

HOLE NUMBER: FEN56-01

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 12/16/2000

IMPERIAL UNITS: **METRIC UNITS: X**

METRIC UNITS: X

PROJECT NAME: SAGANASH PROJECT
PROJECT NUMBER: 291
CLAIM NUMBER: P1226739
LOCATION: Fenton Twp

PLOTTING COORDS GRID: UTM
NORTH: 5432220.40N
EAST: 388858.70E
ELEV: 285.00

ALTERNATE COORDS GRID: Fen56 Grid
NORTH: 3+ 0S
EAST: 1+35W
ELEV: 285.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 174.00M
START DEPTH: 0.00M
FINAL DEPTH: 174.00M

DATE STARTED: 10/17/2000
DATE COMPLETED: 10/18/2000
DATE LOGGED: 10/19/2000

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

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

CONTRACTOR: Forage Benoit
CASING: 22m BW left in hole
CORE STORAGE: Kidd Creek Minesite
UTM COORD.:

COMMENTS : Test a 60mhos, 60m wide conductor + coincident mag high; multiple 5ag + MS (Po+Py+/-Sph)
WEDGES AT:

DIRECTIONAL DATA:

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DRILL HOLE RECORD

LOGGED BY: G. De Schutter

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A standard linear barcode is positioned horizontally across the page, consisting of vertical black lines of varying widths on a white background.

42G02SE2002 2.20843 FENTON

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 22.00	*1 ob * Overburden	Overburden 22m of casing put down in muddy, water saturated soil (NW pulled, BW left in hole)				
22.00 TO 26.26	*3,*a,D* Qt-Fel-Bi schist	INTERMEDIATE QUARTZ-FELDSPAR-BIOTITE SCHIST (Intermediate feldspar phryic tuff) -unit is very finely mottled (appears black to unaided eye) dark grey and black; very weakly magnetic, relative hard and very weakly foliated -weak foliation is imparted by the alignment of the very fine grained biotite -interval is composed of 30% very fine grained quartz, 30% very fine grained feldspar and 40% very fine grained biotite -rare 0.5-1mm creamy white feldspar phenocrysts (e.g. @26.05m) #24.60-24.65 [* S2=60°]* -lower contact is gradational and is marked by the change in colour of the core (to a lighter grey) and a better defined foliation bedding fabric		-minor intervals (5cm wide) of coarser biotite associated with quartz veining	-trace amounts of very fine blebs to streaks of pyrrhotite throughout unit	-good core recovery for unit (RQD=90%) -metamorphic grade and amount of deformation appears appreciably lower at the beginning of this hole (lower to middle greenschist?) -the apparent repetition of the next few units probably represents structural repetition of geology through isoclinal folding
26.26 TO 29.56	*5,*a,D* Qt-Fel-Bi schist	FELSIC QUARTZ-FELDSPAR-BIOTITE SCHIST (felsic feldspathic sediment) -unit is laminated to banded multiple shades of grey with light grey and black minute dots/specs -unit is appreciably lighter in colour than the overlying unit -interval is composed of very finely recrystallized quartz (75%), 10-15% 1-2mm sized feldspar phenocrysts and 10-12% fine biotite -excellent evidence for folding as the bedding/banding changes from 55° @ 28.5m to 0° at 29.20m (fold nose) -the mineral foliation imparted by the alignment of biotite (44° to CA; weakly developed) is almost normal (orthogonal) to the		-very weak patchy sericitization is manifested in cm scale bands	-trace pyrite finely disseminated throughout	-broken core/rubble from 29.40-29.55m

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		layering bedding (50° to CA; strongly developed); e.g. @ 26.95m #27.90-27.95#< S0=50° > #27.90-27.95#< S2=44° > -lower contact is gradational				
29.56 TO 38.44	<5,*a,D> Qt-Fel-Bi schist	INTERMEDIATE QUARTZ-FELDSPAR-BIOTITE SCHIST (intermediate feldspathic sediment) -same as 22.00-26.26m but perhaps with a higher biotite content 34.34-37.60m: milky to glassy white and "clean" quartz vein; most of the vein is broken/rubby (RQD=5%) #32.85-32.90#< S2=48° > lower contact is sharp and irregular and is marked by the abrupt disappearance of the disseminated sulphides and a drop in the feldspar phenocryst content		-no alteration phases seen	5-7% finely disseminated pyrrhotite throughout most of unit -unit is moderately sulphidized at the bottom contact with 10-12% finely disseminated pyrrhotite + pyrite (weakly conductive) #37.60-38.44#<PoD7#PyD7#>	-badly broken core from 34.43-37.60m (quartz vein)
38.44 TO 43.42	<5,*a,D> Qt-Fel-Bi schist	FELSIC QUARTZ-FELDSPAR-BIOTITE SCHIST (felsic feldspathic (banded) sediment) -same as 26.26-29.56m -sulphides at the upper contact appear as thin linear bands (reflect original bedding?) 40.60m-difference between S0 and S2 is increasing #40.60-40.65#< S0=80° > #40.60-40.65#< S2=35° > -lower contact is gradational		-strong pervasive silicification from 38.44-39.14m #38.44-39.14#<SiPS#> -very weak patchy carbonitization throughout	-5-7% blebby to disseminated pyrite from 38.44-39.14m #38.44-39.14#<PyD5-7#>	excellent core recovery for this unit (RQD=100%)
43.42 TO 51.52	<5,*a,D> Qt-Fel-Bi schist	INTERMEDIATE QUARTZ-FELDSPAR-BIOTITE SCHIST (intermediate feldspathic sediment) -same as 22.00-26.26m		-nil	-very trace fine grained pyrite disseminated throughout unit	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		#49.50-49.55#< S2=44° >				
		-lower contact is gradational				
51.52 TO 60.00	<5,*a,D> Qt-Fel-Bi schist	FELSIC QUARTZ-FELDSPAR-BIOTITE SCHIST (felsic feldspathic (banded) sediment)		-weak to moderate fracture controlled sericitization and chloritization imparts a weak banding to the core	-nil to trace pyrrhotite + pyrite blebs, occasionally stretched parallel to the schistosity	excellent core recovery for this unit (RQD=99%)
		-same as 26.26-29.56m				
		#57.15-57.20#< S2=54° >				
		-lower contact is sharp but broken				
60.00 TO 98.65	<5,a,g,<wck >> Graphitic argillite and greywacke	MIXTURE OF VARIABLY CONDUCTIVE GRAPHITIC ARGILLITE AND GREYWACKE		-very weak fracture controlled silicification and carbonization throughout	-overall the unit has 5-7% combined pyrite + pyrrhotite with local zones of semi-massive sulphides	-multiple narrow conductors consist of sulphidic graphitic argillite and semi massive sulphides within coarse reworked sediment material
		-banded to striped charcoal grey medium grey and brassy yellow with minor intervals of coarser grained lighter grey material		92.89-93.74m: strongly silicified felsic tuff	84.92-90.10m: semi-massive pyrite + pyrrhotite as matrix filling/stringers and 0.5cm fragments within a felsic cherty (lapilli?) tuff/breccia	2310ppm Zn/1.29m (63.50-64.79m)
		-very hard, very fine grained and weakly magnetic due to pyrrhotite content			#84.92-90.10#<PyF40-45%PoC10-12*>	2390ppm Zn/0.68m (86.20-86.88m)
		-unit is composed of variably sulphidic and conductive graphitic argillite (55-60%), 20-25% shorter intervals of finely laminated to banded light grey greywacke and 15-20% finely laminated to finely disseminated and blebby pyrite (conductive)			85.26-85.50m: 10-12% finely laminated pyrite (conductive)	
		-the graphitic argillite portion of the interval is not conductive; the sulphide portion within the sediment is moderately to strongly conductive			85.10-86.20m: weakly anomalous Zn values (1250-2390ppm Zn)	
		63.50-64.79m: more of a tuffaceous-looking rock with subrounded quartz and sulphide fragments to 1cm in size (10% of the interval); the sulphide content is sufficient to make the interval a very strong conductor			92.89-93.74m: 10-12% disseminated to laminated (matrix filling?) pyrrhotite + 8-10% finely disseminated and clastic pyrite within a certy felsic tuff	
		73.90-74.93m: ruble/broken core			#92.93-93.74#<PoD10-12%PyDC8-10*>	
		75.40-76.10m: broken core				
		77.21-77.80m: intermediate tuffaceous rock			#93.99-95.02#<PoB12-15%PyC5-7*>	
		84.92-85.10m: highly sulphidic cherty breccia				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		(50% sulphides; strong conductor)				
		85.10-87.50m: highly graphitic tuff (conductive) with 7-10% mm to 1.5cm surrounded slightly stretched felsic (quartz-rich) fragments				
		89.40-89.51m: rubble/gougy core				
		92.89-93.74m: sulphidic cherty/silicified sediment with lapilli-sized fragments; 20% combined po-py as blebs, stringers and fine to medium grained disseminations or clasts; 1-2% 0.5-2cm ghostly bright pistachio-green fragments (fuchsite?) #92.89-93.74%*b,Si*				
		93.99-95.03m: 12-15% bedded to laminated po + 5-7% py clasts within graphitic tuff (10% surrounded felsic fragments)				
		#60.40-60.45%* S2=47° bedding in sediment #81.40-81.45%* S2=48° bedding in sediment #83.50-83.60%* S2=25° folded laminated wacke #96.35-96.40%* S2=61° bedding in argillite				
		-lower contact is gradational and is marked by the appearance of elevated concentrations of sulphides				
98.65 TO 114.94	<5, *a,D,g, ul, Qt-Fel-Bi-G F-Sul schist	FELSIC QUARTZ-FELDSPAR-BIOTITE-GRAPHITE-SULPHIDE SCHIST (felsic feldspathic carbonaceous and strongly sulphidic sediment)				-multiple narrow (10cm) to wide (1.5m) very strong sulphide conductors
		-interval is a mixture of highly sulphidized (up to semi-massive Po+Py/1.5m) and silicified felsic looking sediment with lapilli sized fragments and variably sulphidized graphitic tuff; many excellent conductive intervals; overall sulphide content for the entire unit is approximately 35% with po-py and trace to 1% finely recrystallized and disseminated sphalerite.		98.65-99.22m: very weak patchy carbonitization of the felsic clasts	#98.65-99.22%*PoF30-35%PyD15-20%*	weak to moderately anomalous Zn content within this unit (200-4950ppm Zn/0.28-0.92m) WRA suggest the host rock is a sediment (variable Al2O3, TiO2, SiO2, P2O5 and low Zr, Y concentrations)
		breakdown of this unit is as follows (all contacts are gradational):				-core recovery for this interval is very good (RQD=75-80%)
		98.65-99.22m: strongly sulphidic, variably				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		graphitic, coarse grained felsic sediment (conglomerate to breccia?); 45-50% combined pyrrhotite+pyrite (strongly conductive) as stringers, matrix filling and clasts(?); angular to irregularly shaped milky white to light grey felsic fragments (silicified wacke?) to 3cm in size make up 20-25%; remainder (20-25%) comprises very weakly conductive, charcoal grey, carbonaceous argillite fragments #98.65-99.22#<5,s>				98.65-99.22m: strong sulphide conductor over 10cm core length broken core from 104.45-105.00m
		99.22-101.42m: sulphidized and silicified coarse sediment (conglomerate to breccia?); 40-45% combined pyrrhotite+pyrite (strongly conductive) as primarily matrix filling; subangular to angular milky white to grey felsic fragments (silicified wacke?) make up 50% of the unit with the remainder composed of weakly carbonaceous fragments; few fragments have a pistachio green colouring (fuchsite?) #99.22-101.42#<5,s>		99.22-101.42m: moderate to strong silicification #99.22-101.12#<SiPS>	99.50-101.42m: 30-35% matrix filling brassy bronze pyrrhotite as matrix filling within the sediment/tuff; 5-10% recrystallized pyrite as small to large knots; 99.50-100.60m: 1-2% finely recrystallized blebby dark red brown sphalerite intimately associated with the pyrrhotite #99.50-100.60#<PoF35%PyD10%SphD1-2%> #100.60-101.42#<PoF50%PyD5%> #101.42-102.63#<PoF20%PyD5%>	
		101.42-102.63m: sulphidic carbonaceous tuff; 25% combine sulphides hosted in a charcoal grey carbonaceous tuff (very weakly conductive) with 5-10% rounded glassy white to grey felsic fragments (lapilli-sized sediment fragments)		101.42-102.63m: weak fracture controlled and patchy carbonization		
		102.63-103.00m: 50% combine sulphides in a fine grained felsic sediment/tuff; very large pyrrhotite clast (10cm) and finely disseminated sphalerite #102.63-103.00#<5,s>		102.63-103.00m: weak fracture controlled carbonization	#102.63-103.00#<PoC40%PyCD5%SphD2%>	99.50-101.42m: excellent sulphide conductor over 50cm core lengths
		103.00-104.32m: carbonaceous and sulphidic sediment/tuff; 55-60% combined sulphides (very strong conductor); 10-15% angular milky white to waxy grey fragments and bands hint that this may have been a sulphide facies BIF; interval is weakly carbonaceous #103.00-104.32#<5,s>		103.00-104.32m: very weak patchy silicification	103.00-104.32m: semi massive to massive pyrrhotite throughout most of interval; the Po is very dull in luster, highly fractured and spongy textured, weakly magnetic and strongly conductive #103.00-104.32#<PoM60%>	-large pyrrhotite clast @ 102.80m is strongly conductive
		104.32-105.51m: graphitic argillite; dull charcoal grey, smudges easily; trace to 3% disseminated pyrrhotite; rare (5%) surrounded chalky white quartz+/- carbonate clast (?);		very weak patchy carbonization of the felsic looking fragments	trace to 3% finely disseminated pyrrhotite	103.00-104.32m: strong sulphide conductor

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		strong conductor; poor RQD for this subinterval (RQD=20%) #104.32-105.51#<5,a,g>			#105.80-105.86#<PyM85t> conductive	104.32-105.51m: strong conductor (graphitic argillite); poor RQD for this subinterval (25%)
		105.51-107.62m: variably carbonaceous and weakly sulphidic sediment/tuff; 10% stringer and blebby sulphides and 30% waxy grey to milky white felsic fragments to 3cm are hosted within a charcoal grey weakly graphitic argillite matrix		107.62-109.16m: moderate patchy to pervasive carbonization	107.62-109.16m: 25-30% laminated, banded and blebby pyrrhotite, 15-20% coarse blebby pyrite and trace to 1% glassy red fine grained sphalerite #107.62-109.16#<PoB30#PyD20#SphD1t>	
		107.62-109.16m: strongly sulphidic finer grained sediment (5,a,Sul); 45-50% total sulphides including trace glassy red-brown sphalerite; very crude banding/foliation imparted by the sulphide stringers of 35° to CA @ 108.15m #107.62-109.16#<5,a,Sul>		109.16-110.53m: weak patchy carbonization of the felsic-looking inclusions	109.16-110.53m: 7-10% very finely disseminated pyrrhotite + 2-3% blebby pyrite	107.62-109.16m: strong sulphide conductor
		109.16-110.53m: very fine grained to aphanitic, dark grey to black, weakly magnetic mafic volcanic (2,a) with sharp but irregular contacts; angular to subangular chalky to milky white inclusions (fragments) to 10% of the subinterval; 7-10% combined sulphides; #109.16-110.53#<2,a,m>			110.53-111.70m: 7-10% finely disseminated and blebby pyrrhotite and pyrite	
		110.53-111.70m: fine grained weakly sulphidic sediment (quartz-feldspar-biotite schist); 5% combined sulphides as fine disseminations and blebs		111.70-114.94m: very weak patchy to pervasive sericitization and silicification throughout subinterval #111.70-114.94#<SeWSiSW>	111.70-114.94m: trace to locally 5% disseminated and thin laminae of pyrrhotite + pyrite over small widths	
		111.70-114.94m: weakly to moderately banded waxy grey feldspar phryic cherty sediment (5,a,D); ghostly-looking subrounded fragments make up 10% of the subinterval; trace to locally 5% disseminated sulphides #114.10-114.15#<S2=60°t>				111.70-114.94m: very few sulphidic laminae are conductive
		-lower contact is sharp and slightly gougy @ 90° to CA				
114.94 TO 121.54	<5,a,>C<WCK >> greywacke	WEAKLY CARBONACEOUS GREYWACKE -laminated to banded charcoal grey, dark grey and medium grey		119.05-119.22m: moderate pervasive carbononitization and silicification	-trace pyrite blebs disseminated throughout 121.30-121.54m: 5% blebby pyrrhotite and 3-5% blebby pyrite	moderately good core recovery for this unit (RQD=60%) 118.36-118.52m: broken core

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		<ul style="list-style-type: none"> -sandier intervals contain creamy white to grey feldspar porphyroblasts to 2mm in size -bedding varries from 30-60° to CA but averages 45°; isoclinal folds in the sediment @ 118.70m (fold axes 30° to CA - normal to bedding); weak crenulation cleavage is almost perpendicular to bedding (25° @ 119.55m) -rare subrounded to rounded 1mm to 0.75cm medium grey to waxy dark grey silica rich inclusions (quartz pebbles) disseminated throughout unit #119.25-119.30#< S2=45° > 				
121.54 TO 127.62	<5,>a,D> Qt-Fel-Bi-S e schist	<p>INTERMEDIATE QUARTZ-FELDSPAR-BIOTITE-SERICITE SCHIST (intermediate feldspathic sediment)</p> <ul style="list-style-type: none"> -weakly banded waxy grey, light grey and milky white with minor intervals mottled light pale green -small (<0.5mm) irregular shaped chalky white feldspar dots to 25% disseminated throughout the unit -weak, ghostly banding imparted by varying concentrations of quartz, biotite and sericite <p>#125.15-125.20#< S2=46° ></p> <p>-lower contact is gradational over 20cm</p>		<p>moderate pervasive saucerization of the feldspars induces pervasive (moderate) carbonization throughout</p>	<p>3-5% fine disseminations and smears of pyrrhotite + 1-2% disseminated pyrite throughout</p>	<p>very good core recovery for the interval (RQD=75%)</p>
127.62 TO 137.35	<5,Sul,>ARG >> Sulphidic argillite	<p>SULPHIDIC ARGILLITE to GREYWACKE</p> <ul style="list-style-type: none"> -banded to laminated charcoal grey, medium grey and brassy yellow; very weakly carbonaceous -unit composed of very weakly graphitic argillite (40-45%), coarser grained clastic intervals (10%), 15-20% subrounded to angular and stretched waxy white to milky lithic fragments, and 30-35% combined pyrite + pyrrhotite -argillite component is non-conductive but sulphide laminae and beds are strongly conductive 		<p>-30% pyrite as fine laminae and blebs throughout most of unit</p> <p>-5% finely disseminated pyrrhotite associated with the pyrite</p> <p>-very weak carbonization of lithic fragments</p>	<p>#131.95-132.95#< PyB30%PoD5%> #134.70-137.25#< PyB25%PoD5%></p>	<p>moderate to poor RQD for this unit (RQD=30%)</p> <p>-broken core/rubble from 130.00-130.30m; 130.50-131.62m</p> <p>-broken/lost core @132m</p> <p>strong sulphide conductors from 131.95-132.95m and 134.70-137.25m</p>

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
137.35 TO 174.00	<S,*b,D> Qt-Bi-Fel-G t schist	<p>#134.90-135.00#< S2=48°></p> <p>-lower contact is gradational over 10cm</p> <p>INTERMEDIATE (TO FELSIC) QUARTZ-BIOTITE-FELDSPAR-GARNET SCHIST (coarse intermediate feldspathic sediment)</p> <p>-unit is banded to striped medium grey, dark grey and black with cm scale zones containing irregular shaped pale pink blebs to 7mm in size</p> <p>-unit is composed of intercalated mm scale laminae to 5-10cm wide bands of varying proportions of quartz, biotite, feldspar, and garnet; banding/stripping is imparted by the varying concentrations of mineral phases; some of the bands appear to be stretched lapilli sized fragments</p> <p>-very fine grained subangular and occasionally ghosty feldspar dots locally to 30% over minor intervals impart a finely spotted appearance to the core</p> <p>-garnetiferous zones range in thickness from 2cm to 20cm wide and consist of irregular shaped pale pink almandine garnets locally to 50% of the subinterval but only make up 10% of the overall unit; occasionally the garnets are simply scattered in trace amounts throughout m scale zones</p> <p>-minor zones containing ghosty looking, waxy grey felsic fragments to 2cm in size are occasionally identifiable</p> <p>-broken core from 142.80-143.65m associated with a broken quartz vein; much broken core/rubble from 171-173.20m</p> <p>-mineral schistosity (bedding) varries slightly but averages approximately 75° to CA</p> <p>#152.70-152.75#< S2=76°></p> <p>#164.30-164.35#< S2=65°></p>		<p>-very weak patchy and fracture controlled silicification and carbonitization</p> <p>144.66-145.20m: moderate pervasive chloritization and biotitization</p>	<p>nil to trace amounts of finely disseminated pyrite throughout</p>	<p>good core recovery for this interval (RQD=75%)</p> <p>broken core from 142.80-143.65m and 171.00-173.20m</p>

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
174.00 TO 174.00	<EOH> end of hole	END OF HOLE -27 boxes of BQ core -22m of BW casing left in the hole (capped) -hole not making water				

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DRILL HOLE RECORD

LOGGED BY: G. De Schutter

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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	Sb ppm	Est.Ni ‡	Est.Po ‡	Est.Py ‡	Est.Cp ‡	Est.Sp ‡	Est.Gn ‡	ROCK TYPE	Comments
AU06494	29.74	30.72	0.98	50	210	5	40	<2	0.2		<5	<5												3,*a,D		
AU06495	30.72	31.02	0.30	26	121	2	16	<2	0.2		<5	<5												3,*a,D		
AU06496	31.02	31.87	0.85	79	208	1	101	3	0.3		<5	<5												3,*a,D		
AU06497	31.87	32.22	0.35	77	229	3	155	7	0.3		<5	<5												3,*a,D		
AU06498	37.60	38.44	0.84	97	88	32	117	7	1.2		<5	<5												3,*a,D		
AU06499	38.44	39.14	0.70	109	712	32	102	3	0.7		<5	<5												4,*a		
AU06500	39.14	39.44	0.30	15	74	5	14	<2	0.1		<5	<5												4,*a,D		
AU07451	60.00	61.50	1.50	192	1180	17	69	7	0.5		<5	<5												5,a,g		
AU07452	61.50	63.00	1.50	95	1200	20	59	10	0.2		<5	<5												5,a,g		
AU07453	63.00	63.50	0.50	73	627	21	46	3	0.1		<5	<5												5,a,g		
AU07454	63.50	64.79	1.29	216	2310	13	107	14	0.3		<5	<5												5,a,g,*a		
AU07455	64.79	66.00	1.21	52	524	17	39	3	0.2		<5	<5												5,a,g		
AU07456	66.00	67.28	1.28	97	696	7	54	3	0.1		<5	<5												5,a,g		
AU07457	67.28	67.87	0.59	31	125	4	21	10	0.1		<5	<5												3,*a		
AU07458	84.59	84.92	0.33	28	342	26	40	<2	0.2		<5	<5												5,a		
AU07459	84.92	85.10	0.18	212	287	43	82	17	0.4		<5	17												4,*a,Si		
AU07460	85.10	85.26	0.16	167	1730	33	112	3	0.4		<5	<5												5,a,<WCK>		
AU07461	85.26	86.20	0.94	203	1250	31	147	7	0.5		<5	<5												5,a,g		
AU07462	86.20	86.88	0.68	192	2390	39	109	10	0.4		<5	<5												5,a,g		
AU07463	92.56	92.89	0.33	57	660	6	71	3	0.1		<5	<5												5,a,<WCK>		
AU07464	92.89	93.74	0.85	115	584	17	68	3	0.3		<5	<5												4,*a,Si		
AU07465	93.74	93.99	0.25	89	418	19	67	10	0.3		<5	<5												5,a,g		
AU07466	93.99	95.02	1.03	225	835	26	153	7	0.6		<5	<5												5,a,g		
AU07467	95.02	96.49	1.47	122	1440	14	109	10	0.3		<5	<5												5,a,g		
AU07468	96.49	97.56	1.07	70	1040	11	111	10	0.3		<5	<5												5,a,g		
AU07469	97.56	98.65	1.09	121	1910	21	75	3	0.4		<5	<5												5,a,g,<WCK>		
AU07470	98.65	99.22	0.57	283	1540	14	152	7	0.6		<5	<5												4,*a,Si		
AU07471	99.22	99.50	0.28	116	200	12	122	3	0.4		<5	<5												4,a,D		
AU07472	99.50	100.55	1.05	185	2530	9	117	10	0.4		<5	<5												4,*a,Si		
AU07473	100.55	101.72	1.17	310	716	12	163	3	0.7		<5	<5												4,*a,g		
AU07474	101.72	102.63	0.91	311	591	9	152	3	0.6		<5	<5												4,*a,g,Sul		
AU07475	102.63	103.40	0.77	169	2660	14	130	3	0.6		<5	<5												4,*a,g,Sul		
AU07476	103.40	104.32	0.92	206	4950	74	114	14	1.0		<5	<5												4,*a,g,Sul		
AU07477	104.32	105.51	1.19	113	667	19	69	<2	0.4		<5	<5												5,a,g		
AU07478	105.51	106.50	0.99	223	3080	21	115	10	0.7		<5	14												4,*a,g,Sul		
AU07479	106.50	107.62	1.12	74	428	9	108	7	0.3		<5	<5												4,a		
AU07480	107.62	109.16	1.54	260	583	9	142	<2	0.5		<5	<5												bracket		
AU07481	109.16	110.53	1.37	77	580	8	46	7	0.2		<5	<5												4,*a		
AU07482	110.53	111.70	1.17	111	354	15	131	3	0.5		<5	<5												7,a,m		
AU07483	111.70	113.40	1.70	89	784	26	78	7	0.4		<5	<5												4,a		
AU07484	113.40	114.94	1.54	122	800	29	140	7	0.6		<5	<5												4,*a,D,Si		
AU07485	114.94	115.50	0.56	100	948	12	58	3	0.4		<5	<5												4,*a,D,Si		
AU07486	121.06	121.54	0.48	115	707	13	74	<2	0.4		<5	<5												5,a,g,<WCK>		
AU07487	121.54	123.00	1.46	103	374	17	70	3	0.6		<5	<5												bracket		
AU07488	123.00	124.45	1.45	102	912	13	48	<2	0.5		<5	<5												3,*a,D		
AU07489	124.45	125.96	1.51	72	468	11	42	3	0.4		<5	<5												4,*a		
AU07490	127.46	127.75	0.29	48	227	8	61	<2	0.3		<5	<5												3,*a,D		

ASSAYS SHEET

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	Sb ppm	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Gn %	ROCK TYPE	Comments
AU07491	127.75	129.15	1.40	65	600	7	43	<2	0.3			<5	<5						2						5,a,g,<WCK>	
AU07492	129.15	130.50	1.35	95	508	12	49	3	0.3			<5	<5						3	1					5,a,g,<WCK>	
AU07493	130.50	132.00	1.50	104	1530	19	83	<2	0.4			<5	<5						6	4					5,a,g,<WCK>	
AU07494	132.00	133.28	1.28	172	644	33	106	10	0.5			<5	<5						2	27					5,a,<WCK>	
AU07495	133.28	134.70	1.42	57	314	12	36	3	0.2			<5	<5							2						5,a,<WCK>
AU07496	134.70	135.00	0.30	113	396	14	28	10	0.2			<5	<5						2	25						5,a,<WCK>
AU07497	135.00	135.85	0.85	77	560	14	32	41	0.2			<5	<5							4						5,a,<WCK>
AU07498	135.85	137.24	1.39	194	1540	16	73	3	0.3			<5	<5						5	25						5,a,<WCK>
AU07499	137.24	137.45	0.21	46	328	6	20	3	0.2			<5	<5												3	bracket

HOLE NUMBER : FEN56-01

GEOCHEMICAL ASSAY

DATE: 16/12/2000

Sample	From (M)	To (M)	Leng. (M)	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	TIO2	P2O5	MNO	CR2O3	LOI	SUM	Y PPM	ZR PPM	EA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AU02471	23.00	26.00	3.00	57.400	17.810	1.5500	3.6100	6.1800	2.7600	8.1000	0.6900	0.1300	0.0800		1.4100	99.72	18.000	101.00	539.00		330.00	68.000	99.000	122.00	274.00	3,*a,D,31	170		
AU02472	26.26	29.56	3.30	67.430	15.030	2.0900	1.2600	5.7200	1.4200	4.3800	0.3800	0.0800	0.0300		2.1200	99.94	17.000	117.00	487.00		413.00	84.000	245.00	39.000	206.00	5,*a,D,5	163		
AU02473	45.00	48.00	3.00	63.170	16.840	1.8900	2.8600	2.9100	3.8000	6.4500	0.5600	0.1400	0.0700		1.5000	100.19	17.000	107.00	649.00		199.00	42.000	103.00	95.000	270.00	5,*a,D,5	196		
AU02474	52.00	55.00	3.00	60.680	18.070	5.3800	1.2400	5.6600	1.8700	3.3700	0.4700	0.0700	0.0600		3.3300	100.20	11.000	85.000	325.00		568.00	22.000	101.00	21.000	128.00	5,*a,D,5	140		
AU02475	99.00	102.00	3.00	49.120	6.7100	4.5600	1.4200	3.1000	0.1600	24.730	0.2200	0.0150	0.0800		8.7300	98.85	23.000	39.000	87.000		169.00	231.00	1915.0	135.00	316.00	5,*a,S15!	t 86		
AU02476	111.00	114.00	3.00	67.140	11.820	3.2700	2.1700	4.9900	0.8900	6.1100	0.4300	0.1800	0.0500		2.9700	100.02	15.000	101.00	287.00		589.00	70.000	1073.0	73.000	342.00	5,*a,S15	129		
AU02477	122.00	125.00	3.00	52.480	14.540	7.8900	1.8700	5.8200	1.1300	9.0000	1.9500	0.1600	0.2400		4.3800	99.46	43.000	109.00	213.00		569.00	79.000	680.00	74.000	229.00	5,*a,t5	98		
AU02478	144.00	147.00	3.00	59.100	15.730	6.0100	1.6700	3.9600	1.6800	8.3500	0.4500	0.0900	0.2100		2.9900	100.24	20.000	148.00	347.00		258.00	46.000	59.000	15.000	141.00	5,*a,D,5	135		
AU02479	165.00	168.00	3.00	65.620	14.780	4.5500	0.6900	3.4500	2.3100	4.9000	0.4000	0.1500	0.1300		2.9700	99.95	15.000	98.000	394.00		211.00	21.000	59.000	16.000	218.00	5,*a,D,5	143		

HOLE NUMBER: FEN56-01

GEOCHEMICAL ASSAY

PAGE: 13

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	HF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
AU02471	23.00	26.00	3.00	0.2000		26.000	1.0000	1.3600	120.00	2.5000	10.000	0.7000	2.5000	2.5000		5.0000	10.000	3.0000					21.000						
AU02472	26.26	29.56	3.30	0.2000		15.000	7.0000	1.6400	22.000	2.5000	10.000	0.7000	2.5000	2.5000		5.0000	10.000	4.0000					12.000						
AU02473	45.00	48.00	3.00	0.1000		23.000	1.0000	0.3900	74.000	2.5000	10.000	0.4000	2.5000	2.5000		5.0000	10.000	4.0000					27.000						
AU02474	52.00	55.00	3.00	0.1000		12.000	1.0000	1.2000	28.000	12.000	10.000	0.3000	2.5000	2.5000		5.0000	10.000	4.0000					10.000						
AU02475	99.00	102.00	3.00	0.8000		116.00	9.0000	>10.00	16.000	22.000	10.000	3.8000	2.5000	2.5000		5.0000	10.000	10.000					11.000						
AU02476	111.00	114.00	3.00	0.1000		24.000	26.000	2.7500	32.000	7.0000	10.000	2.6000	2.5000	2.5000		5.0000	10.000	6.0000					17.000						
AU02477	122.00	125.00	3.00	0.5000		35.000	10.000	3.9900	78.000	10.000	10.000	1.6000	2.5000	2.5000		5.0000	10.000	3.0000					7.0000						
AU02478	144.00	147.00	3.00	0.1000		11.000	1.0000	0.4300	38.000	2.5000	10.000	0.1000	2.5000	2.5000		5.0000	10.000	3.0000					20.000						
AU02479	165.00	168.00	3.00	0.2000		10.000	1.0000	1.0200	30.000	2.5000	10.000	0.2000	2.5000	2.5000		5.0000	10.000	4.0000					17.000						

HOLE NUMBER : FEN56-01

DATE: 16/12/2000

GEOCHEMICAL ASSAYS

Sample	From (M)	To (M)	Leng. (M)	GEOCHEMICAL ASSAYS																						
				DY PPM	ER PPM	LU PPB	OS PPB	IR PPB	RU PPB	RH PPB	PT PPB	PD PPB	LI PPM	BE PPM	MN PPM	GA PPM	GE PPM	IN PPM	TL PPM	SC PPM	BR PPM	YB PPM	NB PPM	HG PPB	MGO#	CA/AL
AU02471	23.00	26.00	3.00										29.000	590.00	7.0000			17.000		6.0000		0.51	0.09	34	45	16
AU02472	26.26	29.56	3.30										8.0000	257.00	1.0000			2.5000		0.5000		0.40	0.14	31	26	43
AU02473	45.00	48.00	3.00										31.000	518.00	6.0000			9.0000		1.0000		0.51	0.11	33	58	35
AU02474	52.00	55.00	3.00										13.000	526.00	1.0000			2.5000		0.5000		0.47	0.30	17	22	18
AU02475	99.00	102.00	3.00										3.0000	617.00	1.0000			2.5000		0.5000		0.12	0.68	95	17	618
AU02476	111.00	114.00	3.00										12.000	325.00	1.0000			2.5000		0.5000		0.46	0.28	34	27	215
AU02477	122.00	125.00	3.00										14.000	1748.0	1.0000			10.000		2.0000		0.33	0.54	40	18	117
AU02478	144.00	147.00	3.00										27.000	693.00	3.0000			2.5000		0.5000		0.32	0.38	9	25	15
AU02479	165.00	168.00	3.00										13.000	588.00	1.0000			2.5000		0.5000		0.25	0.31	23	27	17

HOLE NUMBER: FEN56-01

GEOCHEMICAL ASSAYS

PAGE: 15



Declaration of Assessment Work Performed on Mining Land

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

Transaction Number (office use)

20160 - 00013

Assessment Files Research Imaging



42G02SE2002 2.20843 FENTON

900

If subsection 65(2) and 66(3) of the Mining Act, thi
assessment work and correspond with the mining land holder. Questions about thi
Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbur

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

2.20843

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

Name	FALCONBRIDGE LIMITED	Client Number	130679
Address	Suite 1200 - 95 Wellington Street West	Telephone Number	(416) 956-5700
	Toronto, Ontario, M5H 2V4	Fax Number	(416) 956-5757
Name	Falconbridge Limited (Field Office) P.O. Box 1140, Kidd Creek Minesite	Client Number	
Address	Timmins, Ontario, P4N 7H9	Telephone Number	705.264.5200
		Fax Number	705.267.8874

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		Office Use
Diamond Drilling (174m)	✓	Commodity
		Total \$ Value of Work Claimed 9,098
Dates Work Performed	From Day 17 Month 10 Year 2000 To Day 18 Month 10 Year 2000	NTS Reference
Global Positioning System Data (if available)	Township/Area Fenton Township	Mining Division Polcupine
388858E, 5432220N	M or G-Plan Number G-874	Resident Geologist District Timmins

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.

RECEIVED

JAN 22 2001
JM
GEOSCIENCE ASSESSMENT
OFFICE

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

Name	Gary De Schutter – Falconbridge Limited	Telephone Number	(705) 264 - 5200 ext. 8231
Address	PO Box 1140, Kidd Creek Minesite, Timmins, Ontario, P4N 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, Gary De schutter, do hereby certify that I have personal knowledge of the facts set forth in

(Print Name)

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	Date Jan 18/01
Agent's Address PO Box 1140, Timmins, Ontario, P4N 7H9	Telephone Number (705) 267 - 1188 ext. 243 Fax Number (705) 267 - 6080

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.

W0160.00013

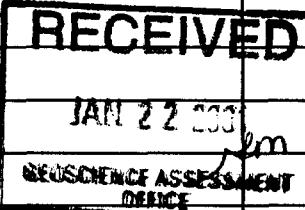
Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date
1 P1226739	16	\$9,098	\$5,856	\$3,242	\$0
2 P1226738	16	\$0	\$3,242	\$0	\$0
3					
4					
5					
6					2.20843
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
Column Totals	32	\$9,098	\$9,098	\$3,242	\$0

I, GARY DE SCHUTTER, 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

Date

Jan 18/01



JAN 22 2001
J.M.

MINESCENCE ASSESSMENT
OFFICE

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)



**Statement of Costs
for Assessment Credit**

Transaction Number (office use)

WOLCO. 00013

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	Cost Per Unit of work	Total Cost
Diamond Drilling	174 metres	\$41.00/m	\$7,134
Geologist supervision	3 days	\$250/day	\$750
Assay samples	56 samples	\$14.50/sample	\$812

2. 20843

Associated Costs (e.g. supplies, mobilization and demobilization).

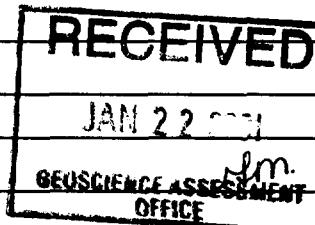
Core box lids (27 lids @ \$6.00/lid)	\$6.00/lid	\$162

Transportation Costs

Truck/ATV fuel (1 tank of fuel)	\$80/tank	\$80

Food and Lodging Costs

Room and Board (2 nights @ \$80/night)	\$80/night	\$160



Total Value of Assessment Work **\$9,098**

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, GARY DESCHUTTER, 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 SENIOR FIELD GEOLOGIST I am authorized to make this certification.
(recorded holder, agent, or state company position with signing authority)

Signature	Date
	Jan 18/01

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines



Ontario

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

Telephone: (888) 415-9845
Fax: (877) 670-1555

February 8, 2001

FALCONBRIDGE LIMITED
SUITE 1200, 95 WELLINGTON STREET WEST
TORONTO, ONTARIO
M5J-2V4

Visit our website at:
www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

Dear Sir or Madam:

Submission Number: 2.20843

Status

Subject: Transaction Number(s): W0160.00013 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 JIM MCAULEY by e-mail at james.mcauley@ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

A handwritten signature in cursive script that reads "Lucille Jerome".

ORIGINAL SIGNED BY

Lucille Jerome
Acting Supervisor, Geoscience Assessment Office
Mining Lands Section

Work Report Assessment Results

Submission Number: 2.20843

Date Correspondence Sent: February 08, 2001

Assessor: JIM MCAULEY

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W0160.00013	1226739	FENTON	Approval	February 06, 2001

Section:

16 Drilling PDRILL

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

Correspondence to:

Resident Geologist
South Porcupine, ON

Assessment Files Library
Sudbury, ON

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

Gary Deschutter
TIMMINS, ONTARIO, CANADA

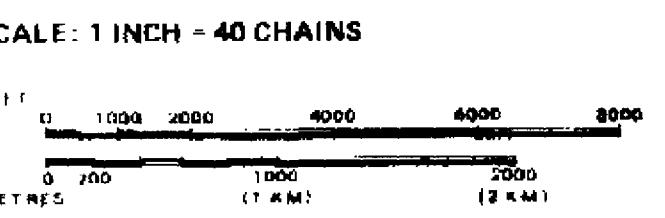
FALCONBRIDGE LIMITED
TORONTO, ONTARIO

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 MUSKEG	
MINES	
TRAVERSE MONUMENT	

DISPOSITION OF CROWN LANDS

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	○
LAND USE PERMIT	— L.U.P.
REMOTE TOURIST CAMP	— R.T.C.



TOWNSHIP

FENTON

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

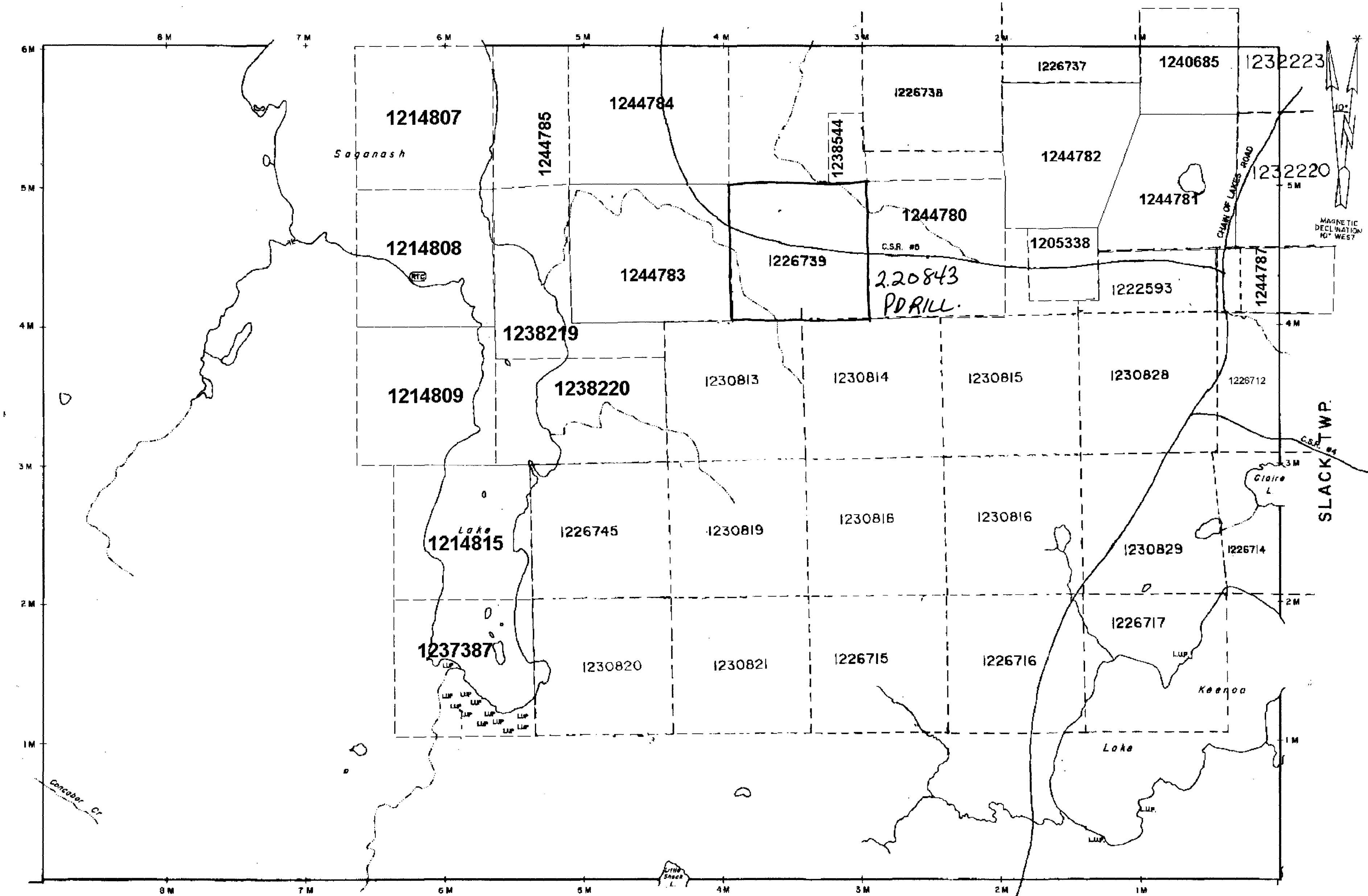


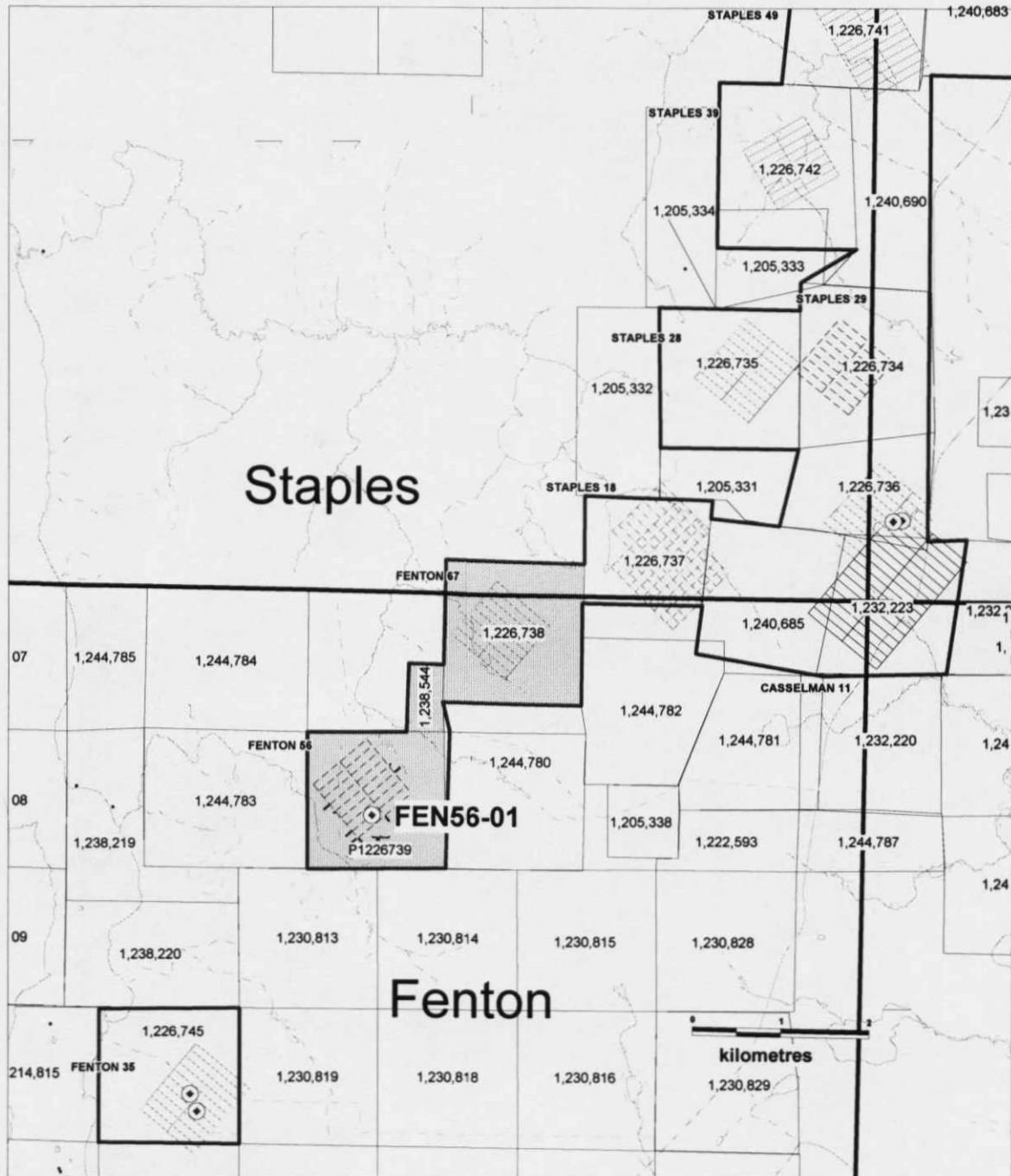
Ministry of
Natural
Resources
Ontario

Ministry of
Northern Development
and Mines

Date	Number
ACTIVATED JULY 30, 1982 BY P.D.	G-874

CONCOBAR TWP.





42G02SE2002 2.20843 FENTON

210

ASTRONOMIC

FALCONBRIDGE LIMITED		
Exploration Division		Timmins, ONTARIO
DDH FEN56-01 Location Map		
Saganash Project (PN 291)		
TRACED : A.D.T.	DATE : 09/99	NTS :
DRAWN : A.D.T.	DATE : 09/99	MAP No.:
SUPERVISED : S.M.	DATE : 09/99	
REVISED: GDS	DATE : 12/00	
		1:75,000

TIMMINS EXPLORATION - AMENDED ROCK LEGEND - v8.0

1. MAIN ROCK DIVISIONS

15	To be Announced
14	Puranian 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
d	Quartz-Feldspar Phytic	D	Feldspar Phytic
e	Amygduoidal/Vesicular	E	Chert
f	Primary Fragmental	F	Wacke
g	Graphitic/Argillaceous	G	Leucocene Bearing
h	Tholeiitic	H	Basaltic Komatiite
i	Alkalic		
j	Calc-Alkalic	J	Pyroxenite
k	Komatiitic	K	Net Textured
l	Flows (banded)	L	Peridotite
m	Massive	M	Dunite
n	Varicillitic/Spherulitic	N	Ophitic
p	Pillowed	P	Porphyritic
q	Quartz Phytic	Q	
r	Oxide Iron Formation	R	Polysutured
s	Sulphides, Exhalites	S	Fractured
t	Pyroclastic	T	Gabbroic Textured
u	High Mg	U	Pyroxene Spinifex
v	High Fe	V	Olivine Spinifex
w	High Al	W	Skeletal/Crescumulate
x	Andesite	X	Adcumulate
y	Icelandite	Y	Mesocumulate
z	Highly Evolved (Y>60)	Z	Orthocumulate

**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>	Potass. Alteration
Ka	Kaolinitization
Rs	Rust Stained
Se	Sericitization
Si	Silification
Sf	Serpentization
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% <264m)	*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/Blobs
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	Carmel	Px	Pyroxene
Am	Amphibolite	VG	Gold	Po	Pyrrhotite
Ah	Anhydrite	Gf	Graphite	Ql	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	SIm	Sillimanite
Ba	Barite	Ky	Kyanite	Sps	Spearsite
bi	Bismuthite	Ls	Limestone	Sph	Sphalerite
Bi	Blotite	Lm	Limonite	Tl	Sphene (Titanite)
Bo	Bomite	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	Mi	Millenite	Sul	Sulphides
Ch>	Chloritoid	Mo	Molybdenite	S-M	Massa. Sulphides
Cr	Chromite	Mu	Muscovite	S-D	Diss. Sulphides
Cpx	Clinoptyroxene	Ne	Nepheline	Tk	Talc
Co	Cobalt Minerals	Nc	Niccolite	Te	Telluride
Cv	Covellite	Ni	Nickel minerals	Tl	Tetrahedrite
Ct	Cordierite	Ov	Olivine	Ta-Ci	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>	Quartzfeldspathic	<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	<SS>	Sandstone	<MIG>	Migmatite
<SYN>	Syenite	<ARK>	Arkose sandstone	<PEG>	Pegmatite
<GRA>	Granite	<WCK>	Graywacke	<LEU>	Leucocratic
<MON>	Monzonite	<CGL>	Conglomerate	<MEL>	Melanocratic
<GRD>	Granodiorite	<SLT>	Siltstone	<UNK>	Unknown Protolith
<APL>	Aplitite	<ARG>	Mudstone-argillite	<UMF>	Ultramafic
<FEI>	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	<SLC>	Sulphide Clasts
		<LST>	Limestone	<RWV>	Reworked Volcanic Debris



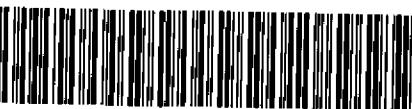
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L 100+00N

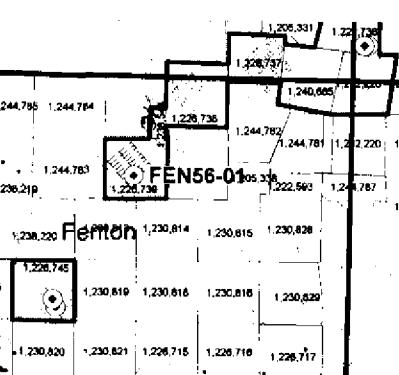
L 0

L 300+00S

230



42G02SE2002 2.20843 FENTON



FEN56-01
388858.7E, 5432220.4N
L3+00S, 1+35W
Az 220 degrees
Dip -45 degrees

0 0.1 0.2
kilometres

ASTRONOMIC

FALCONBRIDGE LIMITED

Exploration Division Timmins, ONTARIO



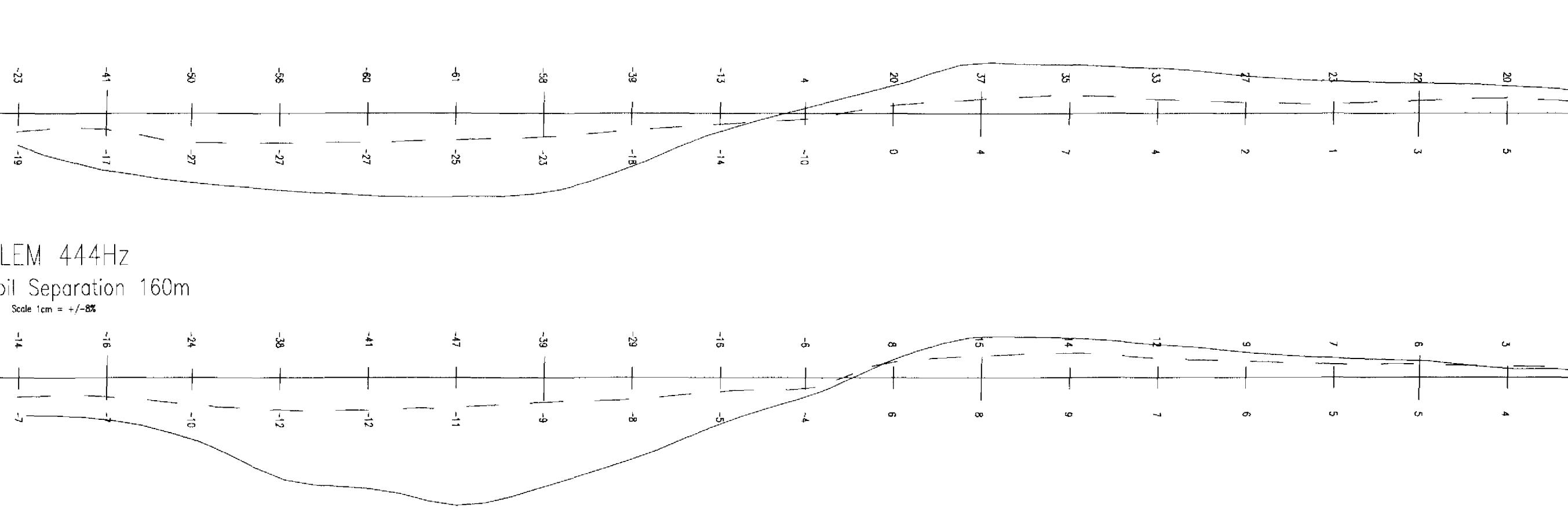
DDH FEN56-01 Location Map

Saganash Project (PN 291)

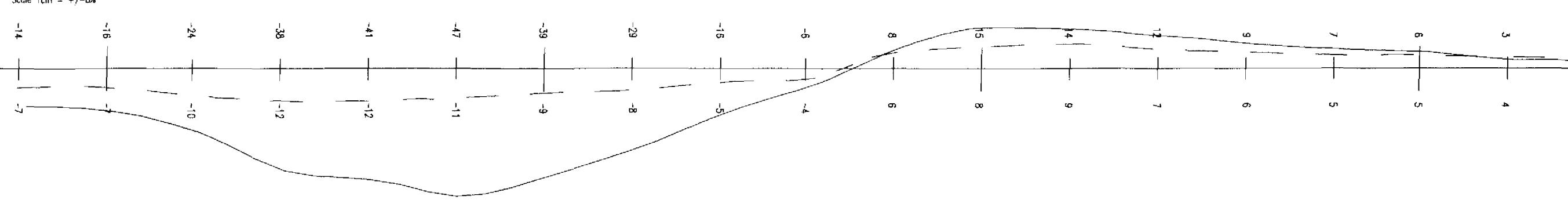
TRADED: A.B.T.	DATE: 00/00
DRAWN: A.B.T.	DATE: 00/00
SUPERVISED: S.M.	DATE: 00/00
REVISED: G.S.	DATE: 00/00

1:5,000

HLEM 1777Hz
Coil Separation 160m
Scale 1cm = +/- 16m



HLEM 444Hz
Coil Separation 160m
Scale 1cm = +/- 8m



MAG PROFILE
Scale 1cm = 400 nT



SW

300 W

NE

300

300

200

200

100

200

100

CLAIM P1226739

TARGET WIDTH : 60m
DIP : 55°NE (mag modeling ?)
(2-3 closely spaced conductors)
DEPTH : 15m
60mhos
CENTRE : L 3+00 S, 2+50 W

FEN56-01

3688870mE, 5432220.40mN

L 3+00 S, 1+35 W

Az 220, Dip -45°

OVERBURDEN

174.00m

EDN

Multiple semi-massive sulphide conductors in sediments

200 W

100 W

E 000

200 W

100 W

E 000

SAGANASH PROJECT ASSAY TABLE FEN56-01

SAMP. No.	FROM (M)	TO (M)	Int. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppb	Pt ppb	Pd Est. N	%	Est. Po %	Est. Py %	Est. Q %	Est. Sp %	Ext. Ce %	ROCK T
AU07494	28.74	30.72	1.0	50	210	5	40	<2	0.2	0	45	4						3, re, D
AU07495	30.72	31.02	0.3	26	121	2	16	<2	0.2	0	45	6						3, re, D
AU07496	31.02	31.87	0.8	79	200	1	101	3	0.3	0	45	6						3, re, D
AU07497	31.87	32.22	0.3	77	229	3	155	7	0.3	0	45	7	7	6			3, re, D	
AU07498	37.60	38.44	0.8	87	88	32	117	7	1.2	0	45	7	7	6			4, re, D	
AU07499	38.44	39.14	0.7	109	712	32	102	3	0.7	0	45	7	7	6			4, re, D	
AU07500	39.14	39.50	0.4	109	744	5	14	<2	0.1	0	45	8	6	6			5, o, g	
AU07501	39.50	40.50	1.0	109	180	17	19	0	0.5	0	45	4	6	6			5, o, g	
AU07502	40.50	41.50	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07503	41.50	42.50	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07504	42.50	43.20	0.7	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07505	43.20	44.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07506	44.20	45.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07507	45.20	46.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07508	46.20	47.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07509	47.20	48.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07510	48.20	49.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07511	49.20	50.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07512	50.20	51.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07513	51.20	52.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07514	52.20	53.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07515	53.20	54.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07516	54.20	55.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07517	55.20	56.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07518	56.20	57.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07519	57.20	58.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07520	58.20	59.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07521	59.20	60.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07522	60.20	61.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07523	61.20	62.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07524	62.20	63.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07525	63.20	64.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07526	64.20	65.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07527	65.20	66.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07528	66.20	67.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07529	67.20	68.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07530	68.20	69.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07531	69.20	70.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07532	70.20	71.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07533	71.20	72.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07534	72.20	73.20	1.0	109	1200	20	59	10	0.2	0	45	4	6	6			5, o, g	
AU07535	73.20	74.20	1.0	109	1200	20	59</td											