 49.6 and 51.2m, unit is characterised by brecciated bed of angular fragments of limey mudstone. Unit could represent a storm bed. -From 51.2 to 78.50m, unit is characterised by brecciated to vuggy dolomitic limestone gradationally interspaced upward fining sequences of angular clastic material grading into calcitic beds of mudstone and argillite.	80°	-Minor fracture controlled calcite appears to cement material more strongly between 77.0 and 78.1m.	-Patchy clusters of PY/marcasite is 1 to 2% abundant throughout vuggy limestone section between 58.2 and 58.6m. -Locally fine disseminated cubic PY is observed. -PY dissemination are focussed along vaguely definable bands within calcified section between 77.0 and 77.9m    58.20-58.60  *Ma, PyD1.0-2.0% 1.0-2.0% disseminated/blebby    77.00-77.90  *PyD0.5-1.0% 0.5-1.0% disseminated/blebby pyrite	-Coral fragments previously unidentified within upper Williams Island formation. -1.2m lost core between 44.0 and 47.0m. -1.4m lost core between 56.0 and 59.0m. -1.3m lost core between 74.0 and 77.0m.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		<ul style="list-style-type: none"> <li>-Bitumous material becomes more abundant accompanying unique sequence between 78.5 and 86.2m. Rounded ameoboid shaped fragments of coral accompanied by colites and brachiopod fragments define the base of two fining sequences at 82.65 and 86.2m respectively. Sequences grade out of matrix supported bitumous fossiliferous material into finely laminated argillitic/mudstone. These organic rich beds appear to mark the lower margin of the upper Williams Island formation.</li> <li>-Downhole from 86.2m, unit is characterized by grey shale typical of the lower Williams Island formation. Unit is extremely homogenous, soft and pliable and can absorb considerable amounts of water when exposed.</li> <li>-Unit appears poorly consolidated frequently cleaving along bedding planes 80 deg TCA.</li> <li>-Between 126.1 and 126.5m, organic content appears to increase, rendering core darker brown in colour.</li> </ul>				
126.50 TO 138.50	«15,MIFm,<L ST>,bx» Phanerozoic Sediments Murray Island Fm limestone breccia	<ul style="list-style-type: none"> <li>-Light grey to brown jointed and fractured fossiliferous limestone.</li> <li>-Beds are composed of calcereous sands hosting abundant fragments of brachiopod shells and crinoid stems. Brachiopod shells are typically 1-3cm in the largest dimension and are abundant between 126.5m and 130.7m. Downhole from 130.7m, Crinoid fragments become extensively abundant. Crinoid fragments are typically 1cm in diameter and up to 2cm long. Fossils occupy 10 to 15% of unit.</li> <li>-Sandy limestone beds are typically poorly sorted defined by overall massive textures/excluding fossils.</li> <li>-Massive beds are broken up by minor jointing and weakly carbonaceous mudstone intervals. Mudstone seams appear to infill collapse breccia.</li> <li>-Formation retains relatively good competency reflected by good overall RQD's.</li> <li>-Downhole contact is broken and rubbly, marked by minor collapse breccia.</li> </ul>		<ul style="list-style-type: none"> <li>-Minor free qtz infills vugs and fracture surfaces.</li> <li>-Minor fracture controlled calcite.</li> </ul>	-No sulphides observed.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
138.50 TO 161.70	<15,MRFm,<L ST>,bx> Phanerozoic Sediments Moose River Fm. limestone breccia	-Fine grain brecciated beds of limestone. -Blocks of limestone are interspaced with breccia sections and seams of mudstone. Breccia sections and overall discordance of limestone blocks with erratically oriented beds of brecciated argillite suggest that unit has undergone extensive collapse. -Karsting due to groundwater (?) appears to have removed any evaporitic material resulting in chaotic collapse breccia. -Limestone defined by finely laminated beds commonly exhibiting carbonaceous stylolites. No macroscopic fossils observed. -Bedding laminations occur erratically, possibly reflecting displacement of beds caused by collapse. -Limestone blocks are interspaced by brecciated cavities typically infilled by calcitic muds and silts. Frequently mudstone seams display minor brecciation possibly caused by movement of karst blocks after infilling. -Downhole contact is sharp but irregular.		-Unit appears relatively unaltered. -Groundwater leaching of carbonate/evaporite minerals has rendered core vuggy.	-Traces Py observed along carbonaceous fracture surfaces.	-Core is badly broken and blocky but retains excellent core recovery.
161.70 TO 167.80	<15,SxFm,<A RK>,C,*k> Phanerozoic Sediments Sextant Fm arkosic sandstone heterolithic pebble	-Brick red immature arenitic sandstones to pebble conglomerated. -Unit grades out of poorly sorted, weakly laminated arkose sandstone containing clasts of limestone into an immature pebble conglomerate. -Fracture/matrix controlled pervasive hematite staining strongly overprints sandstone, resulting in brick red colour. -Downhole from 167.0m, badly leached clasts similar in appearance to the underlying gneisses become increasingly abundant. -Downhole contact is gradational, marked by 3m section of badly leached poorly consolidated rust stained material. Section marking downhole contact believed to signify weathered unconformity.	70°	-Strong fracture controlled to pervasive hematite staining. -Near uphole contact matrix of formation is strongly calcitic.	-No sulphides observed.	
167.80 TO 176.00	<12,Dp,Epi,<GRA>> Gneiss diopside epidote granite	-Pink to greenish grey biotite and diopside bearing granitic gneiss. -Gneiss is overprinted by strong fracture controlled epidote alteration and minor quartz veining. -Pinkish hue appears to reflect strong		-Strong fracture controlled epidote. -Minor quartz veining.	-Trace disseminated PY.	



HOLE NUMBER: HOB43-01

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
176.00 TO 176.00	*EOH* End-Of-Hole	hematization. -Unit is hard, competent and relatively non- fractured.				

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DRILL HOLE RECORD

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HOLE NUMBER : HOB43-01

ASSAYS SHEET

DATE: 17/03/1999

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Mn ppm
AT09155	58.35	58.60	0.25	11	6	2	1.0	0	0									
AT09156	77.00	77.90	0.90	13	25	2	18.0	3	0									

HOLE NUMBER : HOB43-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME ID	ALUM		
AT09096	43.65	43.80	0.15	43.75	11.70	10.20	1.20	0.10	0.05	1.20	1.20	0.10	0.10	0.10	0.10	0.10														
AT09097	125.00	125.25	0.25																											
AT09098	127.85	128.00	0.15																											
AT09099	134.00	134.20	0.20																											
AT09100	137.20	137.15	-0.05																											
AT09157	143.30	141.50	-1.80																											
AT09158	152.00	152.20	0.20																											
AT09159	160.70	160.85	0.15																											
AT09160	161.80	161.95	0.15																											

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GEOCHEMICAL ASSAY

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 25.30	«{CB}» Casing Overburden					
25.30 TO 43.20	«15,KwFm,<L ST>» Phanerozoic Sediments Kwataboaheg an Fm. limestone	-tan to dark grey fine to medium grained fossiliferous to bioclastic bituminous limestone -25.3-34.5m very fossiliferous, common stromatoporid, rugosa corals, echinoderm fragments, macerated shell fragments, sections almost bioclastic, this section is most bituminous part of Kwataboahegan Fm exposed in this drill hole -common vugs w/ little to no internal crystal growth -34.5-43.2m less fossiliferous than above, common single rugosa corals to 10cm, smaller colonys, macerated shell fragments in fine to medium grained limestone, less bituminous, poorly developed layering @ -90° to c.a. -lower contact appears conformable, marked @ 1mm clay layer marking colour, textural change and lack of fossils   43.19-43.20 «{S0 77°}Contact» Bedding			-none noted	
43.20 TO 56.24	«15,SRFm,<L ST>» Phanerozoic Sediments Stooping River Fm. limestone	-beige to gray fine to medium grained sparsely fossiliferous laminated limestone w/ thin interbeds of grey clay/shale -vuggy w/ dolomite crystals and trace py -quartz grains noted towards bottom of section, last 20cm is matrix supported quartz pebble conglomerate w/ calcite cement/matrix			-trace fine py/marcasite noted	
56.24 TO 61.13	«15,SxFm,<S ST>» Phanerozoic Sediments Sextant Fm sandstone	-blue to brown fine to medium grained sandstone w/ occasional pebbles -grains subangular to subrounded -matrix rich, poorly consolidated -common oxidation fronts noted -30cm core not recovered, 56-59m -lower contact lost in saprolitic/regolithic material			-none noted	
61.13 TO 74.00	«9,a,b» Felsic Intrusive fine	-fine to medium grained felsic to intermediate intrusive -greenish colour imparted by extensive pervasive epidotization -pervasive hematite or rust staining to 67m				

HOLE NUMBER: HOG75-01

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	grained medium grained					

HOLE NUMBER: HOG75-01

DRILL HOLE RECORD

LOGGED BY: M.Collison

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HOLE NUMBER : HOG75-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02	AL203	CAO	MGO	NA2O	K2O	FE2O3	TIO2	P2O5	MNO	CR2O3	LOI	SUM	Y	ZR	BA	RB	SR	NB	CU	ZN	NI	CR	FIELD CHEM NAME	ALUM ID
AT09075	26.02	26.13	0.11																									
AT09076	31.84	31.93	0.09																									
AT09077	42.97	43.07	0.10																									
AT09078	45.58	45.70	0.12																									
AT09079	56.38	56.50	0.12																									

HOLE NUMBER: HOG75-01

GEOCHEMICAL ASSAY

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 34.00	<{OB}> Casing Overburden					
34.00 TO 49.18	<15,KwFm,<L ST> Phanerozoic Sediments Kwataboahegan Fm. limestone	-beige to dark grey bituminous fossiliferous limestone, massive to lenticular bedded, aphanitic to fine grained -34-34.6 dominantly crinoid stem plates, shell fragments, small coral fragments -34.6-34.74 white calcareous fossiliferous clay/mudstone -35.04-35.42 stromatoporid -35.42-38.0 very fossiliferous (short sections bioclastic), very bituminous, high porosity, probable high permeability common vugs to 1cm -becomes more matrix rich after 38m w/ smaller macerated shell fragments, large coral fragments (3-10cm) w/ open corallites and minute sparry calcite growths on disepiments noted @ 35m, 40.8m 41.3m, 44.8m, 48.9m -possible ammonite fragments noted @ 42.4m and 43.74m -lower contact appears depositional   49.17-49.18  * S0 74° Contact* Bedding			-trace fine grained pyrite noted as coating in vugs and disseminated blebs, 0-0.1%   48.40-49.00  *PyD0.0-0.1% 0.0-0.1% disseminated/blebby pyrite	
49.18 TO 70.73	<15,SxFm,<C GL>,<SST> Phanerozoic Sediments Sextant Fm conglomerate sandstone	-blue grey to red quartz pebble conglomerate to clay rich sandstone -quartz grains subangular to subrounded, poorly sorted -grains cemented by blue clay material, calcareous for upper 4m -49.18-50m fine to medium grained dirty grey sandstone -50-50.5m poorly sorted pebble conglomerate -50.5-53.8m blue to grey medium grained dirty sandstone, rare pebbles, some red staining -53.8-61.25m blue to red dirty coarse to medium grained sandstone, red colour due to iron staining, oxidation front visible in core, ~0.75m core not recovered between 53-56m -61.24-62m dark red clay -62-65.6m as 53-61 but slightly coarser, ~0.5m core not recovered between 62-65m -65.6-68.1m fine to coarse red to blue sandstone w/ clay interbeds, limonitic staining common,			-none noted	

HOLE NUMBER: HOG88-01

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		gives yellow brown appearance to core, oxidation fronts visible @ high angle to c.a. -68.1-69.05m very immature grit sandstone -69.05-70.73m as 65-68m -lower contact determined from grain size and matrix composition, difficult to determine due to pervasive iron staining				
70.73 TO	«12,b,Bi,Fe l,Qt»	-deeply weathered and iron stained medium grained quartz-feldspar-biotite gneiss			-none noted	
82.35	Gneiss medium grained biotite feldspar quartz					

HOLE NUMBER: HOG88-01

DRILL HOLE RECORD

LOGGED BY: M.Collison

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HOLE NUMBER : HOG88-01

ASSAYS SHEET

DATE: 17/03/1999

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Mn ppm
AT09153	48.50	48.80	0.30	156	75	24	34.0	0	0									1050

HOLE NUMBER: HOG88-01

ASSAYS SHEET

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GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02 %	AL203 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME	ALUM ID	
AT09066	34.30	34.40	0.10																										
AT09067	41.00	41.14	0.14																										
AT09068	48.36	48.40	0.04																										
AT09069	49.90	50.00	0.10																										
AT09070	57.40	57.50	0.10																										

HOLE NUMBER : HOG88-01

GEOCHEMICAL ASSAY

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HOLE NUMBER: HOG88-02

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 52.00	«JOB» Casing Overburden					
52.00 TO 67.86	«15,KwFm,<L ST»	-light to dark grey fine to medium grained bituminous fossiliferous limestone, low to moderate porosity, low to moderate permeability			-none noted	
67.86 TO 75.35	Phanerozoic Sediments Kwataboaheg an Fm. limestone	-52-58.5m strongly bituminous, ~30% fossils, dominantly rugosa corals and stromatoporids -58.5-67.4m less bituminous, fossils are sparser, matrix grain size appears smaller, fossils noted include larger (to 10cm) rugosa, shell fragments (brachiopods), crinoid stems, possible ammonite and gastropods -67.4-67.86m as above w/ clastic component, quartz grains and pebbles to 1cm (sub angular to well rounded)				
67.86 TO 75.35	«15,SxFm,<S ST»	-blue grey to dark brown fine to grit sandstone with clay matrix			-none noted	
75.35 TO 83.00	Phanerozoic Sediments Sextant Fm sandstone	-grains angular to subrounded, poorly to moderately sorted -calcareous matrix in upper 0.1m -carbonate concretions noted from 71.7-73.2m -oxidation fronts visible from 70.5m to end of unit -1.6m core not recovered 68-71m -lower contact in broken and not recovered core				
75.35 TO 83.00	«12,b,Bi,Fe l,Qt»	-medium grained saprolitic pervasively rust stained quartz feldspar biotite gneiss			-none noted	
83.00 TO 83.00	Gneiss medium grained biotite feldspar quartz	-0.5m not recovered 74-77m -2.3m not recovered 77-80m -0.9m not recovered 80-83m -possible mafic dike @ 80-80.56m				
83.00 TO 83.00	«EOH» End-Of-Hole					

HOLE NUMBER: HOG88-02

DRILL HOLE RECORD

LOGGED BY: M.Collison

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HOLE NUMBER : HOG88-02

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02 ‡	AL203 ‡	CAO ‡	MGO ‡	NA2O ‡	K2O ‡	FE2O3 ‡	TIO2 ‡	P2O5 ‡	MNO ‡	CR2O3 ‡	LOI ‡	SUM ‡	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME ID	ALUM	
AT09071	52.10	52.18	0.08																										
AT09072	63.30	63.40	0.10																										
AT09073	67.57	67.67	0.10																										
AT09074	71.00	71.16	0.16																										

HOLE NUMBER : HOG88-02

GEOCHEMICAL ASSAY

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 19.66	<{OB}> Casing Overburden					
19.66 TO 25.90	<15,MRPm,<L ST> Phanerozoic Sediments Moose River Fm. limestone	-grey to white fine to medium grained limestone and limestone breccia w/ 1-10cm grey clay/shale interbeds -commonly vuggy -both limestone matrix and clay matrix in breccia sections -trace gypsum fragments noted 20.10m, 20.45m -sparry to white dolomite infilling vugs noted after 20.8m -lower contact gradational, called at most obvious contact above start of fossiliferous limestone			-sulphides (py) noted infilling stylolitic type fractures and within dolomite filled vugs from 23.3m to end of unit  #23.36-25.90#<PyD0.0-0.1%,PyF0.0-0.1%> 0.0-0.1% disseminated/blebby pyrite; 0.0-0.1% fracture/vein controlled pyrite	
25.90 TO 36.27	<15,KwFm> Phanerozoic Sediments Kwataboahegan Fm.	-fine to medium grained tan to dark grey bituminous fossiliferous limestone -commonly vuggy, especially upper 2m -fossils noted include rugosa corals, stromatoporids, echinoderms, macerated shell fragments in lower part of section -lower contact sharp, appears depositional  #36.26-36.27#<S0 84°> Bedding			-trace fine py grains noted	
36.27 TO 41.76	<15,SRFm,<L ST> Phanerozoic Sediments Stooping River Fm. limestone	-white to grey lenticular bedded aphanitic to medium grained limestone w/ 0.2-10cm interbeds of poorly consolidated green to red grit to fine sandstone and grey shale -rare vugs, most common @ top of section -minor beds w/ possible macerated shell fragments only fossils noted gradational lower contact  #37.70-37.71#<S0 87°> Bedding			-none noted	
41.76 TO 57.00	<15,SxFm,<S ST> Phanerozoic Sediments Sextant Fm sandstone	-fine grained to granular immature dirty sandstone, brick red w/ minor blue-grey sections, solution textures noted -1m core not recovered, 41-44m -1.6m core not recovered, 44-47m -0.8m core not recovered, 47-50m -1m core not recovered, 50-53m -0.5m core not recovered, 53-56m -0.2m core not recovered 56-57m			-none noted	

HOLE NUMBER: HOG91-01

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
57.00 TO 57.00	*EOH* End-Of-Hole	-hole stopped @ 57m due to pinching of rods and potential to lose hole				

HOLE NUMBER: HOG91-01

DRILL HOLE RECORD

LOGGED BY: M.Collison

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HOLE NUMBER : HOG91-01

ASSAYS SHEET

DATE: 17/03/1999

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Mn ppm
AT09154	23.20	24.00	0.80	11	34	12	7.0	0	0									768

HOLE NUMBER : HOG91-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	TIO2	P2O5	MNO	CR2O3	LOI	SUM	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM	
AT09080	19.90	20.00	0.10																											
AT09081	25.52	25.65	0.13																											
AT09082	27.50	27.60	0.10																											
AT09083	35.90	36.06	0.16																											
AT09084	36.50	32.60	-3.90																											
AT09085	44.30	44.40	0.10																											

HOLE NUMBER: HOG91-01

GEOCHEMICAL ASSAY

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 25.54	«{OB}» Casing Overburden					
25.54 TO 28.87	«15,MRFm,<L ST>» Phanerozoic Sediments Moose River Fm. limestone	-fine to medium grained grey to beige laminated limestone w/ interbedded tan to grey clay/shale -commonly vuggy, vugs to 1cm -minor breccia @ 27-27.5m -lenticular laminations/bedding -possibly sparsely fossiliferous @ 28.3-28.4m -lower contact gradational  #27.90-27.91#«{S0 88°}» Bedding				-trace fine py grains noted in vugs @ 28.3m
28.87 TO 39.78	«15,KwFm,<L ST>» Phanerozoic Sediments Kwataboaheg an Fm. limestone	-fine to medium grained beige to dark grey fossiliferous bituminous limestone -pelletoidal or oolitic w/ chalky clay or gypsum material to 30m -dolomitic Fe carbonate concretions common to 32.5m -fossils noted include stromatoporid, rugosa corals, echinoderms, brachiopod shells -fossils sparser after 32.4m -sharp lower contact, appears depositional  #39.77-39.78#«{S0 87°}» Contact» Bedding				-none noted
39.78 TO 44.53	«15,SRFm,<L ST>» Phanerozoic Sediments Stooping River Fm. limestone	-laminated interbedded fine grained grey to beige limestone and green -blue to red clastic sediments, clay/shale to medium sandstone -wavy to lenticular bedded -soft sediment deformation structures common, especially 40.7-43m -lower contact depositional  #42.40-42.41#«{S0 86°}» Bedding				-none noted
44.53 TO 92.02	«15,SxFm,<S ST>» Phanerozoic Sediments Sextant Fm sandstone	-medium to granule red sandstone w/ red shale interbeds, poorly consolidated -blue dirty sandstone intervals w/ oxidation front solution textures and calcareous concretions common in upper 2m of unit -remainder of unit is fairly monotonous massive medium to coarse immature poorly sorted red bed sandstone				-none noted

HOLE NUMBER: HOG91-02

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-89-92m becomes matrix supported quartz pebble conglomerate -47-50m 1.5m core not recovered -65-68m 2.4m core not recovered -68-71m 2.4m core not recovered -74-77m 1m core not recovered -80-83 0.8m core not recovered -83.86m 1.1m core not recovered -86-89m 0.5m core not recovered -89-92m 1.5m core not recovered				
92.02 TO 95.00	*12,b,Bi,Fe 1,Qt* Gneiss medium grained biotite feldspar quartz	-medium grained red to black saproplitic gneiss		-moderate to strong hematite staining	-none noted	

HOLE NUMBER: HOG91-02

## DRILL HOLE RECORD

LOGGED BY: M. Collison

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HOLE NUMBER : HOG91-02

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TI02 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME	ALUM ID	
AT09086	26.00	26.10	0.10																										
AT09087	30.29	30.39	0.10																										
AT09088	39.45	39.55	0.10																										
AT09089	41.06	41.18	0.12																										
AT09090	45.70	45.83	0.13																										

HOLE NUMBER: HOG91-02

GEOCHEMICAL ASSAY

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FALCONBRIDGE LIMITED  
DRILL HOLE RECORD

HOLE NUMBER: HOG91-03

DATE: 03/17/1999

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8264	PLOTTING COORDS	GRID: UTM	ALTERNATE COORDS	GRID:	COLLAR DIP: -90° 0' 0"
PROJECT NUMBER: 8264		NORTH: 5579827.00mN		NORTH: +	LENGTH OF THE HOLE: 56.00M
CLAIM NUMBER: 1212867		EAST: 451970.00mE		EAST: +	START DEPTH: 0.00M
LOCATION: Hogg Twp		ELEV: 0.00		ELEV:	FINAL DEPTH: 56.00M

COLLAR ASTRONOMIC AZIMUTH: 0° 0' 0"

GRID ASTRONOMIC AZIMUTH: 0° 0' 0"

DATE STARTED: 10/24/1997  
DATE COMPLETED: 10/25/1997  
DATE LOGGED: 10/26/1997

COLLAR SURVEY: NO  
RQD LOG: NO  
HOLE MAKES WATER: NO

PULSE EM SURVEY: NO  
PLUGGED: NO  
HOLE SIZE: BQ

CONTRACTOR: Bradley Bros.  
CASING: 32m BW pulled  
CORE STORAGE: Kidd Creek Mine  
UTM COORD.: Zone 17

COMMENTS :  
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	-	-	-	-	-	-	-
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 31.54	«{OB}» Casing Overburden					
31.54 TO 32.77	«15, MRFm, <L ST»» Phanerozoic Sediments Moose River Fm. limestone	-fine to medium grained tan to grey lenticular to wavy bedded thinly laminated vuggy limestone w/ some brecciated sections -sparsely fossiliferous @ 31.8 and 32.4m -gradational lower contact lost in broken core   31.90-31.91  «{S0 90°}» Bedding				-none noted
32.77 TO 43.12	«15, KwFm, <L ST»» Phanerozoic Sediments Kwataboahegan Fm. limestone	-fine to medium grained massive beige to dark grey fossiliferous bituminous limestone -pelletoidal/oolitic @ upper 1.5m -Fe carbonate to dolomitic concretions noted in upper 1m -fossils noted include stromatoporid, rugosa corals, echinoderm fragments, brachiopods, macerated shell fragments, spectacular gastropod cast @ 43m -sharp lower contact   43.11-43.12  «{S0 78°}Contact» Bedding				-none noted
43.12 TO 47.64	«15, SRFm, <L ST»» Phanerozoic Sediments Stooping River Fm. limestone	-fine grained grey thinly laminated wavy bedded unfossiliferous limestone w/ interbedded blue-green to brown clay/shale to medium sandstone -common soft sediment deformation structures -minor breccia -lower contact in lost core   46.05-46.06  «{S0 77°}» Bedding				-none noted
47.64 TO 56.00	«15, SxFm, <S ST»» Phanerozoic Sediments Sextant Fm sandstone	-dark brown medium to granule poorly consolidated sandstone -minor quartz pebble conglomerate 50-53m -hole lost due to swelling @ 56m				-none noted
56.00 TO 56.00	«EOH» End-Of-Hole					

HOLE NUMBER : HOG91-03

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	TIO2	P2O5	MNO	CR2O3	LOI	SUM	Y	ZR	BA	RB	SR	NB	CU	ZN	NI	CR	FIELD CHEM NAME ID	ALUM
AT09091	32.00	32.12	0.12																									
AT09092	33.50	33.60	0.10																									
AT09093	42.80	42.90	0.10																									
AT09094	43.90	44.00	0.10																									
AT09095	49.90	50.00	0.10																									

HOLE NUMBER: HOG91-03

GEOCHEMICAL ASSAY

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FALCONBRIDGE LIMITED  
DRILL HOLE RECORD

HOLE NUMBER: HOG96-01

DATE: 03/17/1999  
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8264      PLOTTING COORDS      GRID: UTM      ALTERNATE COORDS      GRID:      COLLAR DIP: -90° 0' 0"  
PROJECT NUMBER: 8264      NORTH: 5587188.00N      NORTH: +      LENGTH OF THE HOLE: 230.00M  
CLAIM NUMBER: 1212872      EAST: 452129.00E      EAST: +      START DEPTH: 0.00M  
LOCATION: Hogg Twp.      ELEV: 0.00      ELEV:      FINAL DEPTH: 230.00M

COLLAR ASTRONOMIC AZIMUTH: 0° 0' 0"      GRID ASTRONOMIC AZIMUTH: 0° 0' 0"

DATE STARTED: 10/09/1997  
DATE COMPLETED: 10/11/1997  
DATE LOGGED: 10/12/1997

COLLAR SURVEY: NO  
ROD LOG: NO  
HOLE MAKES WATER: NO

PULSE EM SURVEY: NO  
PLUGGED: NO  
HOLE SIZE: BQ

CONTRACTOR: Bradley Bros  
CASING: Pulled  
CORE STORAGE: Kidd Creek Mine  
UTM COORD.: Zone 17

COMMENTS :  
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 43.00	« OB » Casing Overburden					
43.00 TO 86.65	«15, LRFm, <S HA» Phanerozoic Sediments Long Rapids Fm. shale	-interbedded fine grained blue green shale and grey to black bituminous shale -dolomitic concretions to 1 cm noted @ 43.35 -soft sediment deformation noted @ 48.55 -greenish beds calcareous in upper 20m of hole -bioturbation common between dark and light bands, also soft sediment deformation such as ball and pillow structures -lower 10m brecciated, increased concentration of large concretions, layering becomes complex, mildly convoluted, probably due to soft sediment deformation -lower contact irregular, in broken core and plastic clay, approximately 90° to c.a.  #53.05-53.06#« S0 73° » Bedding			-pyrite nodules noted in black units, <<1% of unit -nodules to 3cm @ 69.3m and 72.3m -minor sulphide rich beds to 1-3mm wide also common	
86.65 TO 123.44	«15, WIFm, <L ST» Phanerozoic Sediments Williams Island Fm. limestone	-white to tan to orange massive limestone, limestone breccia and vuggy limestone, interbedded with minor calcareous sandstone to shale -86.65-90.5m brecciated limestone, 4cm vug filled with orange brown sparry calcite @ 86.95 -90.5-98.5m dominantly massive limestone w/ small breccia sections, minor clay interbeds -98.5-103.9 grey calcarenite -103.9-109.24 lenticular laminated massive to friable and vuggy Fe rich limestone -109.26-112.6m tan to white dolomitic fragments in grey calcareous mudstone matrix, some dominant vein-like structures give net texture appearance to core, sections are orange coloured, Fe rich -112.6-117.7m massive to lenticular laminated limestone, tan to orange, some brecciated sections, vuggy for first 1/2m -117.7-119.4m as 109-112 but even more orange colour -119.4-121.63 laminated calc-arenite with breccia sections, possible bitumen -121.63-123.44m fossiliferous limestone - coral fossils in grey limestone matrix		-pervasive weak iron staining	-none noted	

HOLE NUMBER: HOG96-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		104.10-104.11  *{S0 71°}* Bedding				
		120.50-120.51  *{S0 72°}* Bedding				
123.44 TO	*15,WIFm,*g ,<SHA>	-grey fine grained shale and clay, somewhat plastic			-none noted	
174.50	Phanerozoic Sediments Williams Island Fm. thinly laminated shale	-fine mm scale bedding laminations -monotonous unit, but acts as marker horizon -125.5-126.5 fossiliferous, brachiopod shells				
174.50 TO	*15,MIFm,bx ,<LST>	-massive grey to tan limestone to dolostone, strongly fractured and blocky core			-none noted	
185.10	Phanerozoic Sediments Murray Island Fm breccia limestone	-fossiliferous, mostly fragments, fairly intact brachiopod shell @~177m, coral fragment @ ~178.5 -179-182.3 RQD=0, dominantly small fragments, very blocky -182.3-185.1 mostly tan, thinly laminated, lenticular bedded, sparsely fossiliferous, RQD=20				
185.10 TO	*15,MRFm,bx >	-white, grey and brown limestone and dolostone fragments, commonly angular, to 20cm in size in calcareous clay or limestone matrix			-none noted	
208.24	Phanerozoic Sediments Moose River Fm. breccia	-188-190.5 fragments of extremely porous, finely laminated slightly bituminous limestone -190.2-190.5 tan gypsum fragments(?) softness <2, partially replaced by Fe-dolomite -193.1 fragment demonstrating at least two cycles of brecciation -fragments become more vuggy after 194m -196.5 fossiliferous massive limestone fragment, possible Murray Island Fm. -201.5-205.5m very sparse fragments, dominantly grey clay/mud matrix -205.9-207.1m fragments more dominant, almost clast supported, matrix is much harder, probably oldest phase of brecciation -unit ends @ start of ochre unit, grey clay at bottom w/ some white (gypsum?) pebbles to 3-4mm				

HOLE NUMBER: HOG96-01

DRILL HOLE RECORD

LOGGED BY: M.Collison

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HOLE NUMBER: HOG96-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
208.24 TO 222.48	«15,KwFm,*g ,«LST» Phanerozoic Sediments Kwataboaheg an Fm. thinly laminated limestone	-interbedded red to black calcareous shale and laminated bituminous fossiliferous limestone -208.24-210.20 dominantly ochre coloured clay/shale, disseminated hematite noted, appears to be brecciated -5cm sandstone/breccia bed @ 209.69 -210.2-212.42m laminated limestone/dolostone w/ grey clay 1-5mm interbeds, bituminous -212.42-215.65m massive fine to medium grained sparsely fossiliferous weakly bituminous limestone w/ common stylolitic fractures and 1-4mm vugs -215.65-222.48m fossiliferous bituminous beige to grey fine to medium grained limestone w/ 1-6mm vugs, -small sections of unit are essentially just shell fragments -common corals, shell fragments -unit has good porosity, permeability is probably fracture controlled			-pyrite infilling vug @ 217.64m -trace minute py grains noted @ 218.8m -trace disseminated specularite(?) noted	
222.48 TO 222.78	«15,SRFm,«L ST» Phanerozoic Sediments Stooping River Fm. limestone	-massive white to beige limestone -one shell fragment noted, otherwise not fossiliferous -probably actually bed in Kwataboahegan Fm, but may be very thin Stooping River -lower contact appears structural   222.77-222.78  «S0 24» Contact» Bedding			-mineralized fracture running through unit, very fine py noted on fracture surfaces	
222.78 TO 230.00	«12,b,Bi,Fe l,Qt» Gneiss medium grained biotite feldspar quartz	-mottled red-black-white weathered quartz-feldspar-biotite gneiss -strongly saprolitic throughout		-strongly weathered	-none noted	
230.00 TO 230.00	«EOH» TO End-Of-Hole					

HOLE NUMBER: HOG96-01

DRILL HOLE RECORD

LOGGED BY: M.Collison

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HOLE NUMBER : HOG96-01

ASSAYS SHEET

DATE: 17/03/1999

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Mn ppm
AT09151	222.48	222.78	0.30	82	77	2	6.0	0	0									1090



HOLE NUMBER : HOG96-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SI02 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME ID	ALUM	
AT09051	87.33	87.47	0.14																										
AT09052	174.70	174.80	0.10																										
AT09053	183.40	183.50	0.10																										
AT09054	185.20	185.40	0.20																										
AT09055	189.55	189.69	0.14																										
AT09056	205.85	206.00	0.15																										
AT09057	208.90	209.00	0.10																										
AT09058	215.65	215.78	0.13																										
AT09059	222.24	222.36	0.12																										

HOLE NUMBER: HOG96-01

GEOCHEMICAL ASSAY

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HOLE NUMBER: HOG96-02

FALCONBRIDGE LIMITED  
DRILL HOLE RECORD

DATE: 03/17/1999  
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8264	PLOTTING COORDS	GRID: UTM	ALTERNATE COORDS	GRID:	COLLAR DIP: -90° 0' 0"
PROJECT NUMBER: 8264		NORTH: 5587578.00N		NORTH: +	LENGTH OF THE HOLE: 257.00M
CLAIM NUMBER: 1212872		EAST: 452345.00E		EAST: +	START DEPTH: 0.00M
LOCATION: Hogg Twp.		ELEV: 0.00		ELEV:	FINAL DEPTH: 257.00M

COLLAR ASTRONOMIC AZIMUTH: 0° 0' 0"

GRID ASTRONOMIC AZIMUTH: 0° 0' 0"

DATE STARTED: 10/11/1997  
 DATE COMPLETED: 10/14/1997  
 DATE LOGGED: 10/15/1997

COLLAR SURVEY: NO  
 RQD LOG: NO  
 HOLE MAKES WATER: NO

PULSE EM SURVEY: NO  
 PLUGGED: NO  
 HOLE SIZE: BQ

CONTRACTOR: Bradley Bros.  
 CASING: Pulled  
 CORE STORAGE: Kidd Creek  
 UTM COORD.: Zone 17

COMMENTS :  
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 64.00	< OB > Casing Overburden					
64.00 TO 130.14	<15, LRFm, <S HA>> Phanerozoic Sediments Long Rapids Fm. shale	-alternating black bituminous shale and blue green clay/shale -64-82m dominantly black shale w/ 2-10cm blue-green clay beds every 1-2m -72.3-72.4m qtz-calcite vein w/ qtz filled vug -82-95m dominantly blue-green clay/shale beds with 0.5-1m black shale beds every 2-3m -94.5-97.6m Fe-dolomite (blue carbonate stain) concretions noted in blue-grey clay/mudstone -98-107m mixed intervals black shale and grey clay/mudstone with dolomite concretions and occasional bioturbation -107-117.6m black bituminous shale w/ py nodules and 1-3mm py rich bands -117.6-123m alternating layers of black bituminous shale and blue-grey clay/shale, 10-30cm beds -123-130.14m dominantly blue-grey clay/shale w/ minor interbeds of black bituminous shale -lower contact marked @ top of carbonate beds  # 77.00-77.01 < S0 85° > Bedding  # 110.00-110.01 < S0 86° > Bedding			# 107.00-117.60 < PyD0.0-1.0%, PyB0.0-0.5%> 0.0-1.0% disseminated/blebby pyrite; 0.0-0.5% bedded/banded pyrite	
130.14 TO 168.67	<15, WIFm, <L ST>, <SHA>> Phanerozoic Sediments Williams Island Fm. limestone shale	-upper member of Williams Island Formation -upper contact dolomitized w/ 1-3% diss py in upper 10-20cm -130.14-131.6m laminated, fine to medium grained dolostone, small sections brecciated, possibly stromatoporid -131.6-137.1m fine to medium grained laminated limestone, porous in part, vuggy in part, stromatoporid fossils -very vuggy @ 134 -ground core, -1m core not recovered between 134 and 137m, ground core, RQD=30% -137.1-143.4m vuggy porous fine to medium grained laminated limestone, w/ minor interbeds of grey shale, green clay (gouge?) and one occurrence of ochre clay, minor brecciation, RQD=10			# 130.14-130.24 < PyD1.0-3.0%> 1.0-3.0% disseminated/blebby pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-143.4-148.4m grey calcareous clay/shale w/ tan limestone interbed 144-144.7 -148.4-153.6m finely laminated impure limestone -153.6-155.4m grey calcareous mudstone -155.4-156.1m ochre coloured mudstone, lower contact structural(?) @ 20° to c.a. -156.1-156.85m fossiliferous grey calcareous mudstone, mostly shell fragments -156.85-162.35m lenticular bedded fine to medium grained limestone, minor bituminous interbeds -162.35-164.55m breccia, angular fragments to 6cm+ in clay/mudstone matrix, ochre stained for last 60cm, RQD=25, 1m core not recovered -164.55-168.67m tan to dark grey limestone and limestone block breccia w/ limestone matrix, sparsely fossiliferous (corals) in lower 1.5m. 0.86m grey shale interbed @ 165.9    145.70-145.71  * S0 89° > Bedding    165.60-165.61  * S0 89° > Bedding				
168.67 TO 218.85	*15,WIFm,<S HA>> Phanerozoic Sediments Williams Island Fm. shale	-grey aphanitic shale to mudstone -fossiliferous, bioturbated upper 30cm -fossiliferous, shell fragments, appear to be brachiopods, 171.5-173.3m -1-2cm carbonate concretions 203.5-205.5m -slightly coarser grained after 217m    189.00-189.01  * S0 87° > Bedding				
218.85 TO 234.95	*15,MIFm> Phanerozoic Sediments Murray Island Fm	-tan to grey rubblely and blocky limestone -RQD=5 -shell fragments, coral fragment, crinoid stem plates noted ~221.5m -224-226.3m breccia, blue grey clay matrix -226.3-228.3m laminated beige limestone, calcarenite, possibly oolitic -228.3-229.2m breccia, as above -229.2-232.65 porous limestone, as above -232.65-233.35m breccia, as above -233.35-234.95m limestone, as above, RQD=0				-none noted

HOLE NUMBER: HOG96-02

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
234.95 TO	«15,<LST>,< SHA>,bx»	-vuggy white to beige limestone and limestone breccia w/ interbeds of mudstone matrix breccia w/ possible gypsum fragments			-none noted	
243.25	Phanerozoic Sediments limestone shale breccia	-brown cherty nodules noted @ 235.6m -becomes laminated, lenticular bedded after 241m -lower contact at top of ochre bed				
243.25 TO	«15,KwFm,<L ST>,<SHA>»	-upper 1.85m consists of interbedded red ochre rich shale and blue grey clay/mudstone			-none noted	
255.30	Phanerozoic Sediments Kwataboaheg an Fm. limestone shale	-245.1-250.85 laminated lenticular bedded bituminous limestone, fossiliferous (shell fragments, crinoid stem plates), common stylolites -250.85-255.30 fossiliferous grey to white limestone, bituminous, large coral fragments, shell fragments, crinoid stem plates, vuggy, moderate porosity				
255.30 TO	«12,Bi,Fel, QT»	-medium grained red to black quartz-feldspar-biotite gneiss			-none noted	
257.00	Gneiss biotite feldspar quartz	-saproplitic for upper 50cm				

HOLE NUMBER: HOG96-02

DRILL HOLE RECORD

LOGGED BY: M.Collison

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HOLE NUMBER : HOG96-02

ASSAYS SHEET

DATE: 17/03/1999

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Mn ppm
AT09152	130.14	131.00	0.86	11	7	3	10.0	10	0		3							1240

HOLE NUMBER : HOG96-02

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SiO2	Al2O3	CaO	MgO	Na2O	K2O	Fe2O3	TiO2	P2O5	MNO	CR2O3	LOI	SUM	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM	
AT09060	221.46	221.55	0.09																											
AT09061	232.10	232.20	0.10																											
AT09062	235.00	235.10	0.10																											
AT09063	241.90	242.00	0.10																											
AT09064	245.44	245.54	0.10																											
AT09065	254.50	254.60	0.10																											

HOLE NUMBER : HOG96-02

GEOCHEMICAL ASSAY

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HOLE NUMBER: HOG97-01

FALCONBRIDGE LIMITED  
DRILL HOLE RECORD

DATE: 03/17/1999  
IMPERIAL UNITS:  
METRIC UNITS: X

PROJECT NAME: 8264  
PROJECT NUMBER: 8264  
CLAIM NUMBER: P-1216627  
LOCATION: Hogg Twp

PLOTTING COORDS GRID: UTM  
NORTH: 5588589.00mN  
EAST: 451573.00mE  
ELEV: 0.00

ALTERNATE COORDS GRID:  
NORTH: +  
EAST: +  
ELEV:

COLLAR DIP: -90° 0' 0"  
LENGTH OF THE HOLE: 281.00M  
START DEPTH: 0.00M  
FINAL DEPTH: 281.00M

COLLAR ASTRONOMIC AZIMUTH: 0° 0' 0"

GRID ASTRONOMIC AZIMUTH: 0° 0' 0"

DATE STARTED: 09/24/1998  
DATE COMPLETED: 09/27/1998  
DATE LOGGED: 10/01/1998

COLLAR SURVEY: NO  
RQD LOG: NO  
HOLE MAKES WATER: NO

PULSE EM SURVEY: NO  
PLUGGED: NO  
HOLE SIZE: BQ

CONTRACTOR: Major Dominik  
CASING: Pulled  
CORE STORAGE: Kidd Creek Mine  
UTM COORD.: Zone 17

COMMENTS:  
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
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HOLE NUMBER: HOG97-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 65.16	< OB > Casing Overburden	-includes Mattagami Fm.				
65.16 TO 147.25	<15, LRFm, <S HA> Phanerozoic Sediments Long Rapids Fm. shale	-fine grained thinly laminated black to blue-grey shale/clay  -65-71.5 dominantly blue-grey clay w/ black shale interbeds to 10cm, plastic for upper 1m  -71.5-97.5 dominantly black shale w/ grey cshale interbeds to 15cm, generally 3-5cm, commonly bioturbated at grey shale interbeds  -97.5-114 grey shale w/ black shale interbeds to 0.7m, calcareous after 108.5, dirty limestone (or strongly calcified shale) noted between 110-111m  -114-134 black shale w/ grey shale and limestone interbeds to 20cm, commonly bioturbated, marcasite/py nodules and thin disseminated beds noted  -134-147.25 dominantly blue-grey shale/clay w/ minor black shale interbeds, becomes somewhat plastic near base of unit, calcareous throughout   88.40-88.41 <S0 79°> Bedding   124.50-124.51 <S0 80°> Bedding   139.00-139.01 <S0 74°> Bedding				
147.25 TO 181.00	<15, WIFm, <L ST> Phanerozoic Sediments Williams Island Fm. limestone	-grey to white fine to medium grained limestone to dolostone with grey to red calcareous shale intervals  -147.25-151.5 white to tan finely laminated limestone, brecciated, blocky core, RQD=5, 1m core not recovered 147-150  -151.5-153.2 ochre calcareous shale, possibly minor gypsum, 1mm dolomite nodules (?) noted.				

HOLE NUMBER: HOG97-01

DRILL HOLE RECORD

LOGGED BY: M.Collison

PAGE: 2

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-153.2-165.2 as 147.25-151.5 w/ clay knitting brecciated limestone fragments, RQD=20, vuggy calcite/dolomite knit breccia noted 154-154.5.				
		-165.2-176.15 interpreted as matrix supported solution collapse breccia, limestone/dolostone blocks in grey to red clay matrix, evidence of secondary sulphide deposition (py) in limestone breccia noted @ 168.8-169.5m, 1m core not recovered 174-177m.				
		-176.15-181 partially dolomitized, highly permeable dirty argillaceous limestone, dolomite crystals to 0.5mm				
		-gradational lower contact to calcareous shale				
		∠149.50-149.51∠↖↘S0 77°↗ Bedding				
		∠177.10-177.11∠↖↘S0 84°↗ Bedding				
181.00 TO 223.02	<15,WIFm,<S HA>> Phanerozoic Sediments Williams Island Fm. shale	-grey calcareous shale to blue grey clay, finely laminated, in part plastic				
		-monotonous section, lower Williams Island Formation				
		-fossiliferous to 184.5, shell fragment rich beds				
		-1.5m core not recovered 186-189m.				
		-sharp lower contact @ 84° -calcite veins w/ py noted in lower 0.6m of unit				
		∠215.50-215.51∠↖↘S0 83°↗ Bedding				
223.02 TO 228.09	<15,MIFm,<L ST>> Phanerozoic Sediments Murray Island Fm limestone	-grey medium to fine grained, massive to thinly laminated fossiliferous limestone				
		-common brachiopod shell fragments and echinoderm columnals				
		-stylolitic				
		-common vugs to 4-5mm				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-bottom of unit at start of breccia, unit thickness is probably not representational of original depositional thickness				
228.09 TO 258.29	<15,MRFm,bx * Phanerozoic Sediments Moose River Fm. breccia	-matrix supported breccia w/ limestone/dolostone/gypsum fragments from <1cm to >2m in size, in a matrix of blue grey clay and/or calcite. Multiple generations of brecciation evident, w/ calcite matrix predating clay matrix  -228.09--229 appears to be blocky fragments of overlying Murray Island Fm.  -229-237 RQD=5, 2.5m core not recovered  -gypsum noted @ 229 & 231.25m  -relict anhydrite noted in vugs @ 243m, laminations w/ gypsum and calcite @ 239, 239.5  -fine sulphides (marcasite/py) noted in vugs in calcite cemented breccia section @ 241.5  -240.5-247 matrix dominantly calcite, RQD=50 -247-255.5 dominantly clay matrix, rubbly core, poor recovery, RQD=10  -255.5-258.29 hematite stained clay matrix breccia, higher clay percentage, smaller limestone fragments, probably correlates w/ beds used as top of Kwataboahegan in 1997 DDH HOG96-01 and -02  -bottom of unit called where shale beds become more obviously depositional  # 257.82-258.00 <-FAI 50° Slips» Fault -slips w/ lineations interpreted as slickensides noted @ 50° to c.a.  # 258.28-258.29 <-S0 87° » Bedding				

HOLE NUMBER: HOG97-01

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
258.29 TO 273.00	«15,KwFm,<L ST» Phanerozoic Sediments Kwataboaheg an Fm. limestone	-grey bituminous fossiliferous limestone, micritic to medium grained, wavy bedded to massive, stylolitic, commonly vuggy, vugs to 2cm  -258.29-261 sparsely fossiliferous, weakly dolomitized, vuggy, w/ organic/bituminous partings, stylolitic  -261-264 chert nodules noted @ 261, unit is fairly massive, carbonate stain indicates section is more iron rich than common, sparsely fossiliferous, mostly shell fragments  -264-268.1 classic bituminous fossiliferous Kwataboahegan Fm., common corals, brachiopod shell fragments, stromatoporoids  -268.1-273 detrital quartz clastic component starts to appear, starting w/ 30cm bioclastic band @ 268.1  -sparry calcite and trace py noted in vugs and open corallites.  -lower contact appears depositional, @ 70° to c.a.				
273.00 TO 281.00	«9,b» Felsic Intrusive medium grained	-red medium to coarse grained granite to quartz syenite  -very weakly weathered in top 1m, no saproliite in section				
281.00 TO 281.00	«EOH» End-Of-Hole					

HOLE NUMBER: HOG97-01

DRILL HOLE RECORD

LOGGED BY: M. Collison

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HOLE NUMBER : HOG97-01

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	TiO2 %	P2O5 %	MnO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD CHEM NAME ID	ALUM	
AU02743	147.50	147.65	0.15																										
AU02744	160.16	160.30	0.14																										
AU02745	178.50	178.65	0.15																										
AU02746	223.17	223.34	0.17																										
AU02747	227.65	227.78	0.13																										
AU02748	236.50	236.65	0.15																										
AU02749	243.21	243.36	0.15																										
AU02750	257.83	258.00	0.17																										
AU02551	259.30	259.50	0.20																										
AU02552	265.60	265.75	0.15																										
AU02553	272.65	272.85	0.20																										

HOLE NUMBER : HOG97-01

GEOCHEMICAL ASSAY

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FALCONBRIDGE LIMITED  
DRILL HOLE RECORD

DATE: 03/17/1999

HOLE NUMBER: HOG97-02

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: 8264  
PROJECT NUMBER: 8264  
CLAIM NUMBER: P-1216623  
LOCATION: Hogg Twp.

PLOTTING COORDS GRID: UTM  
NORTH: 5589827.00mN  
EAST: 451257.00mE  
ELEV: 0.00

ALTERNATE COORDS GRID:  
NORTH: +  
EAST: +  
ELEV:

COLLAR DIP: -90° 0' 0"  
LENGTH OF THE HOLE: 276.00M  
START DEPTH: 0.00M  
FINAL DEPTH: 276.00M

COLLAR ASTRONOMIC AZIMUTH: 0° 0' 0"

GRID ASTRONOMIC AZIMUTH: 0° 0' 0"

DATE STARTED: 09/27/1998  
DATE COMPLETED: 09/29/1998  
DATE LOGGED: 10/05/1998

COLLAR SURVEY: NO  
RQD LOG: NO  
HOLE MAKES WATER: NO

PULSE EM SURVEY: NO  
PLUGGED: NO  
HOLE SIZE: BQ

CONTRACTOR: Major Dominik  
CASING: 52.5m Pulled  
CORE STORAGE: Kidd Creek Mine  
UTM COORD.: Zone 17

COMMENTS :  
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	-	-	-	-	-	-	-
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*M. Collison*

HOLE NUMBER: HOG97-02

DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 52.50	« OB » Casing Overburden	-may include Mattagami Fm.				
52.50 TO 121.86	«15,LRPm,<S HA»» Phanerozoic Sediments Long Rapids Fm. shale	-fine grained finely laminated black to blue grey shale to clay w/ minor interbedded limestone, sparsely fossiliferous  -52.5-56 matrix supported breccia or conglomerate(?), black mudstone matrix w/ angular to rounded fragments, generally limestone, to 3-4cm, blue clay section @ 53-53.5m  -56-108 predominantly black shale w/ minor blue-grey shale interbeds up to 30-40cm wide, soft sediment deformation and bioturbation commonly noted @ blue clay beds, calcite/dolomite alteration noted from 83-91.5m in 5-30cm sections  -108-121.86 predominantly blue-grey shale/clay w/ minor black shale interbeds near start of unit and minor limestone interbeds (?) towards base of unit, dolomite vein w/ minor py noted @ 108.63, fossiliferous (brachiopod shell fragments) noted @110.2-110.7, 114.65, 116.4, 116.9-119.6. Calcite vein associated py noted 116-118.5    87.10-87.11  « S0 72° » Bedding    103.60-103.61  « S0 72° » Bedding				-trace bedded and disseminated py, beds to 2mm, <<1%
121.86 TO 164.00	«15,WIFm,<L ST»» Phanerozoic Sediments Williams Island Fm. limestone	-white to tan micritic to fine grained limestone, w/ grey to red shale interbeds and shale matrix breccia  -core is blocky and fragmented throughout limestone sections  -121.86-126.2 block tan limestone, RQD<5, 1.5m core not recovered 123-126  -small fragment @ contact contains 1cm py vein (?)  -126.2-127.9 competent section of ochre to grey				

HOLE NUMBER: HOG97-02

DRILL HOLE RECORD

LOGGED BY: M.Collison

PAGE: 2

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		shale matrix breccia (?) w/ possible limestone fragments or interbeds to 20cm, net texture calcite veining noted throughout middle of section.				
		-127.9-137.3 as 121.86-126.2, limestone fragments larger, variation in bedding angles suggests collapse breccia, poor percentage of core recovered, suggests matrix washed away, lime sand noted @ 134.6, below calcified shale matrix breccia.				
		-137.3-139.8 competent shale unit w/ minor limestone				
		-139.8-146.25 as 122-126				
		-146.25-154.35 predominantly competent shale unit, grey to ochre, minor limestone interbeds				
		-154.35-158 limestone, micritic w/ small vugs becoming white and chalky by end of interval, fairly competent at start, becomes highly fragmented by end, poor core recovery 156 -159 -70%, ostracods noted in chalky sections				
		-158-159.9 red-brown shale matrix breccia				
		-159.9-164 grey wavy bedded limestone, partially dolomitized, dolomite crystals to 0.5mm give core a "peppery" texture towards end of interval, sparsely fossiliferous				
		-py rimming calcite filled vugs to 3cm noted in lower 2m of unit				
		{160.50-160.51} {S0 72°} Bedding				
164.00 TO 216.00	<15, WIFm, <S HA>> Phanerozoic Sediments Williams Island Fm. shale	-blue-grey calcareous shale/clay, finely laminated, commonly plastic -monotonous unit, serves as marker horizon -fossiliferous to 170.5m, mostly brachiopod shells -plastic throughout rest of unit, drying cracks common as core dries out				



FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-becomes increasingly calcareous at base of unit, somewhat gradational lower contact   181.60-181.61  *  SO 75°   Bedding				
216.00 TO 224.30	*15,MIFm,<L ST>* Phanerozoic Sediments Murray Island Fm limestone	-fine to medium grained grey limestone, weakly to moderately fossiliferous -216-219.7 RQD=20, massive, crinoid stems, brachiopod shells and rare ostrocod shells noted -219.7-224.3 blocky core, RQD<5, stylolitic in part, sections appear to be brecciated and recemented, fossils as above -unit appears to be roof of collapse breccia, base of unit called at start of shale units and shale matrix to breccia				
224.30 TO 243.90	*15,MRFm,bx > Phanerozoic Sediments Moose River Fm. breccia	-breccia, dominantly matrix supported, limestone and minor shale pebble to block size fragments in shale/clay or limestone matrix -multiple phases of brecciation noted -224.3-230.8 dominantly shale fragments in shale matrix, 1.5m core not recovered 225-228, 1m core not recovered 228-231 -230.8-237 limestone fragments w/ minor shale matrix recovered, RQD=30 -237-243.9 RQD=60, dominantly limestone or calcareous shale matrix				
243.90 TO 267.59	*15,KwFm,<L ST>* Phanerozoic Sediments Kwataboahegan Fm. limestone	-fine to medium grained grey bituminous fossiliferous limestone, w/ minor shale interbeds -unit starts at red shale interbed w/ minor limestone fragments, 243.9-244.8 -244.8-252 massive limestone, sparsely fossiliferous, weakly bituminous, stylolitic, minor thin shale interbeds, RQD>90, smal l (<3mm) vugs common				

HOLE NUMBER: HOG97-02

## DRILL HOLE RECORD

DATE: 03/17/1999

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-252-257.9 classic Kwatoabahegan Formation, up to 30% rugosa (?) corals, strongly bituminous grey limestone, common small vugs filled w/ sparry calcite				
		-257.9-261.5 fossiliferous sandy limestone, significant clastic quartz component, grit to granule size grains, fossil component is broken grains to 3-4mm maximum size, no bitumen noted, very poorly consolidated core 258.5-261, appears to be a high energy area deposit (beach?)				
		-261.5-267.59 fossiliferous medium to fine grained grey limestone, minor bitumen, dominantly coral fossils, 3-6cm bands w/ significant clastic component noted, minor vugs filled w/ sparry calcite				
		-lower contact appears depositional, @ approximately 60° to c.a., appears to be paleoslope because clastic rich bed above is at high angle to core axis				
267.59 TO 276.00	*12,Qt,Fel, Hb* Gneiss feldspar hornblende quartz	-medium grained green to white quartz-feldspar-hornblende-biotite gneiss section				
276.00 TO 276.00	*EOH* End-Of-Hole					

HOLE NUMBER: HOG97-02

DRILL HOLE RECORD

LOGGED BY: M.Collison

PAGE: 5

HOLE NUMBER : HOG97-02

GEOCHEMICAL ASSAY

DATE: 18/03/1999

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	NB PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AU02554	122.80	123.00	0.20																										
AU02555	144.00	144.30	0.30																										
AU02556	163.50	163.70	0.20																										
AU02557	216.00	216.20	0.20																										
AU02559	223.50	223.65	0.15																										
AU02558	226.50	226.65	0.15																										
AU02560	227.80	228.00	0.20																										
AU02561	238.50	238.67	0.17																										
AU02562	243.00	243.16	0.16																										
AU02563	245.82	246.00	0.18																										
AU02564	256.50	256.67	0.17																										
AU02565	267.00	267.16	0.16																							1			

HOLE NUMBER : HOG97-02

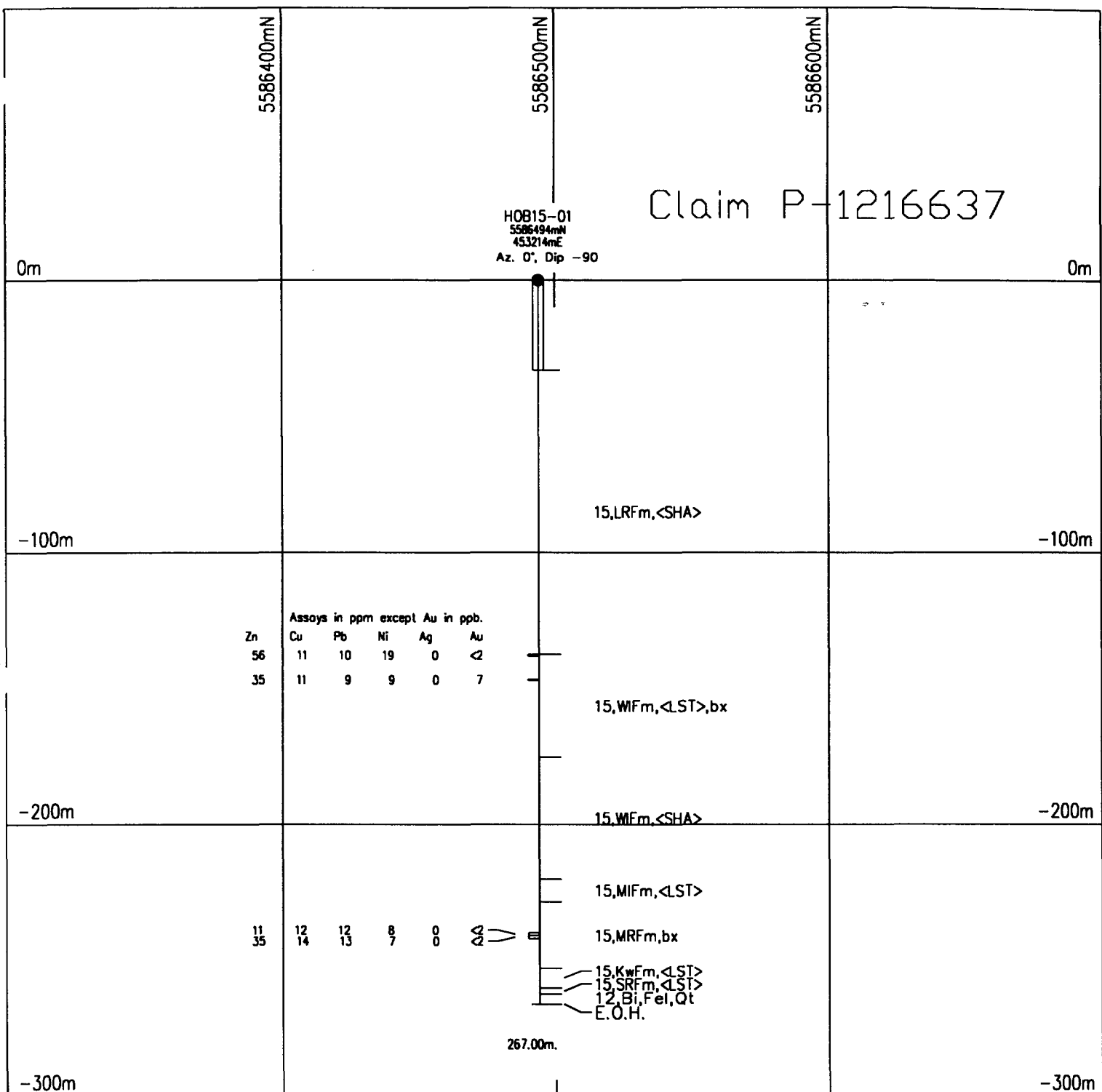
GEOCHEMICAL ASSAY

PAGE: 16

SECTIONS

# Claim P-1216637

HOB15-01  
5586494mN  
453214mE  
Az. 0°, Dip -90



<b>FALCONBRIDGE LIMITED</b> Timmins Exploration	
<b>Coral Rapids</b> CROSS-SECTION VIEWING WEST 453214mE From 5586300mN @ 5586700mN, -400m @ 100m	
Traced by <i>MS</i> <span style="float: right;">01/99</span>	Approved by :
Drawn by <i>MS</i> <span style="float: right;">01/99</span>	Plan no. :
Supervised by <i>MS</i> <span style="float: right;">01/99</span>	Scale : 20 1 : 2000 (metres)
Revised by :	

5586400mN

5586500mN

5586600mN

5586400mN

5586500mN

0m

0m

-100m

-100m

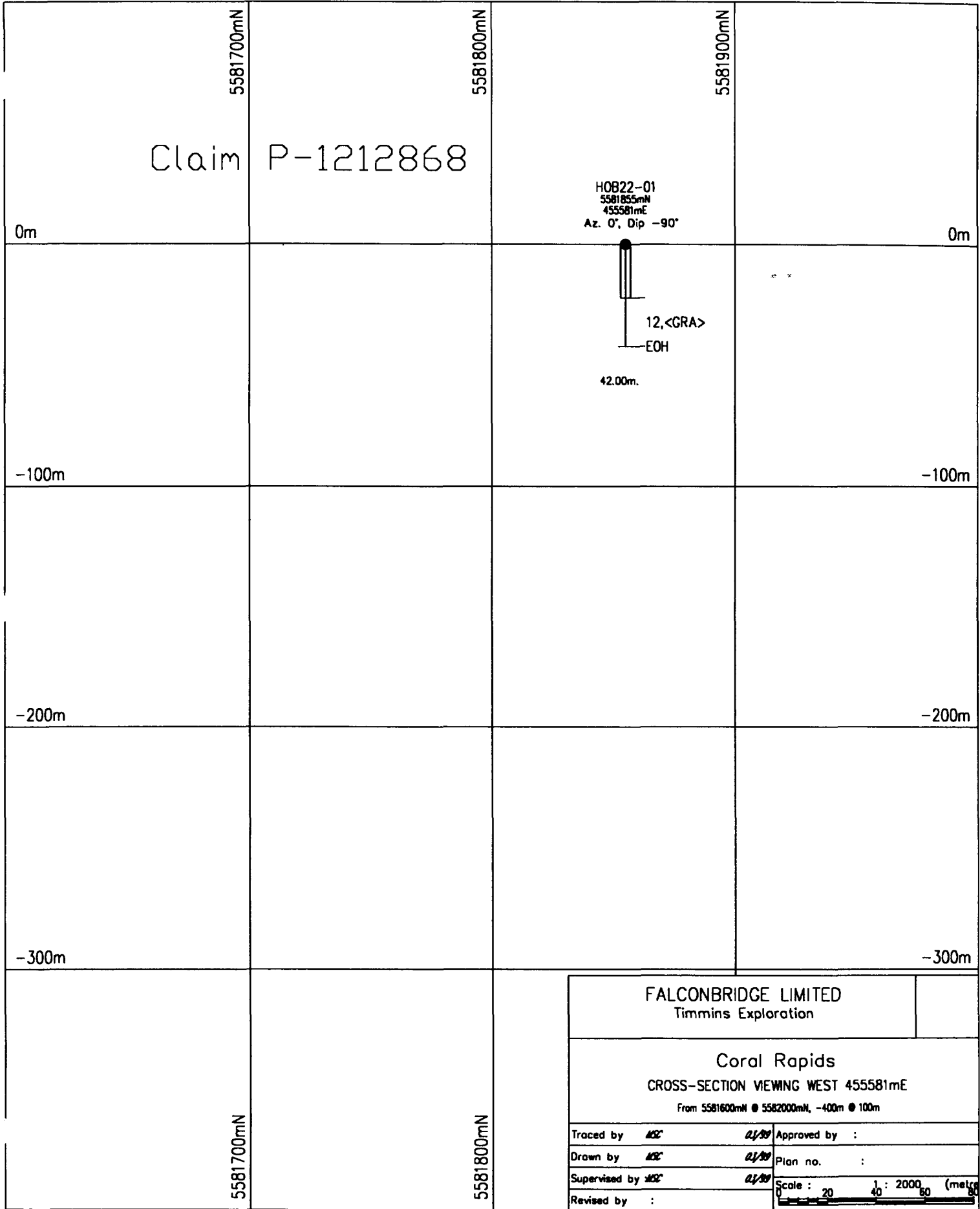
-200m

-200m

-300m

-300m

267.00m.



Claim P-1212868

0m

0m

-100m

-100m

-200m

-200m

-300m

-300m

HOB22-01  
5581855mN  
455581mE  
Az. 0°, Dip -90°



12, <GRA>

EOH

42.00m.

FALCONBRIDGE LIMITED  
Timmins Exploration

Coral Rapids  
CROSS-SECTION VIEWING WEST 455581mE  
From 5581600mN @ 5582000mN, -400m @ 100m

Traced by <i>AKC</i> <i>01/09</i>	Approved by :
Drawn by <i>AKC</i> <i>01/09</i>	Plan no. :
Supervised by <i>AKC</i> <i>01/09</i>	Scale : 20 40 60 (metres)
Revised by :	

Claim P-1216654

HOB24-01  
5584757mN  
454949mE  
Az. 0°, Dip -90°

Assays (ppm except Au in ppb)						
Zn	Cu	Pb	Ni	Ag	Au	
315	21	6	60	0	0	0.0
1515	17	8	31	0	0	0.0

15, LRFm, <SHA>

15, WFM, <ARG>, <LST>, bx

15, WFM, <SHA>

15, MIFm, <LST>

15, MRFm, <ARG>, <LST>, bx

15, SxFm, <ARK>  
EOH

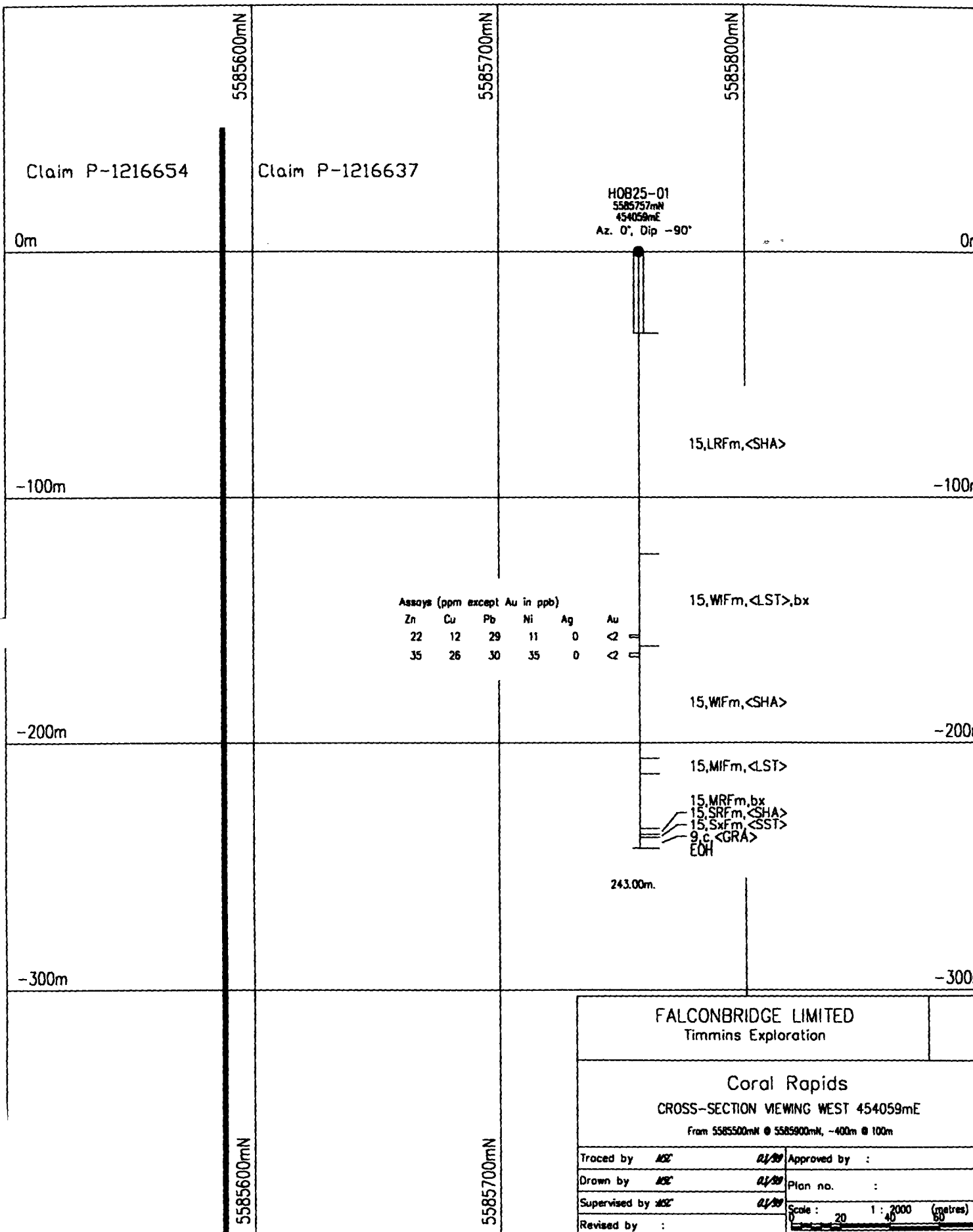
183.00m.

FALCONBRIDGE LIMITED  
Timmins Exploration

Coral Rapids  
CROSS-SECTION VIEWING WEST 454949mE

From 5584500mN @ 5584900mN, -400m @ 100m

Traced by	AS	Approved by	:
Drawn by	AS	Plan no.	:
Supervised by	AS	Scale:	1 : 2000 (metres)
Revised by	:		



Claim P-1216654

Claim P-1216637

H0825-01  
5585757mN  
454059mE  
Az. 0°, Dip -90°

Assays (ppm except Au in ppb)

Zn	Cu	Pb	Ni	Ag	Au
22	12	29	11	0	<2
35	26	30	35	0	<2

15, LRFm, <SHA>

15, WIFm, <LST>, bx

15, WIFm, <SHA>

15, MIFm, <LST>

15, MRFm, bx  
15, SRFm, <SHA>  
15, Sx Fm, <SST>  
9 c, <GRA>  
EOH

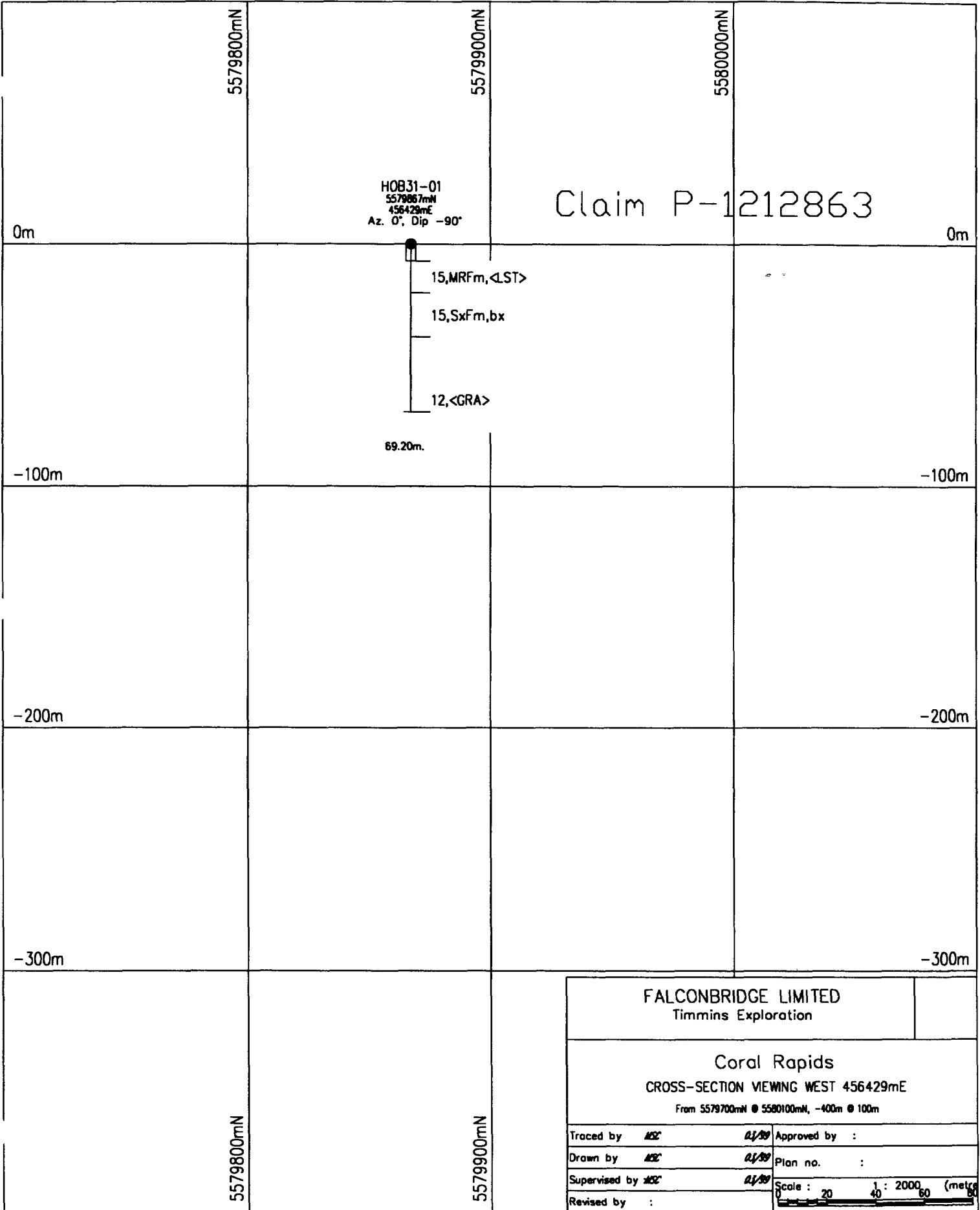
243.00m.

FALCONBRIDGE LIMITED  
Timmins Exploration

Coral Rapids  
CROSS-SECTION VIEWING WEST 454059mE  
From 5585500mN @ 5585900mN, -400m @ 100m

Traced by <i>ACE</i>	<i>01/99</i>	Approved by :
Drawn by <i>ACE</i>	<i>01/99</i>	Plan no. :
Supervised by <i>ACE</i>	<i>01/99</i>	Scale : 1 : 2000 (metres)
Revised by :		0 20 40 60





5579800mN

5579900mN

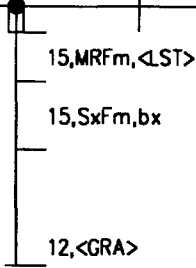
5580000mN

0m

0m

HOB31-01  
5579867mN  
456429mE  
Az. 0°, Dip -90°

Claim P-1212863



69.20m.

-100m

-100m

-200m

-200m

-300m

-300m

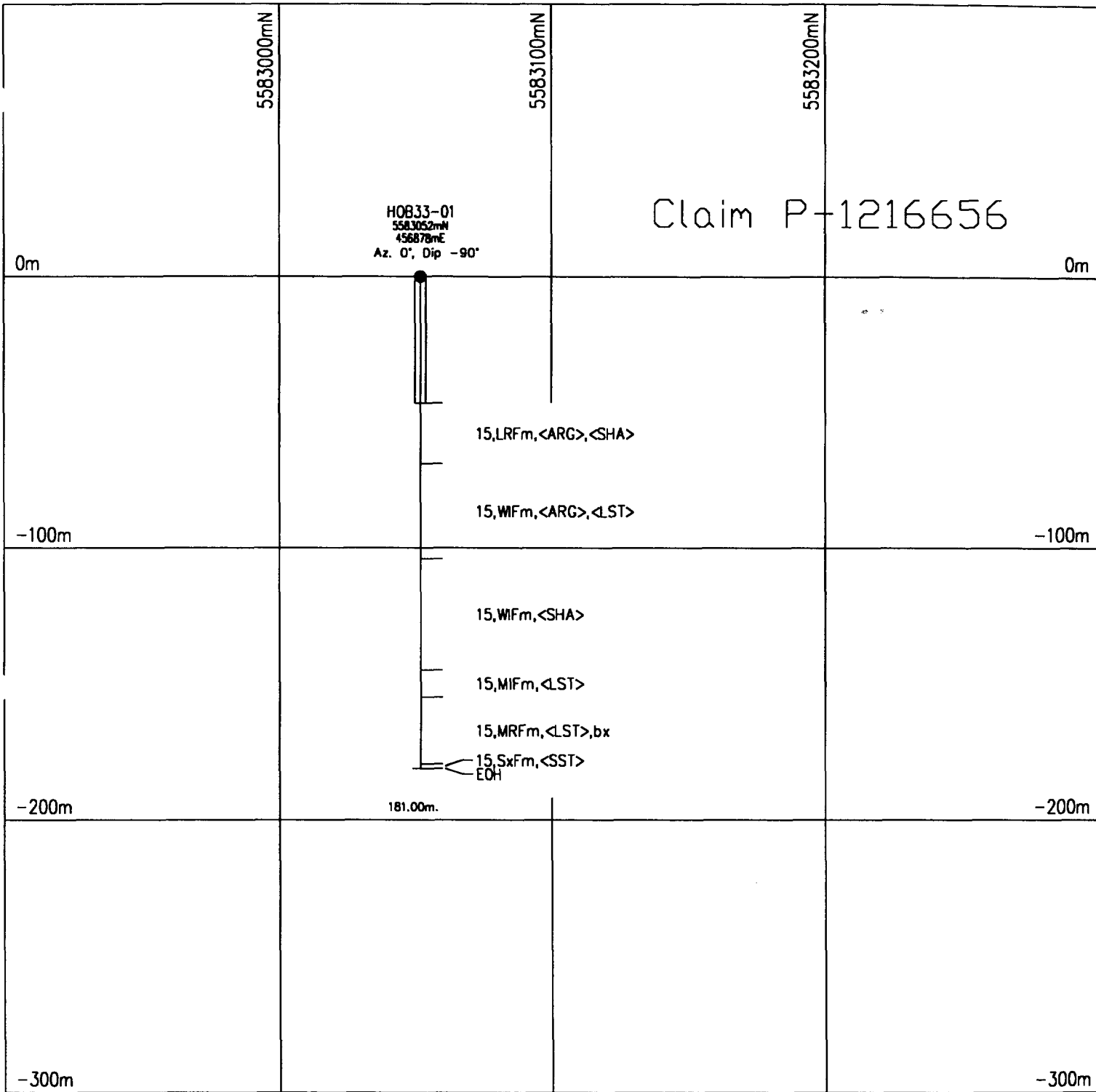
5579800mN

5579900mN

FALCONBRIDGE LIMITED  
Timmins Exploration

Coral Rapids  
CROSS-SECTION VIEWING WEST 456429mE  
From 5579700mN @ 5580100mN, -400m @ 100m

Traced by <i>AS</i>	<i>AL/89</i>	Approved by :
Drawn by <i>AS</i>	<i>AL/89</i>	Plan no. :
Supervised by <i>AS</i>	<i>AL/89</i>	Scale : 20 40 60 80 (metres)
Revised by :		



H0833-01  
 5583052mN  
 456878mE  
 Az. 0°, Dip -90°

Claim P-1216656

15, LRFm, <ARG>, <SHA>

15, WIFm, <ARG>, <LST>

15, WIFm, <SHA>

15, MIFm, <LST>

15, MRFm, <LST>, bx

15, SxFm, <SST>  
 EOH

181.00m.

FALCONBRIDGE LIMITED  
 Timmins Exploration

Coral Rapids  
 CROSS-SECTION VIEWING WEST 456878mE  
 From 5582900mN @ 5583300mN, -400m @ 100m

Traced by <i>ASC</i>	<i>AL/99</i>	Approved by :
Drawn by <i>ASC</i>	<i>AL/99</i>	Plan no. :
Supervised by <i>ASC</i>	<i>AL/99</i>	Scale : 20 40 60 80 (metres)
Revised by :		

5583000mN

5583100mN

5583200mN

5583000mN

5583100mN

0m

0m

-100m

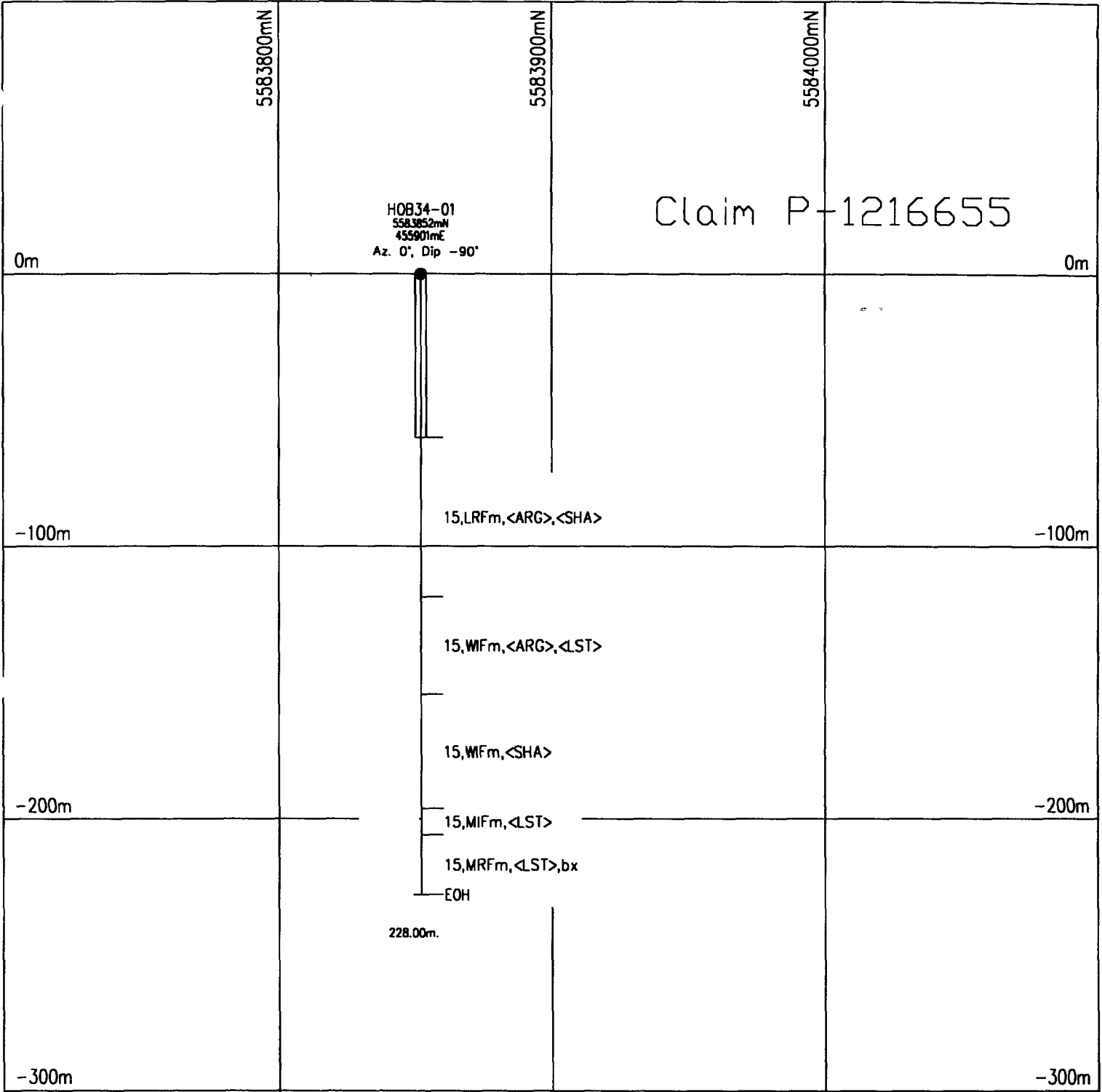
-100m

-200m

-200m

-300m

-300m



FALCONBRIDGE LIMITED Timmins Exploration	
Coral Rapids CROSS-SECTION VIEWING WEST 455901mE From 5583700mN @ 5584100mN, -400m @ 100m	
Traced by <i>ASC</i> 01/99	Approved by :
Drawn by <i>ASC</i> 01/99	Plan no. :
Supervised by <i>ASC</i> 01/99	Scale : 1 : 2000 (metre)
Revised by :	0 20 40 60 80

Claim P-1212869

HOB43-01  
 5583525mN  
 458191mE  
 Az. 0°, Dip -90°

Assays (ppm except Au in ppb)

Zn	Cu	Pb	Ni	Ag	Au
6	11	2	1	0	<2
25	13	2	18	0	3

15, LRFm, <ARG>, <DOL>

15, WIFm, <ARG>, <LST>, <SHA>

15, MIFm, <LST>, bx

15, MRFm, <LST>, bx

15, SxFm, <ARK>, C, \*k

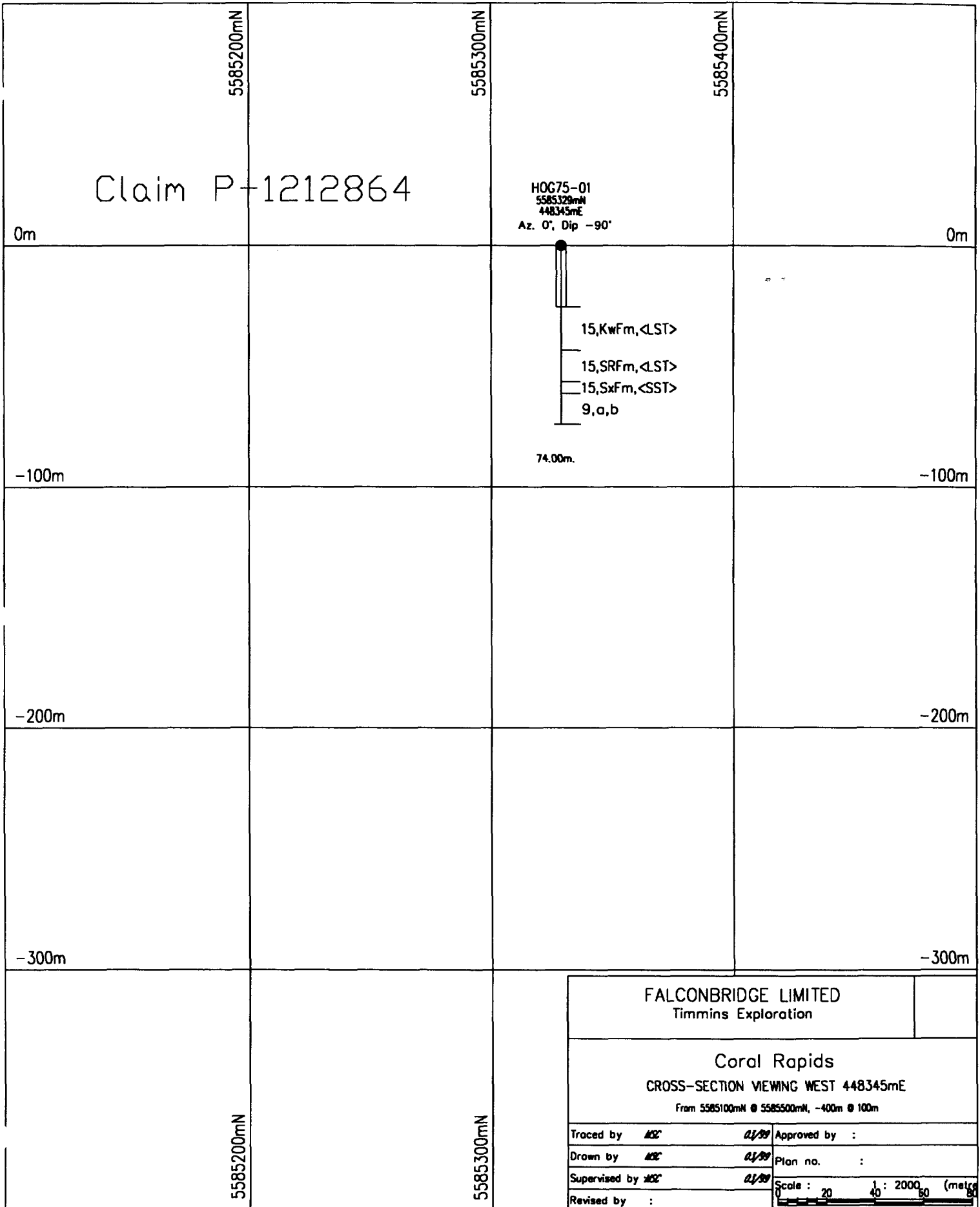
12, Dp, Epi, <GRA>  
 EOH

176.00m.

FALCONBRIDGE LIMITED  
 Timmins Exploration

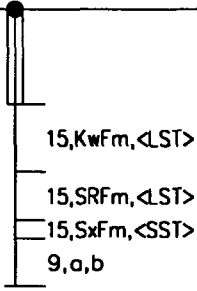
Coral Rapids  
 CROSS-SECTION VIEWING WEST 458191mE  
 From 5583300mN @ 5583700mN, -400m @ 100m

Traced by <i>AS</i>	<i>01/99</i>	Approved by :
Drawn by <i>AS</i>	<i>01/99</i>	Plan no. :
Supervised by <i>AS</i>	<i>01/99</i>	Scale : 20 1 : 2000 (metres)
Revised by :		



Claim P-1212864

H0675-01  
 5585329mN  
 448345mE  
 Az. 0°, Dip -90°



74.00m.

FALCONBRIDGE LIMITED  
 Timmins Exploration

Coral Rapids  
 CROSS-SECTION VIEWING WEST 448345mE  
 From 5585100mN @ 5585500mN, -400m @ 100m

Traced by <i>AS</i>	<i>01/99</i>	Approved by :
Drawn by <i>AS</i>	<i>01/99</i>	Plan no. :
Supervised by <i>AS</i>	<i>01/99</i>	Scale : 1 : 2000 (metres)
Revised by :		0 20 40 60 80

Claim P-1212874

H0C88-01  
 5590653mN  
 449938mE  
 Az. 0°, Dip -90°

Assays (ppm except Au in ppb)

Zn	Cu	Pb	Ni	Ag	Au
75	156	24	34	0	<2



15,KwFm,<LST>

15,SxFm,<CGL>,<SST>

12,b,Bi,Fel,Qt

82.35m.

0m

0m

-100m

-100m

-200m

-200m

-300m

-300m

FALCONBRIDGE LIMITED  
 Timmins Exploration

Coral Rapids  
 CROSS-SECTION VIEWING WEST 449938mE  
 From 5590500mN @ 5590900mN, -400m @ 100m

Traced by <i>AS</i>	<i>01/99</i>	Approved by :
Drawn by <i>AS</i>	<i>01/99</i>	Plan no. :
Supervised by <i>AS</i>	<i>01/99</i>	Scale : 20 1 : 2000 (metres)
Revised by :		

5590600mN

5590700mN

5590800mN

5590600mN

5590700mN

Claim P-1212874

0m

0m

-100m

-100m

-200m

-200m

-300m

-300m

H0G88-02  
5591006mN  
450308mE  
Az. 0°, Dip -90°



15, KwFm, <LST>  
15, SxFm, <SST>  
12, b, Bi, Fel, Qt  
EOH

83.00m.

5590900mN

5591000mN

5591100mN

5590900mN

5591000mN

FALCONBRIDGE LIMITED  
Timmins Exploration

Coral Rapids  
CROSS-SECTION VIEWING WEST 450308mE  
From 5590800mN @ 5591200mN, -400m @ 100m

Traced by <i>AS</i>	<i>AS</i>	Approved by :
Drawn by <i>AS</i>	<i>AS</i>	Plan no. :
Supervised by <i>AS</i>	<i>AS</i>	Scale : 1 : 2000 (metres)
Revised by :		0 20 40 60 80

Claim P-1212867

5580100mN

5580200mN

5580300mN

HOG91-01  
5580200mN  
452328mE

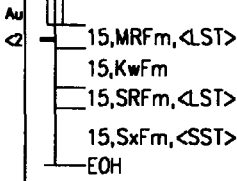
Az. 0°, Dip -90°

0m

0m

Assays (ppm except Au in ppb)

Zn	Cu	Pb	Ni	Ag	Au
34	11	12	7	0	<



57.00m.

-100m

-100m

-200m

-200m

-300m

-300m

5580100mN

5580200mN

FALCONBRIDGE LIMITED  
Timmins Exploration

Coral Rapids  
CROSS-SECTION VIEWING WEST 452328mE  
From 5580000mN @ 5580400mN, -400m @ 100m

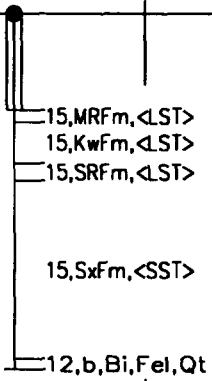
Traced by	ASC	01/99
Drawn by	ASC	01/99
Supervised by	ASC	01/99
Revised by	:	

Approved by	:
Plan no.	:
Scale	1 : 2000 (metres)
	0 20 40 60 80

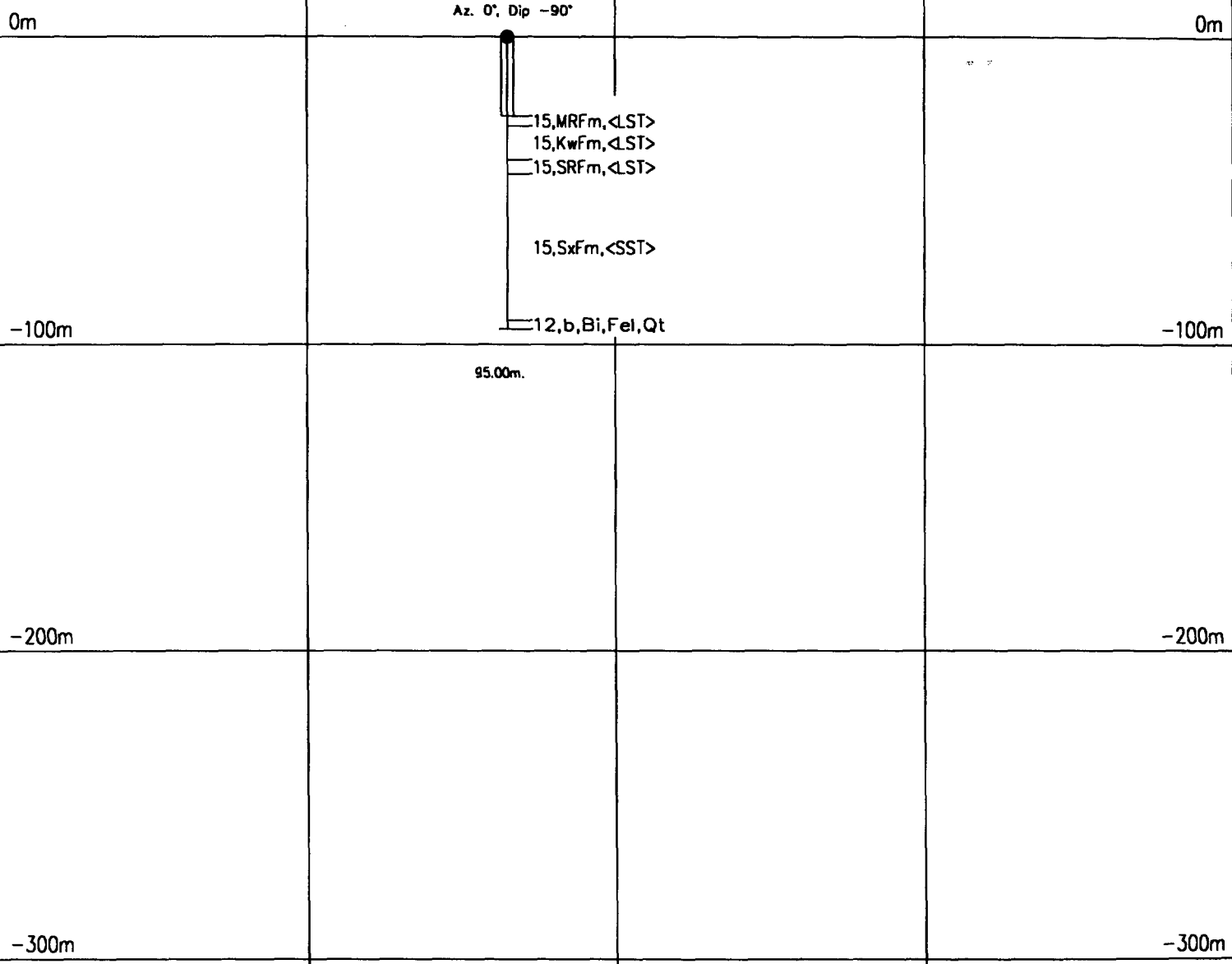


Claim P-1212867

HOG91-02  
5580465mN  
452328mE  
Az. 0°, Dip -90°



95.00m.



FALCONBRIDGE LIMITED  
Timmins Exploration

Coral Rapids  
CROSS-SECTION VIEWING WEST 452328mE  
From 5580300mN @ 5580700mN, -400m @ 100m

Traced by <i>AS</i>	<i>01/99</i>	Approved by :
Drawn by <i>AS</i>	<i>01/99</i>	Plan no. :
Supervised by <i>AS</i>	<i>01/99</i>	Scale : 20 40 60 (metres)
Revised by :		

5580400mN

5580500mN

5580600mN

5580400mN

5580500mN

0m

0m

-100m

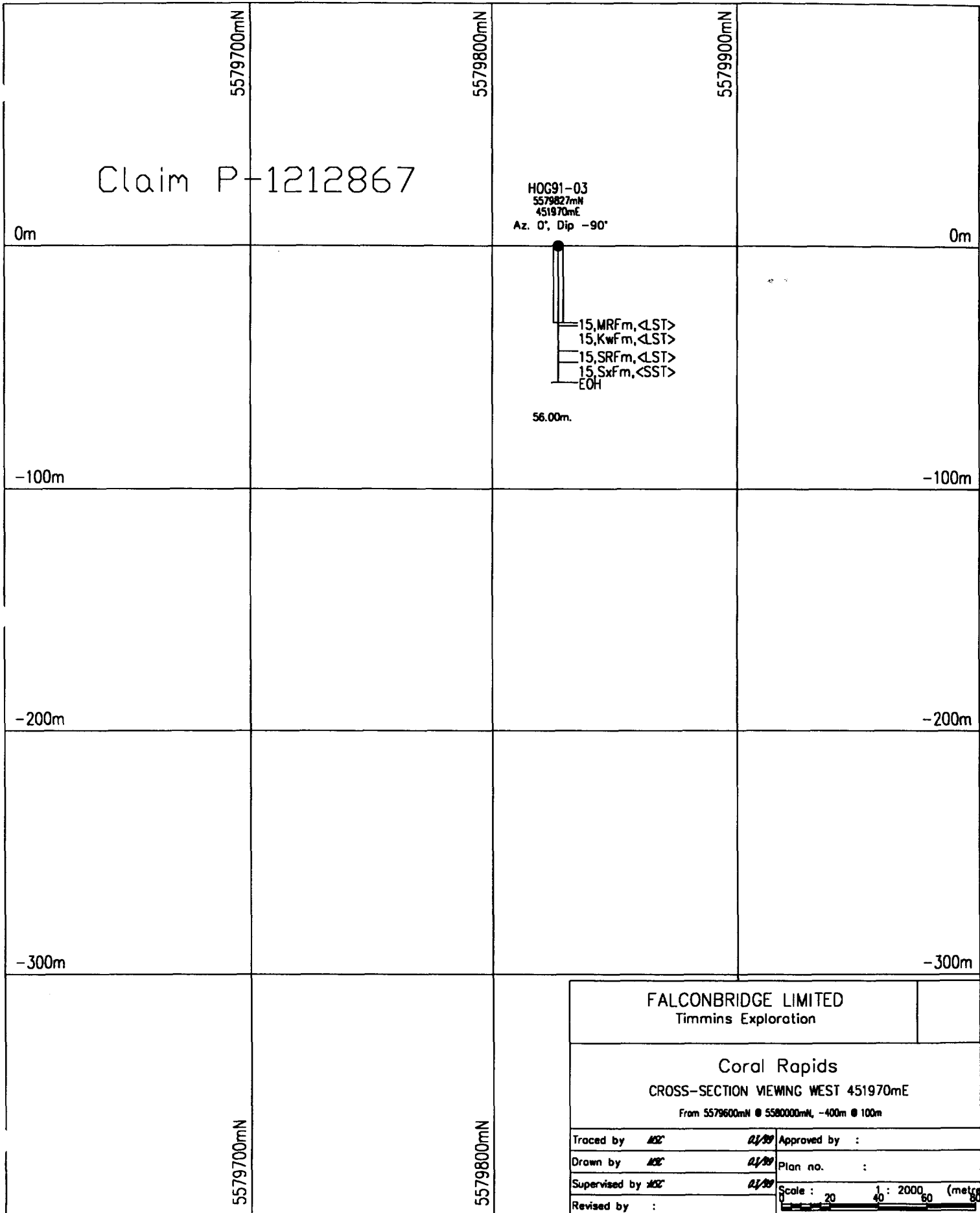
-100m

-200m

-200m

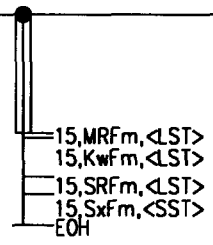
-300m

-300m



Claim P-1212867

HOG91-03  
 5579827mN  
 451970mE  
 Az. 0°, Dip -90°

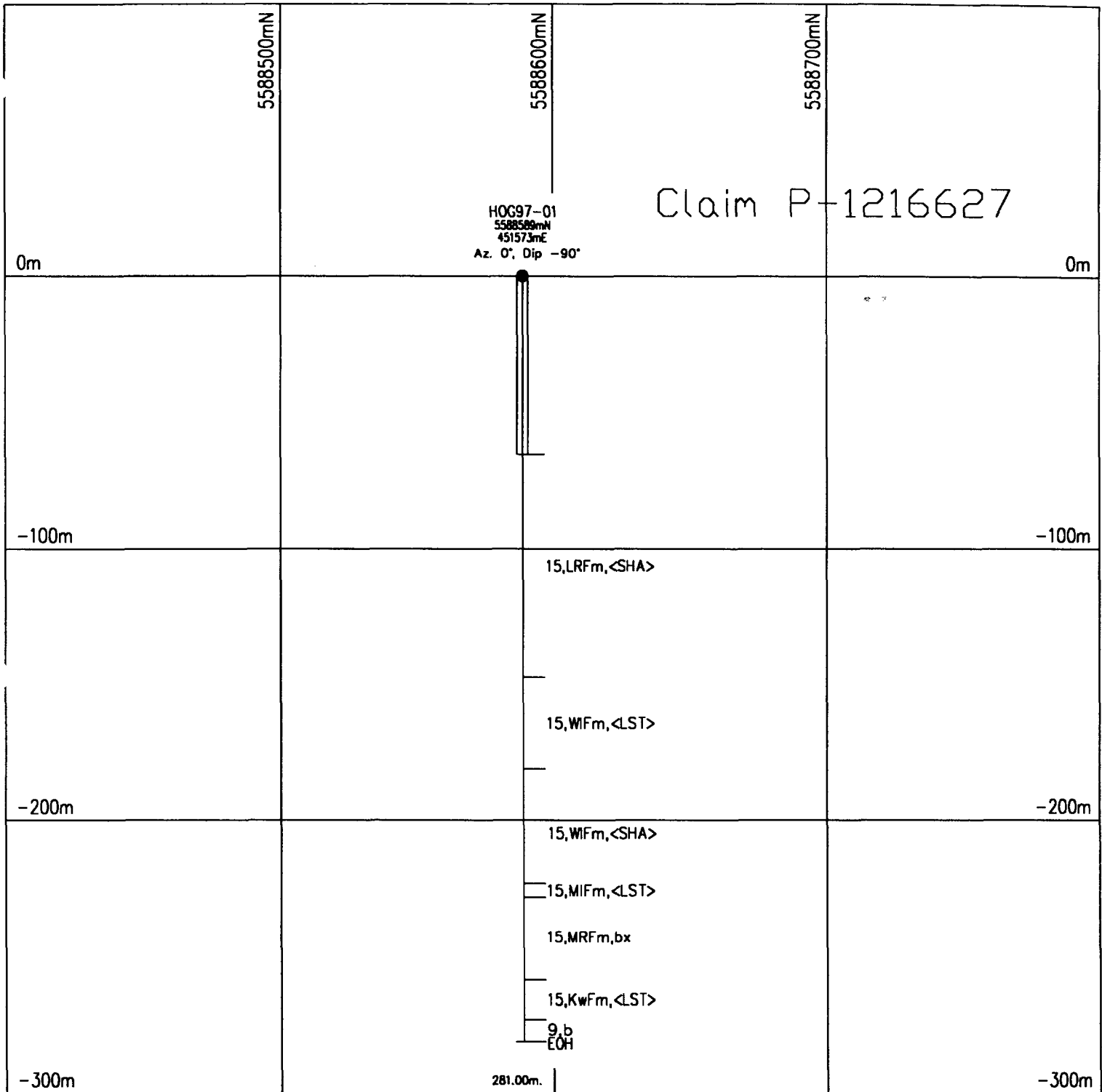


56.00m.

FALCONBRIDGE LIMITED  
 Timmins Exploration

Coral Rapids  
 CROSS-SECTION VIEWING WEST 451970mE  
 From 5579600mN @ 5580000mN, -400m @ 100m

Traced by <i>AS</i>	<i>01/00</i>	Approved by :
Drawn by <i>AS</i>	<i>01/00</i>	Plan no. :
Supervised by <i>AS</i>	<i>01/00</i>	Scale : 1 : 2000 (metre)
Revised by :		0 20 40 60 80



Claim P-1216627

HOG97-01  
 5588589mN  
 451573mE  
 Az. 0°, Dip -90°

0m  
 -100m  
 -200m  
 -300m

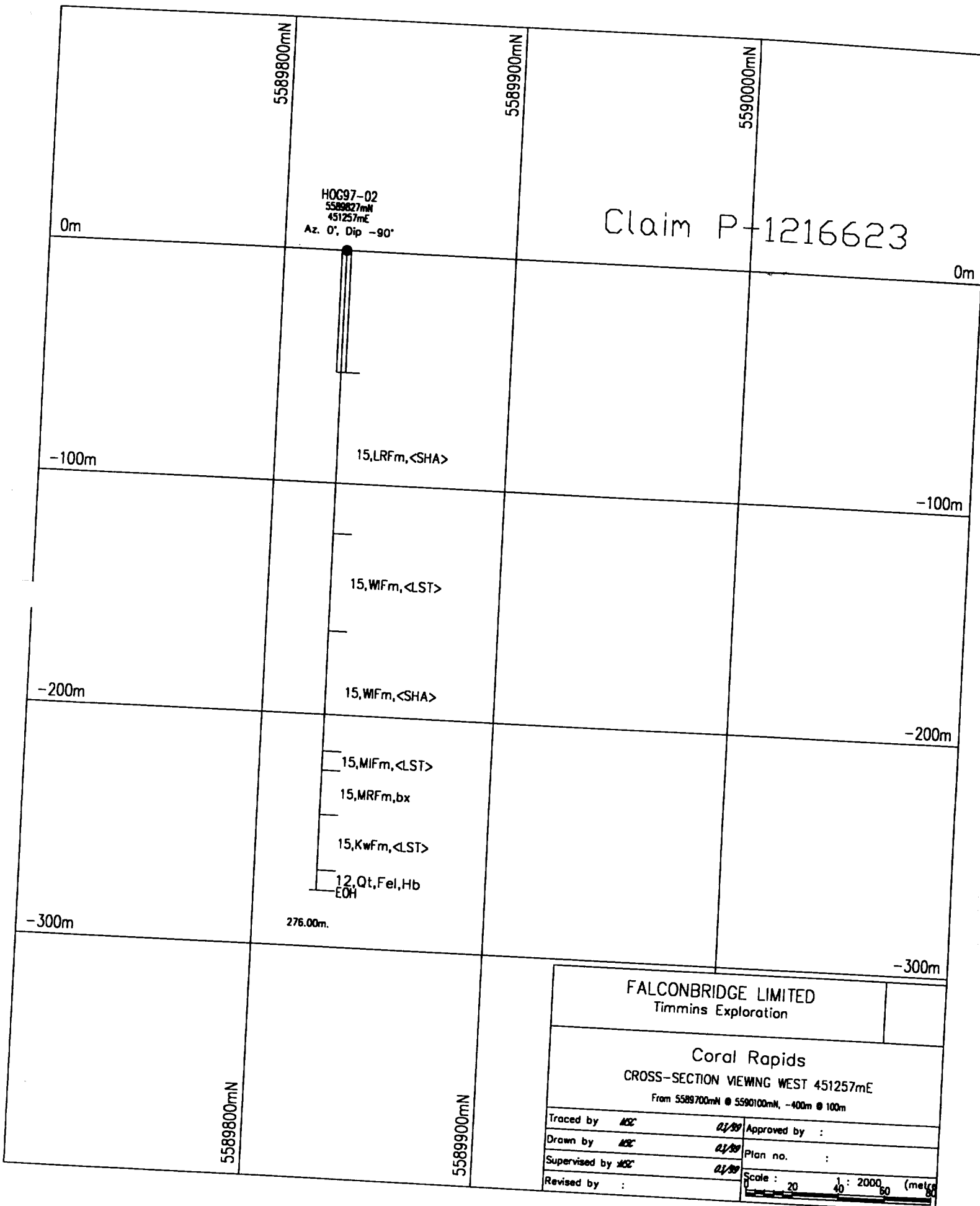
5588500mN  
 5588600mN  
 5588700mN

15, LRFm, <SHA>  
 15, WIFm, <LST>  
 15, WIFm, <SHA>  
 15, MIFm, <LST>  
 15, MRFm, bx  
 15, KwFm, <LST>  
 g, b  
 EOH

281.00m

<b>FALCONBRIDGE LIMITED</b> Timmins Exploration	
<b>Coral Rapids</b> CROSS-SECTION VIEWING WEST 452345mE From 5588400mN @ 5588800mN, -400m @ 100m	
Traced by <i>AS</i>	01/99
Approved by :	
Drawn by <i>AS</i>	01/99
Plan no. :	
Supervised by <i>AS</i>	01/99
Revised by :	
Scale : 1 : 2000 (metres) 	

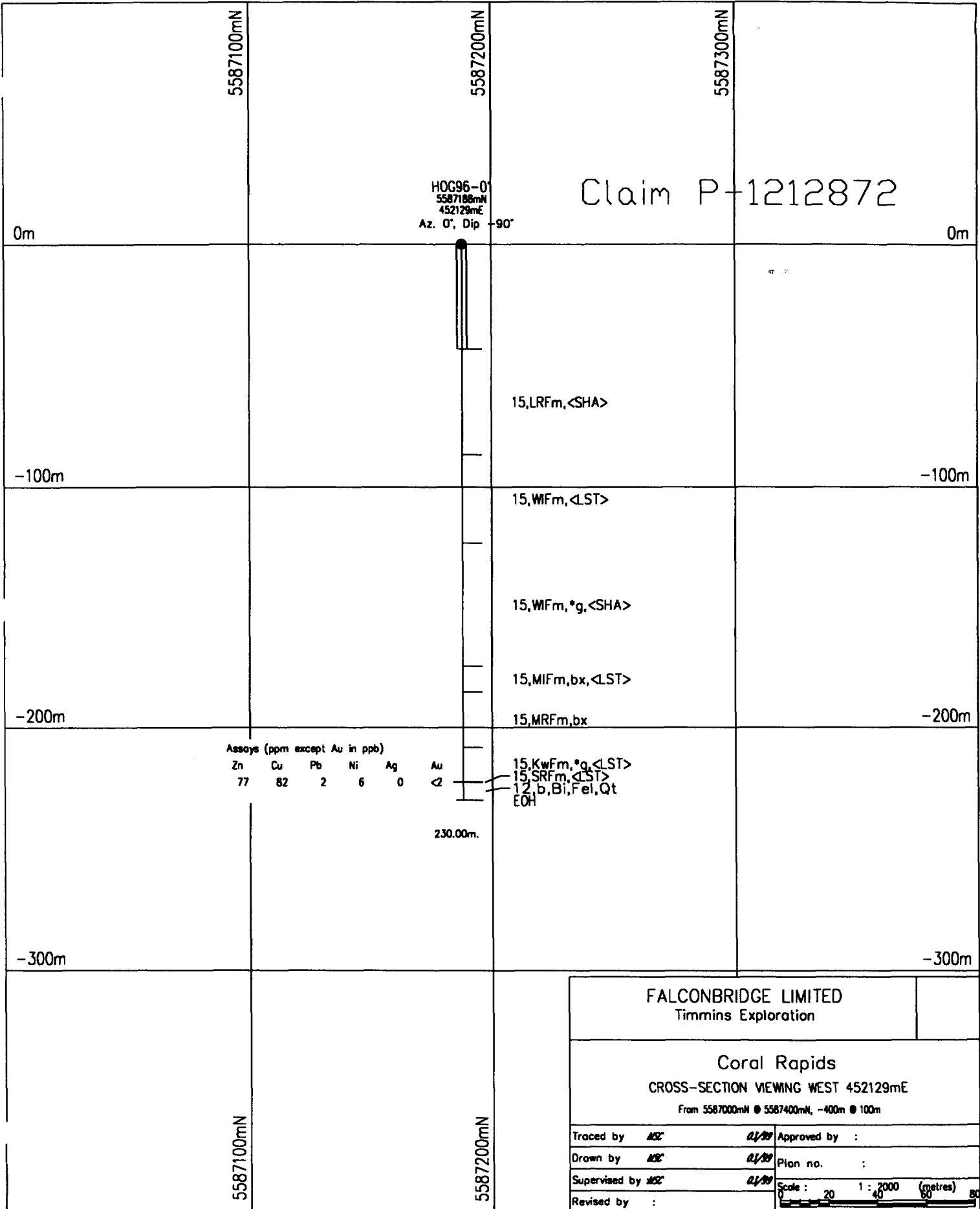
5588500mN  
 5588600mN



FALCONBRIDGE LIMITED  
Timmins Exploration

Coral Rapids  
CROSS-SECTION VIEWING WEST 451257mE  
From 5589700mN @ 5590100mN, -400m @ 100m

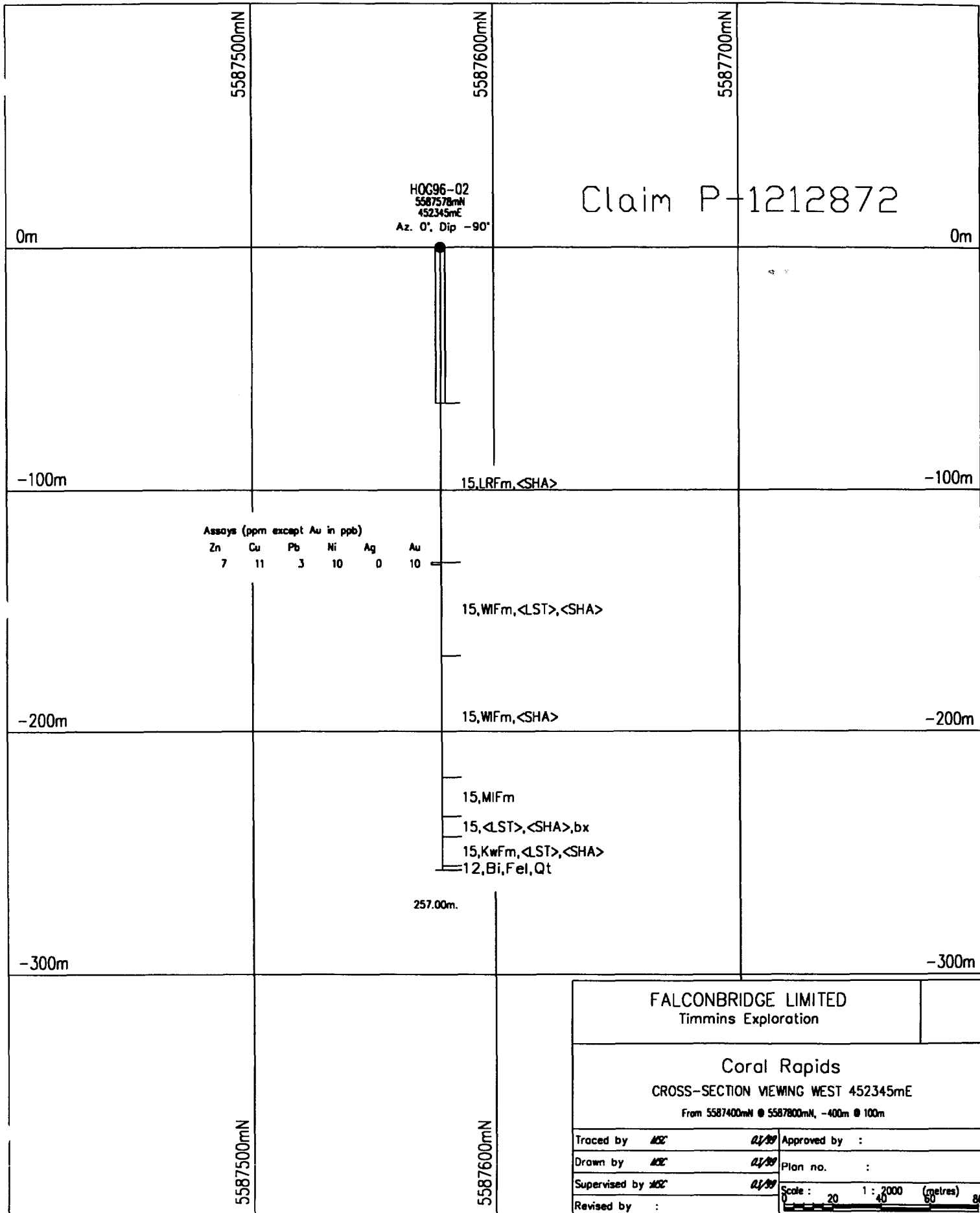
Traced by	AKC	01/99	Approved by	:
Drawn by	AKC	01/99	Plan no.	:
Supervised by	AKC	01/99	Scale	: 20 40 60 80 (metres)
Revised by	:			



FALCONBRIDGE LIMITED  
Timmins Exploration

Coral Rapids  
CROSS-SECTION VIEWING WEST 452129mE  
From 5587000mN @ 5587400mN, -400m @ 100m

Traced by <i>AS</i>	<i>01/99</i>	Approved by :
Drawn by <i>AS</i>	<i>01/99</i>	Plan no. :
Supervised by <i>AS</i>	<i>01/99</i>	Scale : 1 : 2000 (metres)
Revised by :		0 20 40 80 80



PLANS

**Declaration of Assessment Work Performed on Mining Land**

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use) <i>W996-00133</i>
Assessment Files Research Imaging



42105NE2001 2.19347 HOBSON

900

of subsection 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, the assessment work and correspond with the mining land holder. Questions about this form should be directed to the Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario N2G 1N1.

Instructions: - For work performed on Crown Lands before recording a claim, use form 0240.  
- Please type or print in ink.

**1. Recorded holder(s) (Attach a list if necessary)**

Name Falconbridge Limited	Client Number 130679
Address P.O. Box 1140, Timmins Ontario,	Telephone Number (705) 267-1188
P4N 7H9	Fax Number (705) 267-8874
Name	Client Number
Address	Telephone Number
	Fax Number

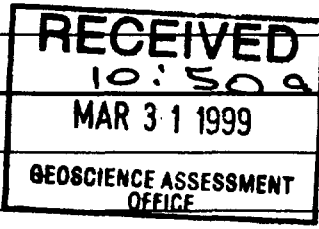
**2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.**

Geotechnical: prospecting, surveys, assays and work under section 18 (regs)	Physical: drilling stripping, trenching and associated assays	Rehabilitation
Work Type Diamond Drilling - 18 Holes - 2880.55m		Office Use
Commodity		Total \$ Value of Work Claimed <i>\$ 486,751</i>
Dates Work Performed From 25 Sep 97 To 30 Oct 98		NTS Reference
Global Positioning System Data (if available)	Township/Area Hobson, Hogg	Mining Division <i>Porcupine</i>
	M or G-Plan Number G-3514, G-3515	Resident Geologist District <i>Timmins</i>

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;  
- provide proper notice to surface rights holders before starting work;  
- complete and attach a Statement of Costs, form 0212;  
- provide a map showing contiguous mining lands that are linked for assigning work;  
- include two copies of your technical report.

**3. Person or companies who prepared the technical report (Attach a list if necessary)**

Name Michael S. Collison M.Sc., Project Geologist, Falconbridge Limited, Timmins Exploration	Telephone Number (705) 267-1188
Address P.O. Box 1140, Timmins Ontario, P49 7H9	Fax Number (705) 267-8874
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number



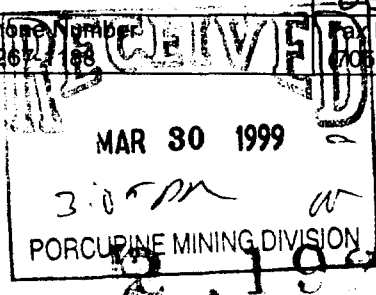
**4. Certification by Recorded Holder or Agent**

I, Michael S. Collison (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its Completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent <i>M. S. Collison</i>	Date 03/30/99
Agent's Address P.O. Box 1140, Timmins Ontario, P4N 7H9	Telephone Number (705) 267-1188
	Fax Number (705) 267-8874

0241 (03/97)

*Deemed on June 28/99*







129960.0033

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of work Depending on the type of work, list the number of hours/day worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
1997 Diamond Drilling Bradley Brothers Limited	Prepare 11 drill sites, Drill 11 DDH - 1221.55m	\$148.22/m	\$181,058
1997 Helicopter Gateway Helicopters Limited	110.9 Hours	\$700/hr plus tax	\$83,064
1998 Diamond Drilling Major Dominik Drilling	Prepare 7 drill sites. Drill 7 DDH - 1659m	\$ 75.10/m	\$124,596
1998 Helicopter Abitibi Helicopters Ltd.	65.1 Hours	\$725/hr plus tax	\$50,501
Supervision and core logging Falconbridge Limited	60 man days	\$200 / day	\$12,000
<b>Associated Costs (e.g. supplies, mobilization and demobilization).</b>			
1997 Mob and Demob costs Bradley Brothers Limited		\$14000 Mob + tax \$ 4000 Demob + tax	\$19,260
1998 Mob and Demob costs Major Dominik Drilling Limited		\$ 3620 Mob + tax \$ 3020 Demob + tax	\$ 6,620
<b>Transportation Costs</b>			
Truck rental and gas		1000 /month	\$2,000
<b>Food and Lodging Costs</b>			
1997 - Room and Board	FL and Helicopter Personnel	\$60/man/day	\$4,408
1997 - Meals	FL and Helicopter Personnel	\$14.50/meal/man	\$3,244
<b>Total Value of Assessment Work</b>			\$486,751

**RECEIVED**  
MAR 31 1999  
GEOSCIENCE ASSESSMENT  
OFFICE

**Calculations of Filing Discounts:**

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK x 0.50 = Total \$ value of worked claimed.

**Note:**

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

**Certification verifying costs:**

I, Michael S. COLLISON, do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying

Declaration of Work form as AGENT - PROJECT GEOLOGIST I am authorized to make this certification.  
(recorded holder, agent, or state company position with signing authority)

**RECEIVED**  
MAR 30 1999  
3:05 PM  
PORCUPINE MINING DIVISION

Signature [Signature] Date 03/30/99

5. **Work to be recorded and distributed.** Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

W9960.06/33

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date
eg TB 7827	16 ha	\$26,825	N/A	\$24,000	\$2,825
eg 1234567	12	0	\$24,000	0	0
eg 1234568	2	\$ 8,892	\$ 4,000	0	\$4,892
1 1212863	16	\$16,700	\$12,800		\$3,900
2 1212864	16	\$17,858	\$12,800		\$5,058
3 1212867	16	\$50,196	\$12,800		\$37,396
4 1212868	16	\$10,136	\$6,400		\$3,736
5 1212869	16	\$42,473	\$12,800		\$29,673
6 1212872	16	\$117,525	\$12,800		\$104,725
7 1212874	16	\$39,903	\$12,800		\$27,103
8 1216623	16	\$31,936	\$12,800		\$19,136
9 1216627	16	\$32,514	\$12,800		\$19,714
10 1216637	16	\$59,011	\$12,800	\$12,800	\$33,411
11 1216638	12	\$0	\$9,600		\$0
12 1216654	12	\$21,175	\$9,600		\$11,575
13 1216655	16	\$26,382	\$12,800		\$13,582
14 1216656	12	\$20,943	\$9,600		\$11,343
15 1219692	4	\$0	\$3,200		\$0
<b>Column Totals</b>	216	\$486,751	\$166,400	\$12,800	\$320,351

I, MICHAEL S. COLLISON, do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing [Signature] Date 03/30/99

**6. Instruction for cutting back credits that are not approved.**

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

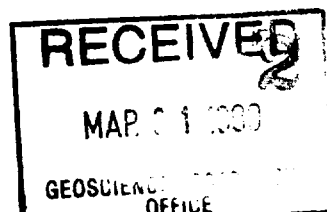
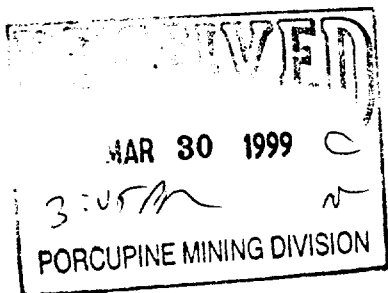
- 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- 3. Credits are to be cut back equally over all claims listed in this declaration; or
- 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

**For Office Use Only**

Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

0241 (03/97)



2.19247

Geoscience Assessment Office  
933 Ramsey Lake Road  
6th Floor  
Sudbury, Ontario  
P3E 6B5

Telephone: (888) 415-9846  
Fax: (877) 670-1555

April 23, 1998

Mike Collison  
FALCONBRIDGE LIMITED  
P.O. BOX 1140  
TIMMINS, ONTARIO  
P4N 7H9

Visit our website at:  
[www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm](http://www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm)

Dear Sir or Madam:

**Submission Number:** 2.19347

**Status**

**Subject: Transaction Number(s):** W9960.00133 Deemed Approval

---

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. **WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.**

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Steve Beneteau by e-mail at [steve.beneteau@ndm.gov.on.ca](mailto:steve.beneteau@ndm.gov.on.ca) or by telephone at (705) 670-5855.

Yours sincerely,



ORIGINAL SIGNED BY  
Blair Kite  
Supervisor, Geoscience Assessment Office  
Mining Lands Section

# Work Report Assessment Results

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**Submission Number:** 2.19347

**Date Correspondence Sent:** April 23, 1998

**Assessor:** Steve Beneteau

---

<b>Transaction Number</b>	<b>First Claim Number</b>	<b>Township(s) / Area(s)</b>	<b>Status</b>	<b>Approval Date</b>
W9960.00133	1212863	HOBSON, HOGG	Deemed Approval	April 14, 1999

**Section:**  
16 Drilling PDRILL

**Correspondence to:**

Resident Geologist  
South Porcupine, ON

Assessment Files Library  
Sudbury, ON

**Recorded Holder(s) and/or Agent(s):**

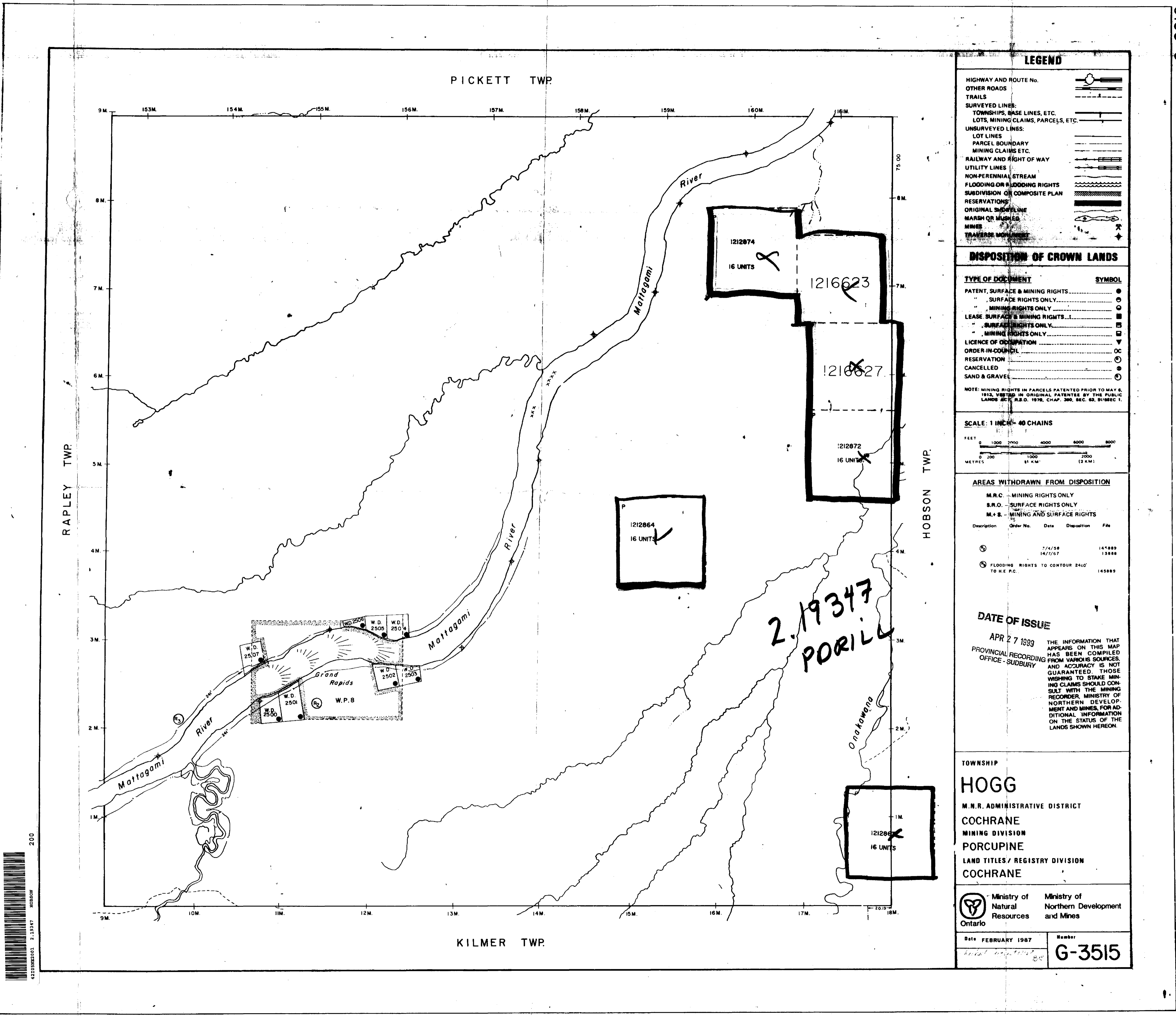
Mike Collison  
FALCONBRIDGE LIMITED  
TIMMINS, ONTARIO

---

C-3212

HOGG TWP

C-3212



**LEGEND**

HIGHWAY AND ROUTE No.

OTHER ROADS

TRAILS

SURVEYED LINES: TOWNSHIPS, BASE LINES, ETC.

LOTS, MINING CLAIMS, PARCELS, ETC.

UNSURVEYED LINES: LOT LINES

PARCEL BOUNDARY

MINING CLAIMS ETC.

RAILWAY AND RIGHT OF WAY

UTILITY LINES

NON-PERENNIAL STREAM

FLOODING OR FLOODING RIGHTS

SUBDIVISION OR COMPOSITE PLAN

RESERVATIONS

ORIGINAL SHORELINE

MARSH OR MUSHEG

MINES

TRAVERSE MONUMENTS

**DISPOSITION OF CROWN LANDS**

**TYPE OF DOCUMENT**

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	◐
LEASE SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	◼
" MINING RIGHTS ONLY	◑
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	○
CANCELLED	○
SAND & GRAVEL	○

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1912, VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 300, SEC. 85, S.V. SEC. 1.

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

METRES 0 300 600 1200 2400

**AREAS WITHDRAWN FROM DISPOSITION**

Description	Order No.	Date	Disposition	File
Ⓢ		7/1/58		145889
Ⓢ		14/7/57		13889
Ⓢ			FLOODING RIGHTS TO CONTOUR 2410 TO H.E.P.C.	145889

**DATE OF ISSUE**  
APR 27 1989  
PROVINCIAL RECORDING OFFICE - SUDBURY

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

TOWNSHIP  
**HOGG**  
M.N.R. ADMINISTRATIVE DISTRICT  
**COCHRANE**  
MINING DIVISION  
**PORCUPINE**  
LAND TITLES/REGISTRY DIVISION  
**COCHRANE**

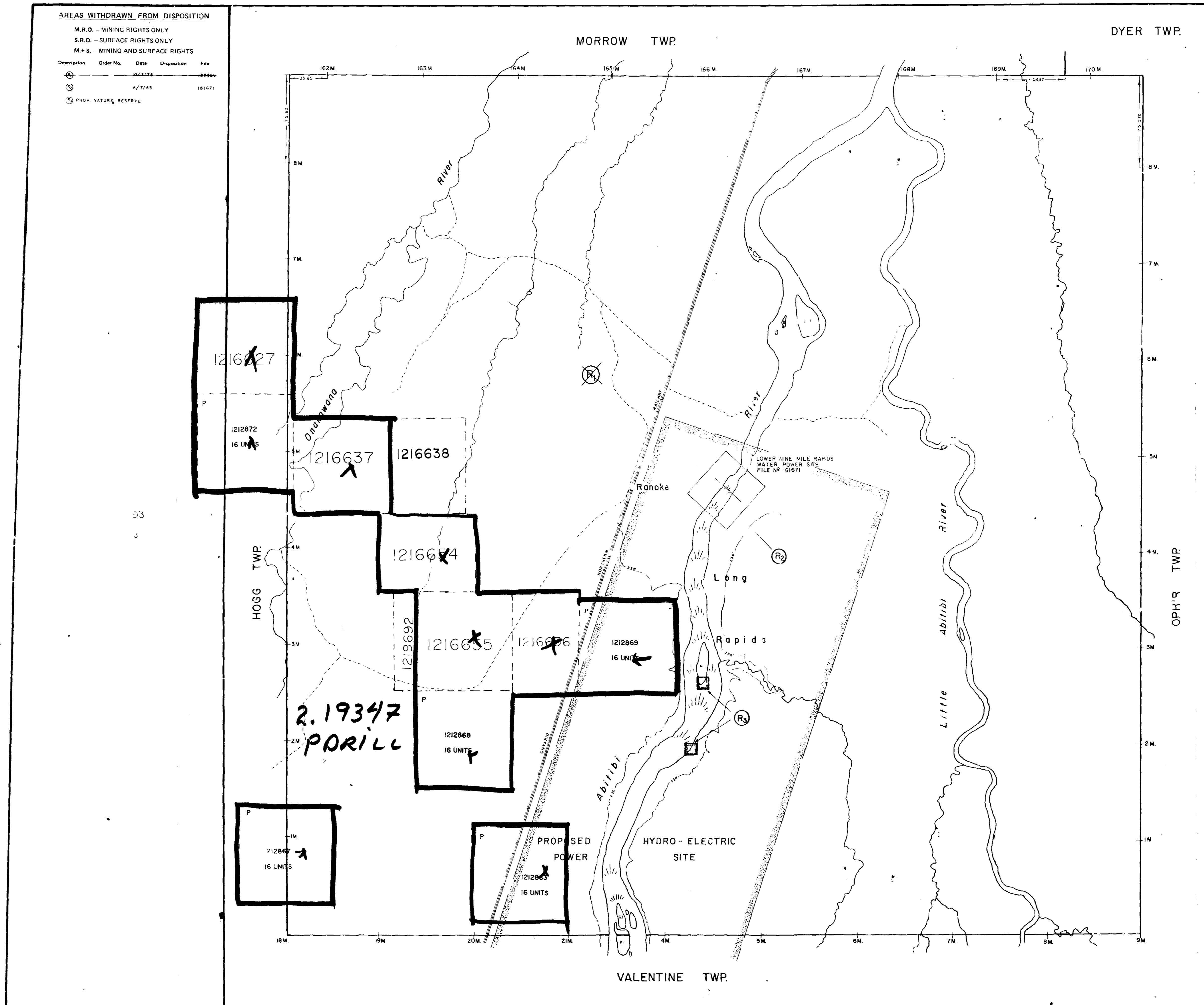
Ministry of Natural Resources Ontario  
Ministry of Northern Development and Mines

Date: FEBRUARY 1987  
Number: **G-3515**

C-3212

HOGG TWP

C-3212



AREAS WITHDRAWN FROM DISPOSITION

- M.R.O. - MINING RIGHTS ONLY
- S.R.O. - SURFACE RIGHTS ONLY
- M+S. - MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
(M)		10/23/75		184426
(S)		4/7/85		161671
(P)				

PROV. NATURAL RESERVE

LEGEND

- HIGHWAY AND ROUTE No. [Symbol]
- OTHER ROADS [Symbol]
- TRAILS [Symbol]
- SURVEYED LINES [Symbol]
- TOWNSHIPS, BASE LINES, ETC. [Symbol]
- LOTS, MINING CLAIMS, PARCELS, ETC. [Symbol]
- UNSURVEYED LINES [Symbol]
- LOT LINES [Symbol]
- PARCEL BOUNDARY [Symbol]
- MINING CLAIMS ETC. [Symbol]
- RAILWAY AND RIGHT OF WAY [Symbol]
- UTILITY LINES [Symbol]
- NON PERENNIAL STREAM [Symbol]
- FLOODING OR FLOODING RIGHTS [Symbol]
- SUBDIVISION OR COMPOSITE PLAN [Symbol]
- RESERVATIONS [Symbol]
- ORIGINAL SHORELINE [Symbol]
- MARSH OR MUSKEG [Symbol]
- MINES [Symbol]
- TRAVERSE MONUMENT [Symbol]

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	(Solid circle)
SURFACE RIGHTS ONLY	(Circle with dot)
MINING RIGHTS ONLY	(Circle with cross)
LEASE SURFACE & MINING RIGHTS	(Circle with horizontal lines)
SURFACE RIGHTS ONLY	(Circle with vertical lines)
MINING RIGHTS ONLY	(Circle with diagonal lines)
LICENCE OF OCCUPATION	(Circle with 'L')
ORDER IN COUNCIL	(Circle with 'O')
RESERVATION	(Circle with 'R')
CANCELLED	(Circle with 'X')
SAND & GRAVEL	(Circle with 'S')

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 5, 1952, VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.

Flooding rights reserved up to elevation 230' and 295' along the Abitibi River to the H.E.P.C. File No. 151671.

Staking allowed on bed of Abitibi River, subject to flooding rights of H.E.P.C. without compensation. H.E.P.C. is relieved from all liabilities of damage due to leakage and damages in sub-surface water conditions over claims in any part of the area which might be caused by river level change resulting from Water Power Development.

Lower Nine Mile Rapids Water Power Site not open for staking under Sec. 40 of the Mining Act.

DATE OF ISSUE

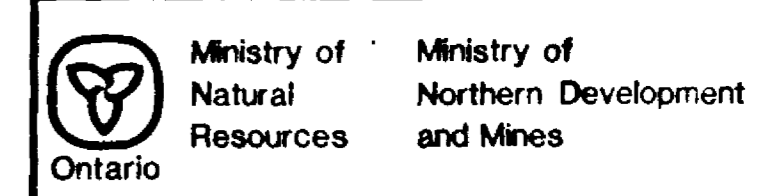
APR 27 1987

PROVINCIAL RECORDING OFFICE - SUDBURY

TOWNSHIP

HOBSON

M.N.R. ADMINISTRATIVE DISTRICT  
 COCHRANE  
 MINING DIVISION  
 PORCUPINE  
 LAND TITLES / REGISTRY DIVISION  
 COCHRANE

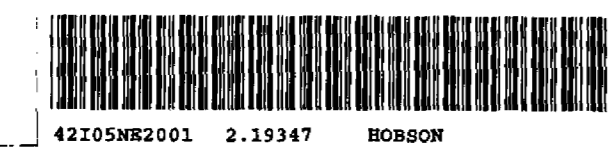


Date FEBRUARY 1987

Number G-3514

HOBSON TWP

C-3214



# HOBSON TOWNSHIP

P-1212868

File HOB22-01  
465581mE  
5281850mN  
AZ 0°, Dip 90°  
K1.2m

ONTARIO NORTHLAND RAILWAY

P-1212863

File HOB31-01  
465420mE  
527867mN  
AZ 0°, Dip 90°  
K1.2m


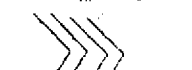
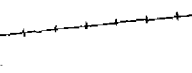

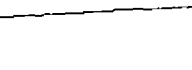
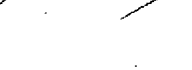


Ditch

Ditch

Abitibi River

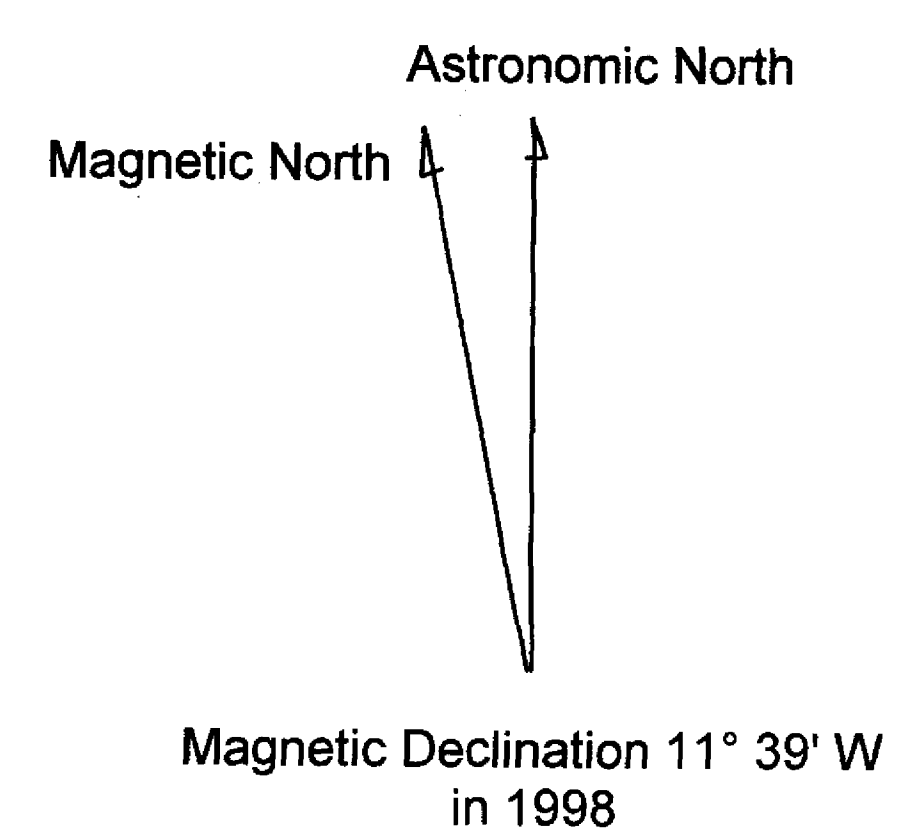
Ditch

## LEGEND

-  Rivers, Streams, Creeks
-  Rapids
-  Railway
-  Trail
-  Township Boundary
-  Contour Line
-  Claim Line
-  Diamond Drill Hole

19347


RECEIVED  
MAR 31 1999  
MINERAL ASSESSMENT  
ACT



Map oriented astronomic north.  
Projection Universal Transverse Mercator  
North American Datum 1927  
Zone 17

Scale 1: 5000

0 0.2 0.4  
Kilometers

	FALCONBRIDGE LIMITED Timmins Exploration
	Coral Rapids Limestone - P.N. 8264 42 I/05
<b>DDH PLAN Map 1</b>	
Drawn: M.S.C.	Date: 03/19/99
Supervised: M.S.C.	Revised: Date:

# HOBSON TOWNSHIP

P-1216637

P-1216638

Hole HOB24-01  
 454259mE  
 558271mN  
 Az 0°, Dip -90°  
 213 m

P-1216654

Hole HOB24-01  
 454259mE  
 558271mN  
 Az 0°, Dip -90°  
 213 m

P-1219692

P-1216655

P-1216656

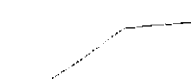
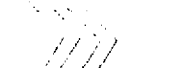






P-1212869

Hole HOB34-01  
 455901mE  
 559302mN  
 Az 0°, Dip -90°  
 228 m

Hole HOB43-01  
 458191mE  
 559302mN  
 Az 0°, Dip -90°  
 276 m

Hole HOB33-01  
 456878mE  
 559302mN  
 Az 0°, Dip -90°  
 281 m

### LEGEND

-  Rivers, Streams, Creeks
-  Rapids
-  Railway
-  Trail
-  Township Boundary
-  Contour Line
-  Claim Line
-  Diamond Drill Hole

Ra

Dit

Ditch

Ditch

.19347

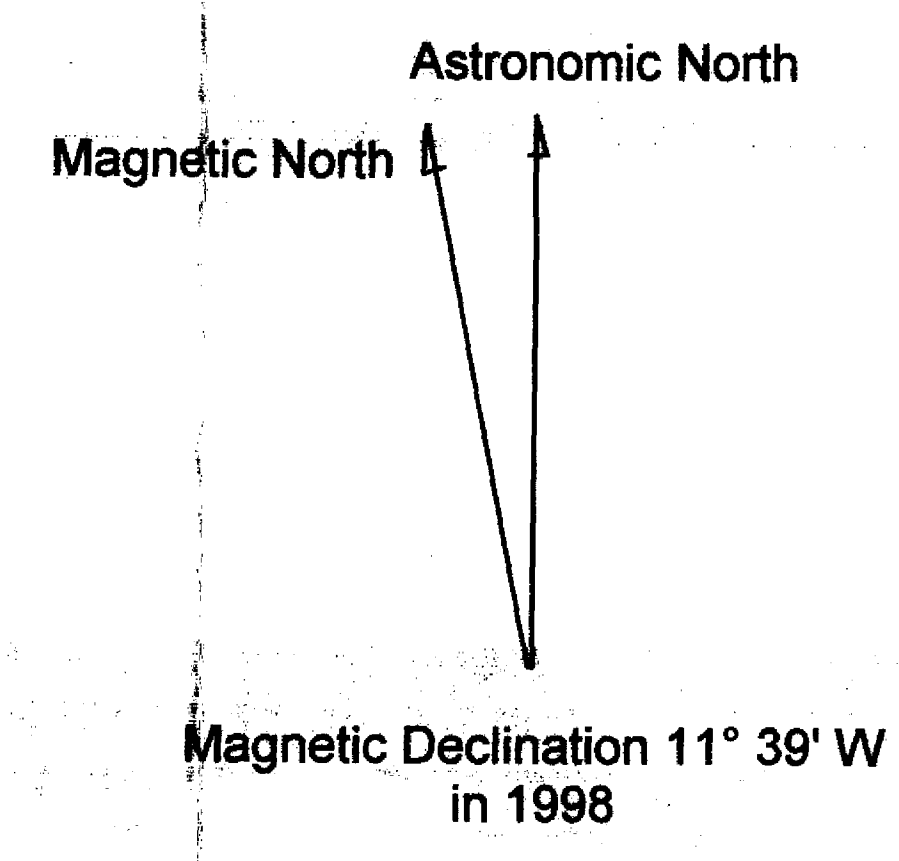
RECEIVED  
 MAR 31 1999  
 RESOURCE ASSESSMENT  
 BRIDGE

FALCONBRIDGE LIMITED  
 Timmins Exploration

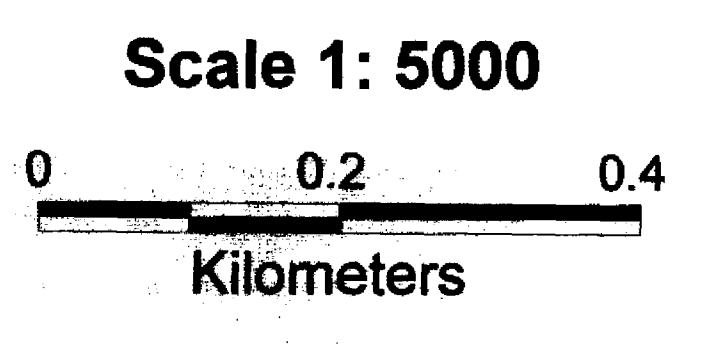
Coral Rapids Limestone - P.N. 8264  
 42 I/05

### DDH PLAN Map 2

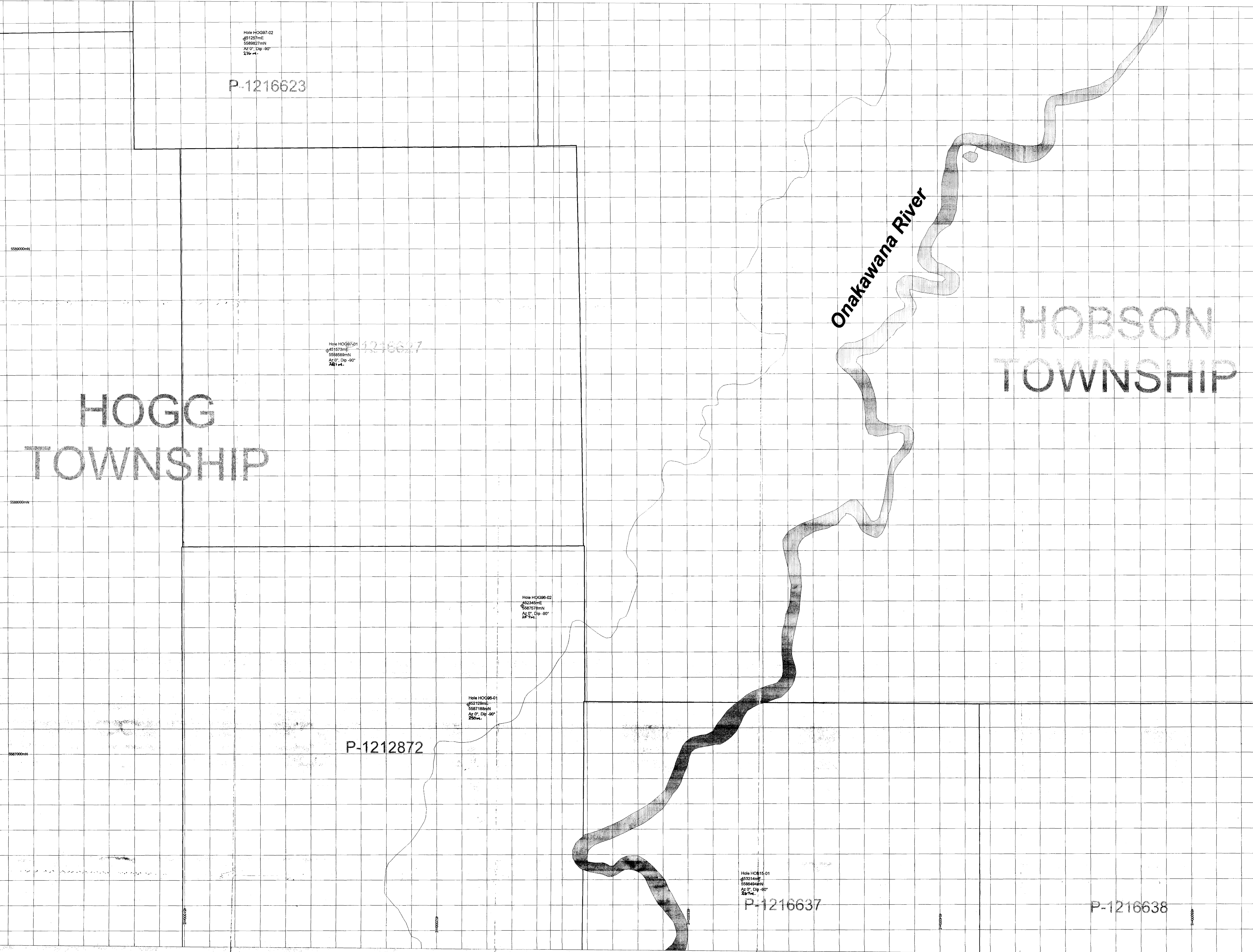
Drawn: M.S.C. Date: 03/19/99  
 Supervised: M.S.C. Revised: Date:



Map oriented astronomic north.  
 Projection Universal Transverse Mercator  
 North American Datum 1927  
 Zone 17





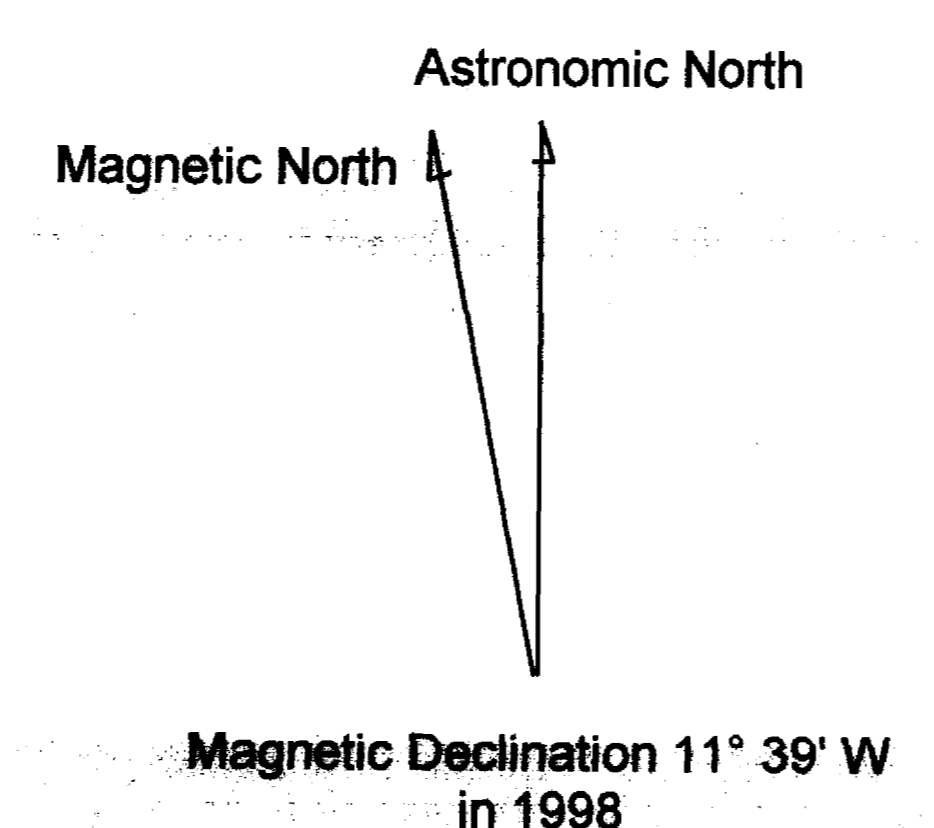


**LEGEND**

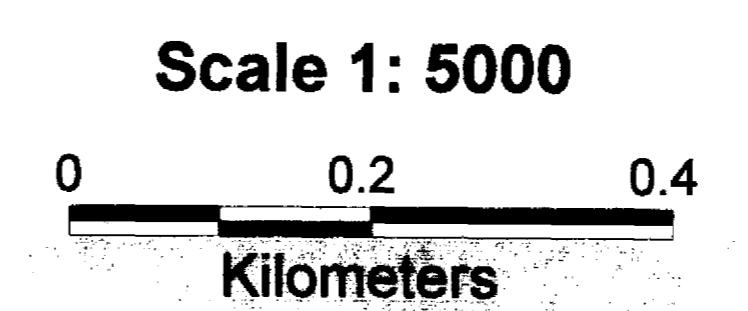
- Rivers, Streams, Creeks
- Rapids
- Railway
- Trail
- Township Boundary
- Contour Line
- Claim Line
- Diamond Drill Hole

19347

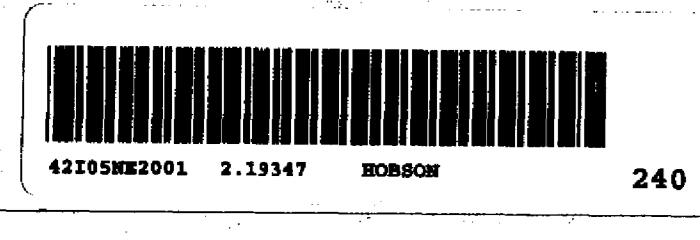
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Map oriented astronomic north.  
Projection Universal Transverse Mercator  
North American Datum 1927  
Zone 17



	<b>FALCONBRIDGE LIMITED</b> Timmins Exploration	
	Coral Rapids Limestone - P.N. 8264 42 I/05	
<b>DDH PLAN</b> Map 3		
Drawn: M.S.C.	Date: 03/19/99	
Supervised: M.S.C.	Revised: Date:	



Matagami River

HOGG  
TOWNSHIP

P-1212874

P-1216623

P-1216627

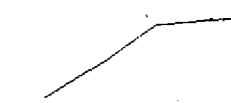

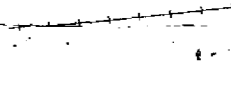





Hole HOG88-02  
449037mE  
5500960mN  
As of Dip -90°  
19 m

Hole HOG88-01  
449038mE  
5500953mN  
As of Dip -90°  
52.56 m

Hole HOG87-02  
451257mE  
5506527mN  
As of Dip -90°  
276 m

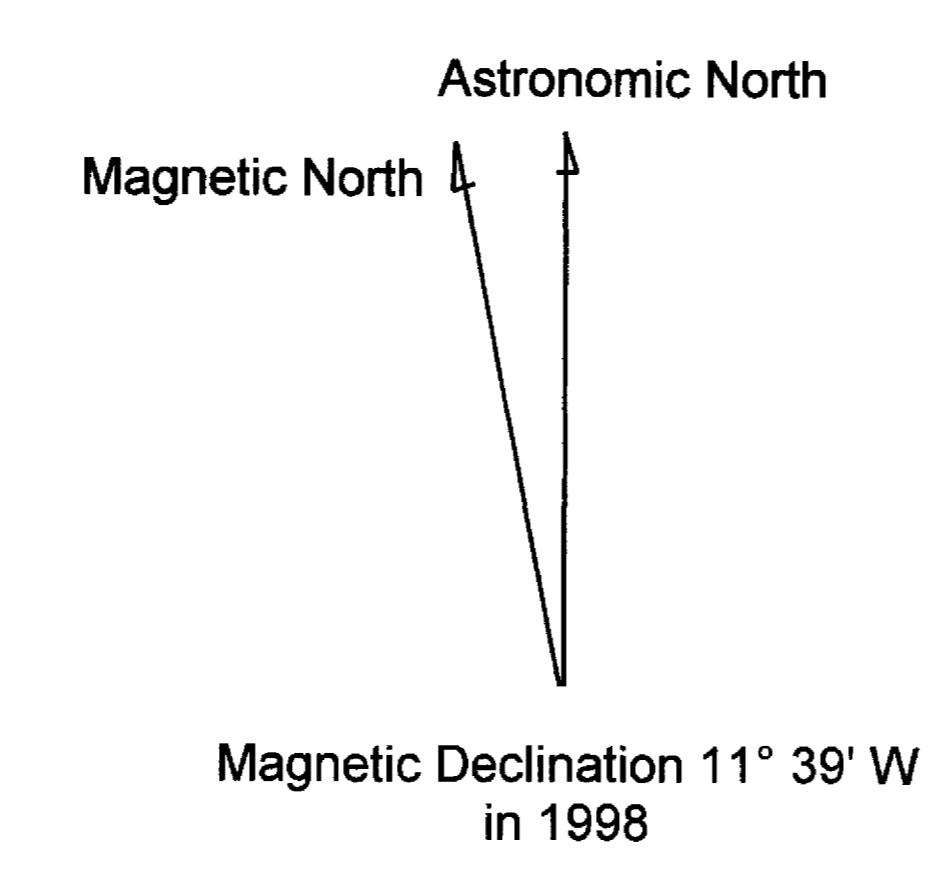
Hole HOG87-01  
451253mE  
5506589mN  
As of Dip -90°  
281 m

LEGEND

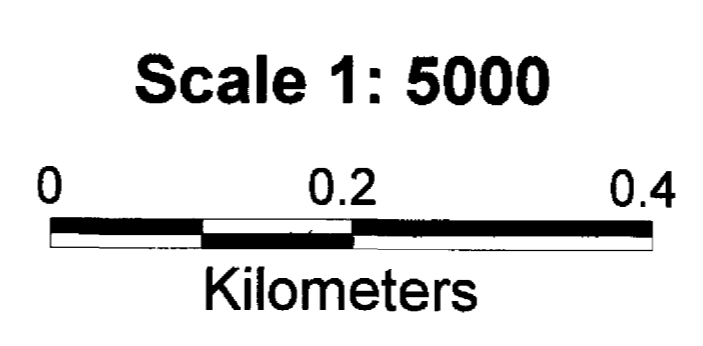
-  Rivers, Streams, Creeks
-  Rapids
-  Railway
-  Trail
-  Township Boundary
-  Contour Line
-  Claim Line
-  Diamond Drill Hole


19347

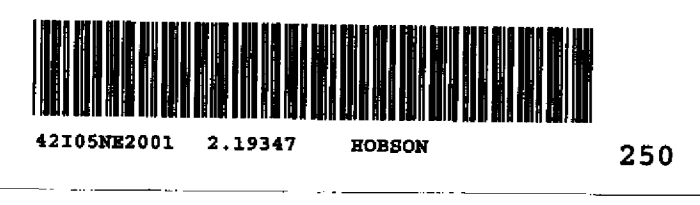
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UNIT



Map oriented astronomic north.  
Projection Universal Transverse Mercator  
North American Datum 1927  
Zone 17




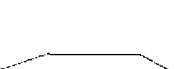






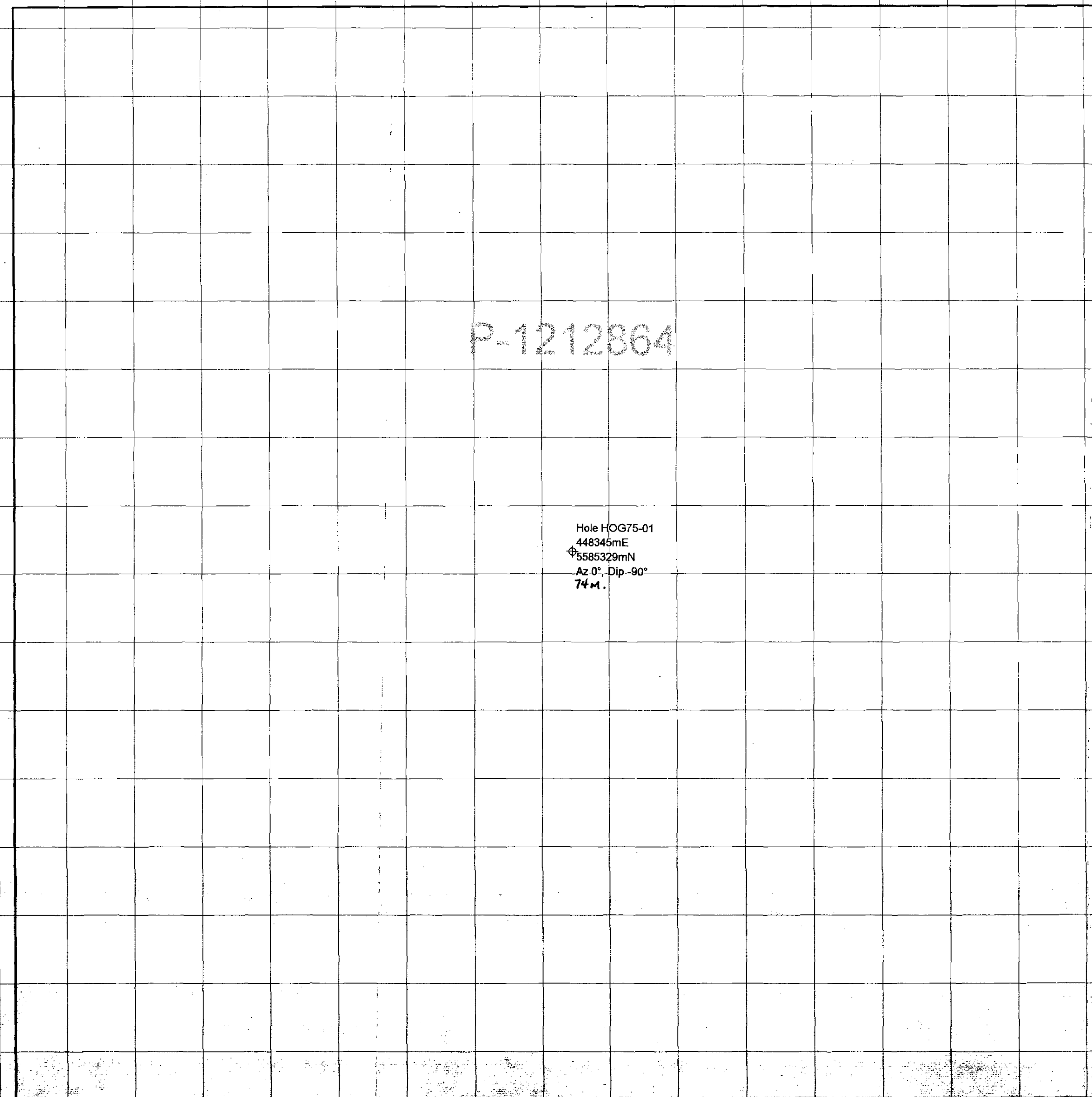
	FALCONBRIDGE LIMITED Timmins Exploration	
	Coral Rapids Limestone - P.N. 8264 42 I/05	
<b>DDH PLAN Map 4</b>		
Drawn: M.S.C.	Date: 03/19/99	
Supervised: M.S.C.	Revised: Date:	



# HOGG TOWNSHIP

## LEGEND

-  Rivers, Streams, Creeks
-  Rapids
-  Railway
-  Trail
-  Township Boundary
-  Contour Line
-  Claim Line
-  Diamond Drill Hole




P-1212864

Hole HOG75-01  
448345mE  
7555332mN  
Az 5° Dip -60°  
NW

19347

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Timmins Exploration

Coral Rapids Limestone - P.N. 8264  
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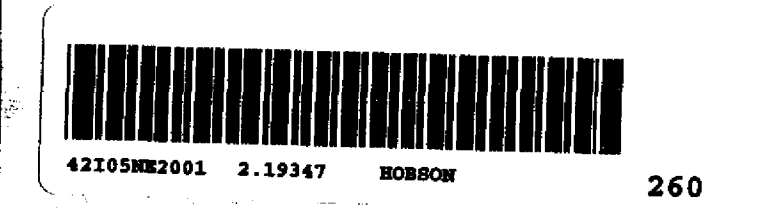
**DDH PLAN**  
**Map 5**

Drawn: M.S.C. Date: 03/19/99  
Supervised: M.S.C. Revised: Date:

Astronomic North  
Magnetic North  
Magnetic Declination 11° 39' W  
in 1998

Map oriented astronomic north.  
Projection Universal Transverse Mercator  
North American Datum 1927  
Zone 17

Scale 1: 5000  
0 0.2 0.4  
Kilometers



HOGG  
TOWNSHIP

HOBSON  
TOWNSHIP

Onakawana River



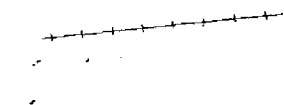

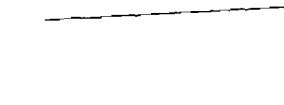
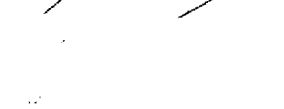


P-1212867

Hole HOG91-02  
 451949mE  
 5580455mN  
 Az 0° Dip -90°  
 50m

Hole HOG91-01  
 452329mE  
 5580200mN  
 Az 0° Dip -90°  
 57m

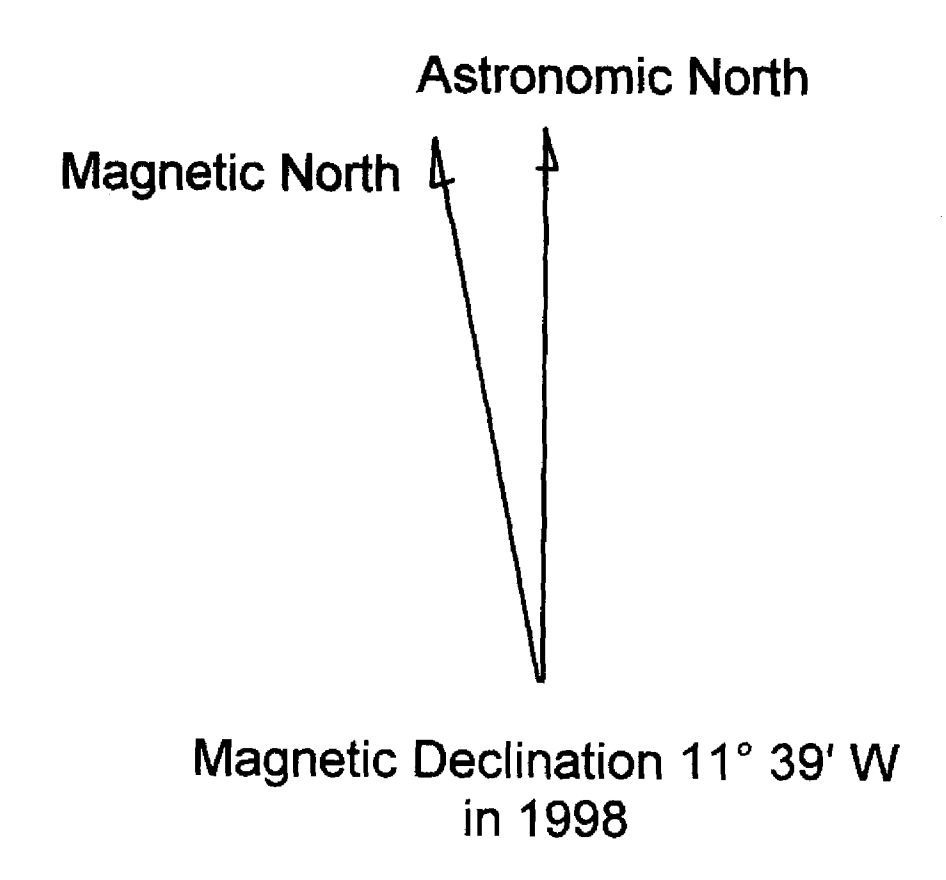
Hole HOG91-03  
 451970mE  
 5579827mN  
 Az 0° Dip -90°  
 56m

LEGEND

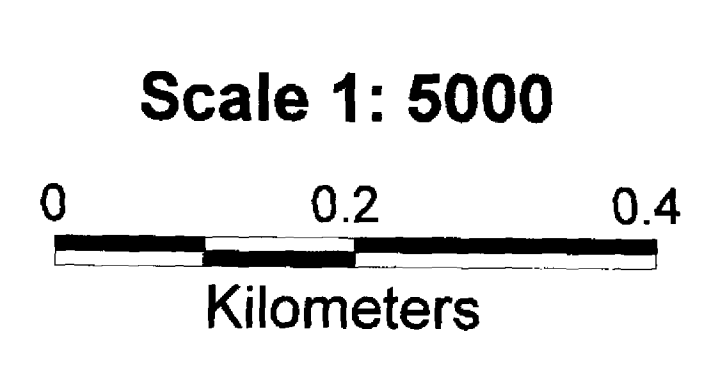
-  Rivers, Streams, Creeks
-  Rapids
-  Railway
-  Trail
-  Township Boundary
-  Contour Line
-  Claim Line
-  Diamond Drill Hole


19847

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 Projection Universal Transverse Mercator  
 North American Datum 1927  
 Zone 17



	FALCONBRIDGE LIMITED Timmins Exploration	
	Coral Rapids Limestone - P.N. 8264 42 I/05	
<b>DDH PLAN Map 6</b>		
Drawn: M.S.C.	Date: 03/19/99	
Supervised: M.S.C.	Revised: Date:	