



42D16SW0015 53 SEELEY LAKE

010

DIAMOND DRILLING

AREA: SEELEY LAKE

REPORT NO: 53

WORK PERFORMED FOR: St. Joe Canada Inc.

RECORDED HOLDER: Same as Above [xx]  
: Other [ ]

<u>Claim No.</u>	<u>Hole No.</u>	<u>Footage</u>	<u>Date</u>	<u>Note</u>
864004	G-87-1	125m	Nov/87	(1)
	G-87-2	118m	Nov/87	(1)
864005	G-87-3	80m	Nov/87	(1)
	G-87-4	116m	Nov/87	(1)
864022	G-87-6	103m	Dec/87	(1)
864005	G-87-8	47.8m	Dec/87	(1)

NOTES: (1) #W8804-15, filed June/88

Hole No.	G-87-1	Northing	16+00S	Grid Orient	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	NOV. 22, 1987	Logged by	A.D. MacTAVISH
Property	GEORDIE LAKE	Easting	3+40W	Grid Azim.	50.0	-	39		125.0	-	37	ACID	Finished	NOV. 24, 1987	Checked by	
Section	16+00S	Elevation		Length (M)									Drill Co.	FALCON	Core	
Claim No.		Survey N.		Dip-Collar									Drill No.		Comments:	
Target	GABBRD/SYENITE CONT.	Survey E.		Comp Bearing	090								Drill For.			

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au	Ag
							g_tonne	g_tonne

**SUMMARY**

0.00	1.83	Casing						
1.83	30.04	Altered hornblende gabbro						
30.04	53.32	(Hornblende) - plagioclase porphyry dyke - (possible lamprophyre)						
53.32	54.00	Highly sheared and altered gabbro						
54.00	55.10	Potassic alteration zone						
55.10	59.34	Altered magnetite melagabbro						
59.34	66.92	Altered magnetite gabbro						
66.92	71.14	Gabbro						
71.60	81.40	Interlayered (?) Gabbro and melagabbro (mineralized)						
81.40	109.38	Altered gabbro (well mineralized)						
109.38	119.12	Alkali - feldspar quartz syenite						
119.12	123.37	Amphibole-plagioclase porphyry dyke (lamprophyre ?)						

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FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Ag g_tonne
123.37	125.00	Alkali-feldspar-quartz syenite						
125.00	125.00	End of Hole						

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FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Ag g_tonne
0.00	1.83	Casing						
1.83	30.04	Altered hornblende gabbro						
		-green, medium to coarse-grained, sub-ophitic texture, massive, locally fractured and occasionally sheared; composed of 40% laths, light grey to grey plagioclase which are sometimes (5-8%) rimmed by a pinkish potassium feldspar (due to deuteric potassic alteration?). 50-52% hornblende, now mainly altered to actinolite, 8-10% subhedral to euhedral magnetite (possibly titanomagnetite or ilmenite) grains up to 2mm in diameter, and generally trace to <=0.5% very finely disseminated chalcopyrite (cp) and pyrrhotite (po).						
		-potassic alteration of plagioclase feldspars to potassium feldspar tends to increase with depth and after 16.15m is characterized by pinkish slightly coarser grained patches where plagioclase has been almost totally altered to K-spar; there is also an increase in cp/po after 16.15						
		-3.06: narrow shear at 18 degrees to core axis						
		-8.40: irregular fracture at 6 degrees to core axis						
		-11.36: hair thin carbonate filled fracture containing small blebs and some tiny seams of cp						
		-15.90-16.15: shear zone (fault ?) - the gabbro has been highly sheared to a well foliated, friable and crumbly, limonite stained rock.						
		-shear planes are at approx. 10 degrees to the core axis (C.A); magnetite and some sulphides are smeared along the shear planes (10% mag, <2% weathered sulphides, minor malachite staining; some sericite observed.						
		-16.15-22.00: slightly to well mineralized with disseminated to coarse blebby cp usually associated with magnetite (ilmenite ?); the mag. usually occurs as partially rimming composite grains with the cp - 3-6% cp; the best zone is from 19.80 to 22.00 - 5-6% cp						
		-24.85-30.04- rapid increase in K-spar rimmed plagioclase and potassic alteration in general; rock initially exhibits 4 to 10cm thick patches of coarse to very fine-grained pinkish altered gabbro, but eventually the rock is almost pervasively altered and becomes pinkish-green in colour; rimmed grains are very evident; sulphide percentage in this zone is less than 16.15 - 22.00, usually 1-2% finely disseminated cp (po) with 8-10% grey-black magnetite.						
		24.77-25.10- sheared and heavily broken zone -some core appears to have been ground up and lost; remnant fragments are quite limonitized and very altered.						
		29.49-29.43 - small portion of hornblende - plagioclase porphyry (possible edge of dyke).						
30.04	53.32	(Hornblende) - plagioclase porphyry dyke - (possible lamprophyre)						
		-grey to dark grey in colour, massive with a slight to moderate alignment of						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Ag g_tonne
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plagioclase laths (alignment tends to vary down hole from approximately parallel to the C.A to about 25-30 degrees from C.A. near the lower contact. -upper contact is sharp, slightly irregular, appears to be very slightly chilled and is at 1-3 degrees from the C.A. - the contact is present over approximately 90 cm of core; lower contact is also sharp and is at between 50 and 55 degrees to core axis; the dyke is composed of many minerals - the most prominent is the large plagioclase phenocrysts - these phenocrysts are light grey in colour, lath shaped, subhedral to euhedral in form, twinned, locally zoned and between 2mm and 5cm in length- plagioclase comprises 50 - 60% of dyke; amphibole is present in much smaller phenocrysts, 3-7mm in diameter, usually altered, dark green in colour and subhedral in form- sometimes altered to actinolite; amphibole content 5-7% in phenocryst form; calcite occurs associated with amphibole and as a very fine-grained constituent within ground mass; an emerald green, fractured, relatively hard mineral is commonly observed associated with feldspar crystals - possibly an epidote mineral? - has some characteristics of olivine?

-groundmass is a fine-grained to very fine-grained mixture of amphiboles, calcite, biotite (?) altered plagioclase; locally very fine-grained K-spar was observed; fractures are commonly filled with calcite stringers and plagioclase (both phenocrysts and in groundmass) are potassically altered near these stringers; calcite stringers are commonly deformed

-41.10-41.33: broken rock due to shearing and fracturing, veining and intense potassic alteration of plagioclase phenocrysts; numerous brecciated fractures are filled with calcite - siderite material - no preferred orientation to fractures

-46.80-47.95: highly sheared zone - sheared and altered (hornblende)- plagioclase dkye, very friable and fissile, composed of chlorite and actinolite and some carbonate; faint slickensides observed locally; some of shearing is oriented at about 32 degrees to C.A but majority doesn't seem to have a preferred direction- some shears are parallel to core axis

-47.95-50.00: occasional narrow shears at between 12 and 36 degrees to C.A -majority are between 12 and 18 degrees to C.A.; usually quite chloritic and actinolitic

-50.43-50.60: broken rock in core

-52.75-53.27: broken ground

-the occasional small bleb of chalcopyrite was observed within this unit; overall, there was << 1% cp, po

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Ag g_tonne
53.32	54.00	Highly sheared and altered gabbro -dark green to greenish black, much secondary amphibole and chlorite; slickensides common; moderately carbonatized; most shears are conjugate in nature at 29 and 126 degrees to core axis; some are filled with narrow carbonate stringers; no sulphides - 10 -12% magnetite						
54.00	55.10	Potassic alteration zone -gabbro intensely altered, pink in colour, alteration decrease with depth and grades into next unit.						
55.10	59.34	Altered magnetite melagabbro -dark green to greenish black; fine to medium-grained with 5 to 8mm amphibole oikocryptic; 15 -18% greyish plagioclase; 15-25% fine-grained euhedral magnetite; 60 -70% medium grained mafic minerals, mostly altered greenish to black clinopyroxene; rock is generally massive with a few fractures, does not exhibit the characteristic subophitic texture observed from 1.84 to 30.04. -55.65: a few minor cp blebs and stringers over 3-5cm near narrow carbonate- rich shear at 55.70.						
59.34	66.92	Altered magnetite gabbro -quite similar to 55.10-59.34, however it is medium to coarse grained; contains about 35% greenish grey, sometimes potassically altered plagioclase -occasional very coarse-grained patches where plagioclase content increases to about 45% plagioclase laths up to 1cm in length; plagioclase content increases gradually with depth to about 45-50% - near lower contact the rock is beginning to develop a sub -ophitic texture -60.41 - 60.80: very coarse-grained to pegmatitic zone 61.37-62.00: very coarse-grained 62.03-62.11: potassic alteration patches - 4-5cm in diameter -62.30-62.36: intense potassic alteration -slight increase in potassic alteration with depth; overall percentage ranges from 10-15% of rock; occasional altered fracture planes with variable angles to C.A - chloritic and amphibolitic alteration runs 3-5mm thick along fractures; nil to trace very finely disseminated cp and po.						
66.92	71.14	Gabbro -fine-grained, dense and massive, slightly altered rock with 50/50 split of light grey to greenish-grey plagioclase and slightly altered clinopyroxene, 8-10% subhedral to euhedral magnetite grains; occasional calcite and dolomite filled fractures at 38 - 49 degrees to C.A. -vein filled fractures all exhibit 1-2cm wide slightly to moderately potassic alteration halos; some high angle fractures at 5-8 degrees to C.A.; usually						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Ag g_tonne
71.60	81.40	Interlayered (?) Gabbro and melagabbro (mineralized) uncemented; upper and lower contacts with coarse to very coarse-grained rocks is relatively sharp over 2 or 3 grain width - possibly this is a fine-grained layer rather than a separate intrusion; upper contact at roughly 68 degrees to core axis; lower contact at roughly 90 degrees to core axis; more diffuse than upper contact; slightly gradational over 3-5cm. -this is an alternating sequence of massive very coarse-grained to pegmatitic, sub-ophitic texture, slightly to moderately altered greyish-green gabbro units (or possibly layers) and massive fine to medium-grained, moderately altered, sometimes oikocryptic dark greenish-black melagabbro- contacts are gradational over 5-10 cm; potassic alteration is quite common within the coarser-grained gabbro layers, but it is relatively scarce within the finer-grained melagabbro layers; where alteration occurs the primary plagioclase laths are usually rimmed in pinkish K-spar and occasionally the plagioclase grains are almost totally consumed by the alteration- increases gradually with depth; pyroxenes, in both rock types are usually partially altered to green and dark green fibrous amphiboles; gabbros_ 40-50% altered plagioclase laths up to 2cm in length, 45 -50 % partially altered mafic minerals (mostly very dark green to black clinopyroxene); 5 to 10% magnetite or titanomagnetite occurring in disseminated, <1-2mm, subhedral to euhedral grains; melagabbro - 15-30% occasionally altered plagioclase grains; 10-20% magnetite or titanomagnetite grains, sometimes 3-4 mm in diameter; altered pyroxene and amphiboles 50-74%; up to 1% interstitial greenish apatite -72.85-73.66- melagabbro 74.50-78.88-melagabbro - occasional 10-20cm thick coarse to very coarse-grained, potassically altered patches of gabbro 81.06 to 81.40- gabbro to melagabbro- percentage of plagioclase is close to 35% and the rock could be either variety; narrow fractures are quite common- most are cemented by hair thin carbonate stringers; others are uncemented -potassic alteration and uralitization are common as reaction rims along cemented fractures; cemented variety are highly variable in orientation, ranging between 5 degrees to 90 degrees to C.A., with majority between 40 and 70 degrees to C.A.; uncemented fractures generally range between 20 and 28 degrees to core axis; occasional fractures subparallel to core axis. -mineralization - highly variable -76.16 to 76.68 - initially quite sporadic and consists of <1% to 2% very finely to finely disseminated cp and po with <1% scattered composite blebs composed of cp/po/mag; some blebs are net - textured in appearance and are 1-2						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Ag g_tonne
		cm in diameter.						
		-76.68-81.06 - 2 to 4% small to large (1cm) cp-po-mag blebs; most blebs tend to occur within coarser zones (layers)						
		-81.06-81.40 - 3 to 8% composite cp-po-mag blebs with occasional narrow zones with trace to 3% blebs and disseminations.						
81.40	109.38	Altered gabbro (well mineralized)						
		-very similar to gabbro observed between 71.60 to 81.40 except that there are no melagabbro layers; this unit does contain a few areas which are fine to medium-grained rather than coarse-grained to pegmatitic- this is possibly a grain size layering feature similar to that seen in the preceding unit						
		-88.81-89.11 - fine to coarse-grained gabbro						
		-100.15-100.96 - fine to medium-grained very magnetite or ilmenite-rich gabbro						
		-also contains an ilmenite, cp vein 1.0 - 1.5 cm in thickness						
		-106.36-106.64- fine to medium-grained gabbro						
		-107.71-109.38-potassically altered magnetite or ilmenite rich mineralized gabbro, gradational contact over 2 or 3 cm						
		-subophitic texture quite well developed throughout unit; fracturing is similar to above unit						
		-93.04-93.33- narrow moderately sheared area perpendicular to core axis						
		-magnetite/ilmenite increases with depth to make up 10-20% of rock locally						
		-mineralization: generally varies throughout unit from <2 to 8-10% and occurs finely disseminated, as coarse to very coarse composite blebs comprised of cp, po and mag (ilm ?), as narrow cp stringers, as cp/mag (ilm ?) veinlets, and as irregular, small amoeboid pods of cp, po and mag (ilm ?); magnetite may be either titanomagnetite or ilmenite; bornite is observed locally as is covellite (minor); in most instances, the mafic minerals in contact with or in close proximity to sulphide blebs are heavily altered to green amphibole						
		-93.43 - some small bornite blebs						
		-103.46 to 104.26 - narrow unalitized cp/po/mag stringer 1-2mm in width at about parallel to 8 degrees from the core axis.						
		-105.13 to 105.20 - very large composite bleb composed of cp, po and magnetite						
		-appears zoned with cp in middle, po around cp and then mag on outside						
		-suggests replacement						
		-106.61 to 106.80 - zone of small amoeboid pods (large blebs) of chalcopyrite rimmed with magnetite- area surrounding this zone is heavily potassically altered; lower contact - sharp to diffuse and irregular						
109.38	119.12	Alkali - feldspar quartz syenite						
		-reddish to reddish - orange in colour with dark green to greenish black						



FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Ag g_tonne
		mottles (augite and amphibole grains); rock is generally fine-grained to locally very fine grained with 50 to 60% reddish alkali feldspars and 35 to 45% dark green to greenish black pyroxenes, and trace to 10% interstitial quartz -the whole of this unit (within this hole) is fractured and broken; there are 2 prominent fracture sets, one at approx. 10-28 degrees and the other at approx 150 to 160 degrees; there are a large number of irregular, fenitized fractures and veinlets containing greenish amphiboles and chlorite and sometimes calcite. -the syenite is moderately to highly magnetic due to 5-8% very finely disseminated magnetite; zones of fenitization occur at 112.00 to 112.30; 112.57 to 113.55; <1% pyrite, usually along fractures, was observed -119.12-sharp contact with underlying unit at 28 degrees to C.A.						
119.12	123.37	Amphibole-plagioclase porphyry dyke (lamprophyre ?) -similar to 30.04 to 53.32 - massive -fewer plagioclase phenocrysts (10-20%) and more amphibole phenocrysts (5-10%) -cut by the occasional carbonate - siderite veinlet; this dyke has some characteristics of a lamprophyre						
123.37	125.00	Alkali-feldspar-quartz syenite -same as 109.38 to 119.12						
125.00	125.00	End of Hole						

Hole No.	687.2	Northing	Grid Orient	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	November 25, 1987	Logged by	A.D. MacTavish
Property	Geordie Lake - Joa	Easting	Grid Azim.	118.0	-	39						Finished	November 26, 1987	Checked by	
Section		Elevation	Length (M)	118.00								Drill Co.	Falcon Drilling	Core	BB
Claim No.		Survey N.	Dip-Collar	-45.00								Drill No.		Comments:	Mineralized Gabbro/
Target		Survey E.	Comp Bearing	90.00								Drill For.			Syenite Contact

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
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**SUMMARY**

0.00	5.54	CASING							
5.54	10.14	ALTERED MAGNETITE MELAGABBRO							
10.14	16.20	AMPHIBOLE-PLAGIOCLASE PORPHYRY DYKE (Possible Lamprophyre)							
16.20	43.21	ALTERED GABBRO (Slightly to Moderately Mineralized)							
43.21	44.05	MAGNETITE MELAGABBRO							
44.05	49.15	MELAGABBRO TO GABBRO							
49.15	52.68	ALTERED GABBRO							
52.68	58.73	ALTERED GABBRO							
58.73	61.50	ALTERED GABBRO							
61.50	76.80	MELAGABBRO							
76.80	93.10	ALTERED GABBRO (Mineralized)							
93.10	96.94	HORNBLende CLINOPYROXENITE (Mineralized)							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
96.94	101.07	INTERLAYERED ALTERED GABBRO AND MELAGABBRO (Highly Mineralized)							
101.07	103.05	HIGHLY ALTERED GABBRO (Mixed Zone?) - Well Mineralized							
103.05	118.00	ALKALI-FELDSPAR QUARTZ SYENITE							
118.00	118.00	END OF HOLE							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
0.00	5.54	CASING							
5.54	10.14	ALTERED MAGNETITE MELAGABBRO - fine-grained, massive with localized potassic alteration (5-10%) throughout; 20% subhedral, slightly potassically-altered plagioclase, 60-65% slightly to moderately altered subhedral clinopyroxene and some amphiboles, 15-20% subhedral to euhedral magnetite; trace to 1% very finely disseminated chalcopyrite, pyrrhotite; occasional fractures at approx. 16 deg. to CA, one at 28 deg. to CA; 7.96-8.85m - fractured and broken rock; fracture runs subparallel to CA; contact with underlying unit at approx. 16 deg. to CA; slightly irregular but sharp; 9.60-10.14m - 50-75% potassic alteration of gabbro							
10.14	16.20	AMPHIBOLE-PLAGIOCLASE PORPHYRY DYKE (Possible Lamprophyre) - dark grey rock composed of 0.5-2cm light grey, carlsbad twinned euhedral laths of plagioclase, 3-7m, subhedral to locally euhedral prismatic grains of amphibole (hornblende?), within an extremely fine-grained to fine-grained matrix of plagioclase, k-spar, amphibole, magnetite and pyroxene - plagioclase phenocrysts are sometimes host to a fractured, anhedral, glassy, emerald green mineral; upper and lower contacts are sharp and slightly irregular and slightly chilled; lower contact at approx. 32 deg. to CA; trace chalcopyrite	2062 2063	14.20 15.20	15.20 16.20	1.00 1.00			
16.20	43.21	ALTERED GABBRO (Slightly to Moderately Mineralized) - medium to very coarse-grained with 20-40% patches of potassic alteration which all tend to be coarser-grained than surrounding relatively unaltered gabbro - plagioclase within altered patches is partly to completely rimmed by k-spar and some grains have been totally replaced - rock subaphitic in texture; unaltered rock composed of 35-40% grey to grey-green plagioclase laths, 5-8% subhedral to euhedral magnetite (maybe titanomagnetite or ilmenite), 55-58% black clinopyroxene with variable amounts of greenish hornblende and fibrous amphiboles (alteration products); rock is massive to possibly weakly layered; there may be a few diffuse layers of slightly altered melagabbro to magnetite melagabbro; those more mafic zones occur at: 21.41-21.84m; 21.99-22.58m; 26.46-26.94m; a few fractures, some cemented with calcite occur locally at between 10 and 14 deg. to CA and 30 to 35 deg. to CA; mineralization - quite variable, but is composed of 1-3% disseminated to blebby chalcopyrite, pyrrhotite; percentage is highly variable over short distances and gradually dies out down hole to about 1% disseminated to small blebs of chalcopyrite generally associated with patches of potassic alteration; best mineralization							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		occurs between contact at 16.20m and about 25.00m; 21.54m - 1cm thick chalcopyrite, pyrrhotite veinlet associated with edge of patch of potassic alteration; sulphide content increases slightly after 34m to about 44.70m - increases to 2-3% locally	2064	16.20	17.20	1.00			
			2065	17.20	18.20	1.00			
			2066	18.20	19.20	1.00			
			2067	19.20	20.20	1.00			
			2068	20.20	21.20	1.00			
			2069	21.20	22.20	1.00			
			2070	22.20	23.20	1.00			
			2071	23.20	24.20	1.00			
			2072	24.20	25.20	1.00			
			2073	25.20	26.20	1.00			
			2074	26.20	27.20	1.00			
			2075	27.20	28.20	1.00			
			2076	28.20	29.20	1.00			
			2077	29.20	30.20	1.00			
			2078	30.20	31.20	1.00			
			2079	31.20	32.20	1.00			
			2080	32.20	33.20	1.00			
			2081	33.20	34.20	1.00			
			2082	34.20	35.20	1.00			
			2083	35.20	36.20	1.00			
			2084	36.20	37.20	1.00			
			2085	37.20	38.20	1.00			
			2086	38.20	39.20	1.00			
			2087	39.20	40.20	1.00			
			2088	40.20	41.20	1.00			
			2089	41.20	42.20	1.00			
			2090	42.20	43.21	1.01			
43.21	44.05	MAGNETITE MELAGABBRO - unmineralized, fine-grained, almost ultramafic in character, rock containing 10-15% dark greenish-grey plagioclase, 25-30% finely disseminated magnetite and 55-65% pyroxene; massive, irregular relatively sharp contacts; no sulphides observed							
44.05	49.15	MELAGABBRO TO GABBRO	2091	43.21	44.05	0.84			

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		- the beginning of this unit is relatively complicated; 44.05-44.55m - mineralized potassically altered gabbro, medium to coarse-grained in nature; 1-3% blebs chalcopyrite and pyrrhotite; 44.55-44.80m - fine-grained magnetite melagabbro similar to 43.21-44.05m; 44.80-49.25m - is a relatively unaltered, variably textured gabbro which at times could be termed as melagabbro - it is medium to very coarse-grained (locally pegmatitic) and is comprised of 30-40% greenish plagioclase laths up to 1cm in length, 8-15% prismatic and cubic magnetite or ilmenite grains (prismatic grains may be ilmenite), and 50-60% dark green to black clinopyroxene and amphibole	2092	44.05	44.55	0.50			
			2093	44.55	45.55	1.00			
			2094	45.55	46.55	1.00			
49.15	52.68	ALTERED GABBRO							
		- similar to 16.20-43.21m; relatively unmineralized - <1% small blebs and finely disseminated chalcopyrite and pyrrhotite; upper and lower contacts relatively sharp, but irregular; upper at 70 deg. to CA; lower at 75 deg. to CA							
52.68	58.73	ALTERED GABBRO							
		- fine-grained slightly to moderately altered gabbro that grades very gradually into a medium-grained gabbro at lower contact; massive to very weakly layered - possible layering indicated by a slightly darker zone approx. 1cm thick spaced about 10-15cm apart in the central portions of the unit; oriented at about 45 deg. to CA; fractures are uncommon, however when present they will exhibit a narrow potassic reaction rim 2-5mm thick; trace very finely disseminated chalcopyrite - 52.78-53.05m - 1% small chalcopyrite blebs; upper contact relatively diffuse over 1-3cm; can't measure orientation; lower contact sharper at 39 deg. to CA							
58.73	61.50	ALTERED GABBRO							
		- 40-50% patches of potassic alteration within a medium to coarse-grained gabbro; much coarser and more highly altered than 52.68-58.73m; similar percentages of minerals at 52.68-58.73m except with 5% finely disseminated magnetite; trace finely disseminated chalcopyrite; potassic alteration decreases down hole and eventually grades into a hornblende oikocrystic melagabbro at about 61.50m; plagioclase content dropped off and pyroxene, amphibole and magnetite content increased							
61.50	76.80	MELAGABBRO							
		- this unit is mostly a massive hornblende oikocrystic melagabbro that is medium-grained, greyish-black in colour - throughout the unit are numerous 5-10cm thick patches of where potassically altered plagioclase increases to							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		about 50-60% of rock; these patches are also coarse to very coarse-grained - possible layers?; 5-8% disseminated magnetite; fractures are occasionally observed at no particular orientation; oikocrysts are subhedral to euhedral in form and up to 7mm in diameter; 69.75-71.61m - potassic alteration increases to 25% of core - in coarse-grained irregular patches - drops off again after 71.61m; 71.61-75.35m - rock could be either a gabbro or a melagabbro because plagioclase content is roughly 35%; mineralization - trace chalcopyrite throughout most of unit; 76.00-76.80m - 5-8% coarse composite blebs of bornite, rimmed with chalcopyrite, pyrrhotite and ilmenite(?) - some blebs greater than 1cm in diameter; mostly within a coarse-grained melagabbro portion of unit; lower contact is sharp, but irregular, and at roughly 90 deg. to CA	2095	74.00	75.00	1.00			
			2096	75.00	76.00	1.00			
			2097	76.00	76.80	0.80			
76.80	93.10	ALTERED GABBRO (Mineralized)							
		- similar to 16.20-43.21m - slightly more plagioclase - 35-50%; alteration is variable; subophitic texture - usually massive, locally fractured at variable orientations; mineralization - quite variable throughout unit from 1% very finely disseminated chalcopyrite and pyrrhotite to 5% coarse composite chalcopyrite and pyrrhotite blebs usually associated with ilmenite(?); very difficult to quantify for any given area due to sporadic texture of sulphide concentrations; 86.20m - narrow chalcopyrite stringer - <2mm; 86.50-93.10m - highly altered gabbro - potassic alteration of plagioclase ranges from 30-60% of rock - many grains completely altered to k-spar; sulphide content drops somewhat to 1-3% blebby chalcopyrite, pyrrhotite; contact with underlying unit is diffuse with a gradual increase in pyroxene and amphibole content and a drop in potassic alteration; 86.73-86.95m - fractured and broken core; fracture at about 5 deg. to CA; 87.17-87.27m - sheared zone at about 88 deg. to CA; 87.80-87.90 - highly sheared zone; very friable and crumbly - shear roughly sub-parallel to CA; 86.73-86.95m - fractured and broken core; fracture at about 5 deg. to CA	2098	76.80	77.80	1.00			
			2099	77.80	78.80	1.00			
			2100	78.80	79.80	1.00			
			2101	79.80	80.80	1.00			
			2102	80.80	81.80	1.00			
			2103	81.80	82.80	1.00			
			2104	82.80	83.80	1.00			

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
			2105	83.80	84.80	1.00			
			2106	84.80	85.80	1.00			
			2107	85.80	86.80	1.00			
			2108	86.80	87.80	1.00			
			2109	87.80	88.80	1.00			
			2110	88.80	89.80	1.00			
			2111	89.80	90.80	1.00			
			2112	90.80	91.80	1.00			
			2113	91.80	92.44	0.64			
			2114	92.44	93.10	0.65			
93.10	96.94	HORNBLENDE CLINOPYROXENITE (Mineralized) - coarse to very coarse-grained, massive, oikocrystic dark grey to black ultramafic rock containing 5-8% magnetite (ilmenite), 10-15% dark green to black hornblende and 77-85% black clinopyroxene (augite?); oikocrysts (10%) up to 0.5cm in diameter are composed of hornblende and are subhedral in form; some slight potassic alteration near upper contact; upper contact is gradational over 30cm with potassically altered plagioclase content almost totally disappearing - locally feldspathic near fractures; mineralization - 1% very finely disseminated chalcopyrite and pyrrhotite to locally 5% disseminated to blebby, chalcopyrite, bornite and pyrrhotite; 93.10-95.85m - 1-2% disseminated to small blebs chalcopyrite, pyrrhotite and occasional bornite; 95.86-96.94m - well mineralized with 2 to locally 10-12% disseminated to coarse blebby chalcopyrite, pyrrhotite, bornite - locally almost net textured; 96.11m - thin 1-2m chalcopyrite stringer at 36 deg. to CA; 96.32m - 1cm thick chalcopyrite/pyrrhotite veinlet at 23 deg. to CA; 96.85m - 2mm chalcopyrite/pyrrhotite stringer at 64 deg. to CA; lower contact is diffuse and gradational over 5-10cm	2115	93.10	94.10	1.00			
			2116	94.10	95.10	1.00			
			2117	95.10	95.85	0.75			
			2118	95.85	96.40	0.55			
			2119	96.40	96.94	0.54			
96.94	101.07	INTERLAYERED ALTERED GABBRO AND MELAGABBRO (Highly Mineralized) - this unit is a series of alternating layers(?) of moderately to highly potassically altered medium to very coarse-grained pinkish to greyish-green gabbro and medium to coarse-grained, oikocrystic melagabbro (locally feldspathic hornblende clinopyroxenite); oikocrysts are hornblende and 3-6mm in diameter; some of the gabbroic zones contain 60% altered plagioclase;							



FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		texture is occasionally subophitic; rock tends to be massive; occasional fracturing observed at between 39 and 49 deg. to CA; mineralization - very well mineralized; ranges from the occasional narrow zone of 1-2% disseminated chalcopyrite, pyrrhotite (bornite) to small 3-5cm diameter patches containing 10-20% blebs chalcopyrite, pyrrhotite (bornite); some blebs are 203cm in diameter; overall average 7-12% disseminated to coarse blebby chalcopyrite, pyrrhotite, bornite	2120	96.94	97.94	1.00			
			2121	97.94	98.94	1.00			
			2122	98.94	99.94	1.00			
			2123	99.94	100.51	0.57			
			2124	100.51	101.07	0.56			
101.07	103.05	HIGHLY ALTERED GABBRO (Mixed Zone?) - Well Mineralized - fine to coarse-grained, highly altered potassically rock that was once a gabbro - pinkish-grey to grey in colour; composed of 20-70% k-spar with remnant plagioclase locally; 8-10% disseminated major ilmenite; 20-80% pyroxene (and amphibole); magnetite (ilmenite) increases to 20-25% near contact; mineralization - ranges from narrow zones of 1-2% disseminated chalcopyrite, pyrrhotite to areas of 8-15% disseminated and blebby chalcopyrite, pyrrhotite (bornite) - some blebs of chalcopyrite, pyrrhotite, ilmenite are 3-4cm in diameter; 101.71m - 5cm x 1.5cm chalcopyrite, pyrrhotite, ilmenite bleb or pod; 102.96m - 4cm x 2cm chalcopyrite, pyrrhotite, ilmenite bleb or pod surrounded by 20% disseminated sulphides and ilmenite; some fractures throughout at 38 to 52 deg. to CA; lower contact relatively sharp at 67 deg. to CA	2125	101.07	102.07	1.00			
			2126	102.07	103.05	0.98			
103.05	118.00	ALKALI-FELDSPAR QUARTZ SYENITE - fine to medium-grained, pinkish in colour, massive, slightly to moderately altered rock; contains 50-70% k-spar, 5-6% very finely disseminated magnetite, 25-35% augite (clinopyroxene), trace to 10% interstitial quartz; conjugate fractures at between 35 and 45 deg. to CA are common; fractures usually contain carbonate stringers; irregular fractures are ubiquitous and host minor feritization; some fractures are subparallel to CA; some chalcopyrite (<1%) present near fractures for 2-3m past the contact at 103.05m	2127	103.05	104.05	1.00			
			2128	104.05	105.05	1.00			
			2129	105.05	106.05	1.00			
			2130	106.05	107.05	1.00			

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FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
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118.00	118.00	END OF HOLE							
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Hole No.	897.3	Northing	Grid Orient	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	November 27, 1987	Logged by	A.D. MacTavish
Property	Geordie Lake - Joe	Easting	Grid Azim.	50.0	-	38		80.0	-	39		Finished	November 28, 1987	Checked by	
Section		Elevation	Length (M)				80.00					Drill Co.	Falcon Drilling	Core	BQ
Claim No.		Survey N.	L19+008	Dip-Collar	-45.00							Drill No.		Comments:	Mineralized Gabbro/ Syenite Contact
Target		Survey E.	3+01W	Comp Bearing	90.00							Drill For.			

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
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**SUMMARY**

0.00	1.61	CASING							
1.61	18.26	GABBRO TO MAGNETITE GABBRO							
18.26	26.14	ALTERED GABBRO (Slightly to Moderately Mineralized)							
26.14	32.03	FELDSPATHIC MAGNETITE CLINOPYROXENITE TO MAGNETITE MELAGABBRO (Mineralized)							
32.03	40.80	GABBRO TO MAGNETITE GABBRO							
40.80	54.08	GABBRO							
54.08	64.23	MAGNETITE MELAGABBRO TO GABBRO (Mineralized)							
64.23	64.84	MIXED ZONE (Mineralized)							
64.84	65.25	MUD SEAM							
65.25	80.16	ALKALI-FELDSPAR QUARTZ SYENITE							
80.16	80.16	END OF HOLE							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
	1.61	CASING							
1.61	18.26	GABBRO TO MAGNETITE GABBRO - initially <1% very finely disseminated chalcopyrite but increases with depth	2131	10.60	11.60	1.00			
			2132	11.60	12.60	1.00			
			2133	12.60	13.60	1.00			
			2134	13.60	14.60	1.00			
14.60	18.26	1-2% (occasionally 3%) chalcopyrite (pyrrhotite) disseminated to local small blebs	2135	14.60	15.60	1.00			
			2136	15.60	16.60	1.00			
			2137	16.60	17.60	1.00			
			2138	17.60	18.26	0.66			
18.26	26.14	ALTERED GABBRO - slightly to moderately mineralized; 1-3% disseminated to blebby chalcopyrite, pyrrhotite throughout; nowhere particularly concentrated	2139	18.26	19.26	1.00			
			2140	19.26	20.26	1.00			
			2141	20.26	21.26	1.00			
			2142	21.26	22.26	1.00			
			2143	22.26	23.26	1.00			
			2144	23.26	24.26	1.00			
			2145	24.26	25.26	1.00			
			2146	25.26	26.14	0.90			
26.14	32.03	FELDSPATHIC MAGNETITE CLINOPYROXENITE TO MAGNETITE MELAGABBRO - some areas <1% disseminated chalcopyrite and pyrrhotite, others have 3-5% large composite blebs of chalcopyrite, pyrrhotite	2147	26.14	26.85	0.71			
			2148	26.85	27.35	0.50			
			2149	27.35	28.35	1.00			
26.85	27.20	3-5% coarse chalcopyrite, pyrrhotite blebs							
28.00	28.15	3-5% coarse chalcopyrite, pyrrhotite blebs							
28.60	28.90	1-4% blebs chalcopyrite, pyrrhotite, bornite							
			2150	28.35	29.26	0.91			
29.26	30.95	1-2% small blebs and disseminated chalcopyrite, pyrrhotite	2151	29.26	30.26	1.00			
			2152	30.26	30.95	0.69			
30.95	32.03	<1% very finely disseminated chalcopyrite, pyrrhotite	2153	30.95	32.03	1.08			
32.03	40.80	GABBRO TO MAGNETITE GABBRO - trace very finely disseminated chalcopyrite, pyrrhotite							
39.07	39.15	1-2% coarse blebs chalcopyrite							
40.80	54.08	GABBRO - trace very finely disseminated sulphides							
54.08	64.23	MAGNETITE MELAGABBRO TO GABBRO - mineralization increases with depth	2154	54.08	55.00	0.92			
			2155	55.00	56.00	1.00			
54.08	58.00	1-3% disseminated and blebby chalcopyrite, pyrrhotite, bornite; 56.70 - 3% bornite	2156	56.00	57.00	1.00			
			2157	57.00	58.00	1.00			
58.00	64.23	2-8% disseminated, coarse blebby and stringer chalcopyrite, pyrrhotite, bornite	2158	58.00	59.00	1.00			
			2159	59.00	60.00	1.00			
			2160	60.00	61.00	1.00			
61.70	61.74	massive pod of chalcopyrite, pyrrhotite; some blebs 2-3cm in diameter - almost net textured							
			2161	61.00	62.00	1.00			
			2162	62.00	63.00	1.00			
			2163	63.00	63.60	0.60			
			2164	63.60	64.23	0.63			
64.23	64.84	MIXED ZONE	2165	64.23	64.84	0.61			

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		- 5-20% chalcopyrite, pyrrhotite in disseminations, coarse blebs, small pods and narrow stringers							
64.23	64.37	- mostly small pods and large blebs of chalcopyrite							
64.84	65.25	MUD SEAM							
65.25	80.16	ALKALI FELDSPAR QUARTZ SYENITE - trace pyrite and chalcopyrite occasionally	2166	65.25	66.25	1.00			
			2167	66.25	67.25	1.00			
			2168	67.25	68.25	1.00			
		80.16 END OF HOLE							
0.00	1.61	CASING							
1.61	18.26	GABBRO TO MAGNETITE GABBRO - massive, fine to medium-grained, sub-ophitic textured, oikocrystic dark greenish-grey rock composed of 35-47% greenish laths of plagioclase (usually twinned); 5-15% finely disseminated to disseminated magnetite and 50-60% dark green to black clinopyroxene; initially very little potassic alteration of plagioclase, however with depth patches of alteration start to appear and become more abundant; patches are initially <1cm in diameter and medium to coarse-grained, gradually become bigger in size to about 3cm in diameter; plagioclase rimmed by pyroxene within these patches is very common; 8.54 - 1cm thick altered veinlet? at 27 deg. to CA; potassic alteration rims vein for 0.5cm; 11.66 - 1cm thick syenite veinlet at between 2 and 10 deg. to CA; mineralization - initially <1% very finely disseminated chalcopyrite, however it increases with depth							
	14.60	18.26	- 1-2% (occasionally 3%) chalcopyrite (pyrrhotite) - disseminated to local small blebs; magnetite content varies considerably throughout unit and in some places reaches 10 - 15 deg.						
	16.92	17.00	- series of fractures; one subparallel to CA; others at 27 deg. to CA; contact at 18.26m is irregular and somewhat diffuse over 1 or 2cm						
18.26	26.14	ALTERED GABBRO (Slightly to Moderately Mineralized) - coarse to very coarse-grained dark grey to pinkish-green (where altered); similar mineral percentages to finer-grained gabbro observed between 1.61 and 18.26m; patches of potassic alteration are coarser than rest of gabbro and k-spar commonly rims plagioclase; 5-7% disseminated magnetite; mineralization - 1-3% disseminated to blebby chalcopyrite, pyrrhotite throughout unit; nowhere is it particularly concentrated; lower contact 26.14m is diffuse; grades into a magnetite melagabbro over about a meter; 26.14m is where patches of alteration stop							
26.14	32.03	FELDSPATHIC MAGNETITE CLINOPYROXENITE TO MAGNETITE MELAGABBRO (Mineralized) - dark green to black; medium to locally very coarse-grained; oikocrystic massive rock containing between 3-15% greenish plagioclase; 10-25% disseminated magnetite; 10-15% secondary greenish amphibole and 45-77% clinopyroxenite (potassic augite); grades from pyroxenite into melagabbro without contacts; potassic alteration of plagioclase observed only in a few small zones at 28.42m - alteration around thin fractures; 29.31-29.43m, 29.68-29.71m - alteration patches; 30.54-30.61m - alteration patch; 31.61-31.64m - alteration around fracture; mineralization - some areas have <1% disseminated chalcopyrite, pyrrhotite; others have 3-5% large composite blebs of chalcopyrite, pyrrhotite; 26.85-27.20m - 3-5% coarse chalcopyrite/pyrrhotite blebs; 28.00-28.15m - 3-5% coarse chalcopyrite/pyrrhotite blebs; 28.60-28.90m - 1-4% blebs chalcopyrite, pyrrhotite, bornite; 29.26-30.95m - 1-2% small blebs and disseminations chalcopyrite, pyrrhotite; 30.95-32.03m - <1% very finely disseminated chalcopyrite and pyrrhotite; contact at 32.03m relatively sharp at 33 deg. to CA							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
32.03	40.80	GABBRO TO MAGNETITE GABBRO - coarse to very coarse-grained, locally pegmatitic, massive rock; similar to 1.61-18.26m except that it is much coarser-grained and there is usually no more than trace very finely disseminated chalcopyrite and pyrrhotite; magnetite content is highly variable ranging from 8 to locally 25% and ranges in grain size from very fine to medium-grained subhedral to euhedral crystal form							
40.80	54.08	GABBRO 39.07 - 39.15 - 1-2% coarse blebs chalcopyrite; few fractures - initially fine-grained, dense and massive with 40-45% greenish plagioclase; 5-10% finely disseminated magnetite and 45-55% dark green to black clinopyroxene; upper contact is gradational over 5-10cm centered around 40-80m; occasional fractures filled with pinkish carbonate (<1-10mm thick) at highly variable orientations, some are quite irregular; some are associated with hairline shears (?); the most constant orientation (30%) is about 25 deg. to CA; trace very, very finely disseminated sulphides; with depth the grain size gradually increases to medium-grained near the bottom of the unit; lower contact is gradational over 3-5cm; quite diffuse 49.50 - 50.15 - slightly sheared, fractured and moderately brecciated alteration zone consisting of carbonitic, chloritic and potassic alteration; fractures are mainly oriented at between 45 and 62 deg. to CA; zone is green in centre and pinkish to outside at edges; there is a slight decrease in plagioclase content near lower contact							
54.08	64.23	MAGNETITE MELAGABBRO TO GABBRO (Mineralized) - similar to rocks observed between 1.61 - 18.26m except that range in grain size is fine to coarse-grained and there is a decrease in the magnetite percentage and an increase in the plagioclase percentage with depth; rock is also hornblende oligocrystic in first 5 or 6m of unit; a few fractures observed at about 22 deg. to Ca; both upper and lower contacts are gradational; as plagioclase increases so does potassic alteration; most prominent alteration occurs between 53.23 and 64.23m; rock is gabbroic from near 60m onwards; mineralization - increases with depth; 54.08m to about 58.00m - 1-3% disseminated and blebby chalcopyrite, pyrrhotite, bornite; some zones such as 56.70m contain 3% bornite 58.00 - 64.23 - 2-8% disseminated, coarse blebby and stringer chalcopyrite, pyrrhotite, bornite 61.70 - 61.74 - massive pod of chalcopyrite, pyrrhotite, ilmenite; some blebs are 2-3cm in diameter and almost not textured; lower contact gradational over 3-4cm							
64.23	64.84	MIXED ZONE (Mineralized) - hybridized, potassically altered rock; a combination of gabbro assimilated by the syenite; 40% k-spar, 10% plagioclase, 10% magnetite (or ilmenite), 40% clinopyroxene and minor secondary amphiboles; mineralization - 5-20% chalcopyrite, pyrrhotite in disseminations, coarse blebs, small pods and narrow stringers 64.23 - 64.37 - mostly small pods and large blebs of chalcopyrite							
64.84	65.25	MUD SEAM							
65.25	80.16	ALKALI-FELDSPAR QUARTZ SYENITE - fine to medium-grained, massive, locally well-fractured rock containing trace to 10% quartz; 20-25% clinopyroxene and 65-75% alkali-feldspar; trace pyrite and chalcopyrite occasionally; amphibole and chloritic alteration along many fractures (finitization); thin carbonate stringers common 73.52 - 73.80 - broken ground							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		74.08 - 74.78 - broken ground							
		79.63 - 79.73 - broken ground							
80.16	80.16	END OF HOLE							

Hole No.	587.4	Northing	Grid Orient	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	November 28, 1987	Logged by	A.D. MacTavish
Property	Geordie Lake: Joa	Easting	Grid Azim.	50.0	-	38		116.0	-	0		Finished	November 29, 1987	Checked by	
Section		Elevation	Length (M)				116.00					Drill Co.	Falcon Drilling	Core	
Claim No.		Survey N.	Dip-Collar				-45.00					Drill No.		Comments:	Mineralized Gabbro/
Target		Survey E.	Comp Bearing				90.00					Drill For.		Syenite Contact	

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
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**SUMMARY**

0.00	1.71	CASING							
1.71	14.20	HORNBLLENDE MELAGABBRO							
14.20	17.44	ALTERED GABBRO TO HORNBLLENDE GABBRO							
17.44	19.50	HORNBLLENDE MELAGABBRO							
19.50	45.60	HORNBLLENDE GABBRO TO GABBRO							
45.60	48.60	MELAGABBRO TO MAGNETITE MELAGABBRO (Slightly Mineralized)							
48.60	55.45	MAGNETITE MELAGABBRO TO ALTERED GABBRO (Mineralized)							
55.45	65.38	ALTERED GABBRO TO MAGNETITE GABBRO							
65.38	67.20	MAGNETITE MELAGABBRO							
67.20	75.67	INTERLAYERED MAGNETITE MELAGABBRO AND ALTERED GABBRO (Mineralized)							
75.67	77.64	GABBRO							
77.64	94.14	GABBRO							
94.14	102.86	MAGNETITE MELAGABBRO (Mineralized)							
102.86	116.00	ALKALI FELDSPAR QUARTZ SYENITE							
116.00	116.00	END OF HOLE							



FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
0.00	1.71	CASING							
1.71	14.20	HORNLENDE MELAGABBRO							
		- fine to coarse-grained, dark green, subophitic-textured, massive rock with about 30-40% hornblende, 25-30% greenish plagioclase, 5 to locally 10% finely disseminated magnetite, 20-40% black, dull lusted clinopyroxene (augite?); trace very finely disseminated chalcopyrite (pyrrhotite); hornblende usually is slightly altered to a lighter green actinolite; after 7m the rocks become slightly potassically altered; 3-5% of rock; alteration increases gradually with depth; near base of unit plagioclase content increases as well							
	9.20 - 9.45	- ground, broken and sheared core; shear zone?; no preferred orientation; very chloritic							
	9.83 - 10.36	- ground, broken, fractured and sheared core; some shears at 5 deg. to CA; others subparallel - very chloritic - shear zone							
	10.36 - 14.20	- faint regular bands or layers; characterized by a slightly darker 1-3cm band at 60 deg. to CA; bands are approximately 10-15cm apart							
14.20	17.44	ALTERED GABBRO TO HORNLENDE GABBRO							
		- 20-40% potassic alteration of plagioclase grains - relatively uniformly spread throughout unit rather than in irregular patches; decreases at either end of unit; amphibole content varies from <10% to locally 20%; 5-10% magnetite - 35-45% partially altered plagioclase, 35-60% clinopyroxene; trace very finely to finely disseminated chalcopyrite (pyrrhotite); banding similar to that observed from 10.36 - 14.20m observed throughout unit; both upper and lower contacts are gradational							
17.44	19.50	HORNLENDE MELAGABBRO							
		- very similar to 1.71 - 14.20m; grades unperceptably into a hornblende gabbro to gabbro at about 19.50m; contact over 20-30cm where plagioclase increases and hornblende decreases slightly							
19.50	45.60	HORNLENDE GABBRO TO GABBRO							
		- medium to locally coarse-grained, subophitic textured, massive rock composed of 35-40% greenish plagioclase locally potassically altered (rimmed), 5 to locally 10% finely disseminated magnetite; amphibole content varies from <5% to about 10% locally; pyroxenes, which are slightly altered to actinolite, locally make up 40-55% of rock; trace to 0.5% very finely disseminated chalcopyrite (pyrrhotite); are large number of very thin irregular amphibole and chlorite-filled fractures scattered throughout this unit; no preferred orientation observed; potassic alteration is quite variable ranging from nil to affecting 40% of the rock locally (usually near a fracture); plagioclase content and accompanying potassic alteration increase slightly with depth to about 41.50m then start to decrease again; fractures are uncommon, however where they occur there is no discernible preferred orientation; some fractures contain narrow (1.4mm thick carbonate veinlets; thicker carbonate stringers exhibit a narrow alteration halo up to 2cm in thickness; faint, slightly darker bands are spaced relatively evenly throughout this unit and are similar to those observed from 10.36 - 14.20m; spacing is locally much closer together; 2-3cm apart; subophitic texture becomes better developed with depth until about 41.50m then starts to fade with the drop in plagioclase content; alteration of hornblende (where present) and pyroxenes to actinolite increases slightly with depth after 41.50m; rock eventually grades into a melagabbro; lower contact is gradational over about 10-20cm							
45.60	48.60	MELAGABBRO TO MAGNETITE MELAGABBRO (Slightly Mineralized)							
		- similar to 1.71 - 14.20m except there is much less hornblende (<5%) and the magnetite content ranges from about 5% to as much as 20% locally; usually							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		finely disseminated to disseminated and irregular in occurrence although the magnetite content does tend to increase downhole; locally minor patches of potassic alteration occur							
47.17	47.35	3-5cm thick, medium to coarse-grained syenite vein; mineralization - majority of unit hosts trace to <1% very finely disseminated chalcopyrite (pyrrhotite)	2169	45.60	46.60	1.00			
			2170	46.60	47.60	1.00			
47.85	48.60	a sudden increase in sulphide content to 1-3% disseminated to blebby sulphides	2171	47.60	48.60	1.00			
48.60	55.45	MAGNETITE MELAGABBRO TO ALTERED GABBRO (Mineralized) - the oikocrystic magnetite melagabbro is almost identical to that observed between 45.60 - 48.60m; within the melagabbro are a large number of irregular potassically altered gabbroic patches or zones which range from medium to very coarse-grained; these zones tend to increase in number with depth until the melagabbro disappears at about 55.45m; fractures occur occasionally with no apparent preferred orientation; mineralization - quite variable from about 1% very finely disseminated chalcopyrite (pyrrhotite) to 2-4% blebs to coarse blebs of chalcopyrite and pyrrhotite with some bornite; slightly concentrated patches many times are associated with or within altered gabbroic patches	2172	48.60	49.60	1.00			
			2173	49.60	50.60	1.00			
			2174	50.60	51.60	1.00			
			2175	51.60	52.60	1.00			
			2176	52.60	53.60	1.00			
			2177	53.60	54.60	1.00			
			2178	54.60	55.45	0.85			
55.45	65.38	ALTERED GABBRO TO MAGNETITE GABBRO - medium to very coarse-grained, massive, greenish-black to pinkish in colour with a large number of irregular, variably-sized coarse to very coarse-grained patches of potassic alteration; within these patches k-spar rims most of the plagioclase grains and a few have been totally replaced; unaltered portions composed of subophitic textured plagioclase (35-45%) and pyroxene (40-45%), with 10-25% disseminated magnetite; only a few fractures observed at about 21 deg. to CA; upper and lower contacts gradational over 3-5cm; mineralization - initially there is 2-4% disseminated to coarse blebby chalcopyrite and pyrrhotite (born) but this drops very quickly to trace to 1% finely disseminated chalcopyrite (pyrrhotite) after 56.75m	2179	55.45	56.45	1.00			
			2180	56.45	57.45	1.00			
			2181	57.45	58.45	1.00			
65.38	67.20	MAGNETITE MELAGABBRO - fine to medium-grained, oikocrystic, massive, dark grey in colour with occasional coarse-grained feldspathic zones which are slightly to moderately potassically altered; slight subophitic texture; composed of 20-35% greenish plagioclase, 15-25% disseminated magnetite; and 45-65% slightly altered blackish clinopyroxene (augite); trace very finely disseminated chalcopyrite; contact at 67.20m irregular but relatively sharp; upper contact is diffuse	2182	65.38	66.38	1.00			
			2183	66.38	67.20	0.82			
67.20	75.67	INTERLAYERED MAGNETITE MELAGABBRO AND ALTERED GABBRO (Mineralized) - this unit is a highly variable mixture of coarse to very coarse-grained							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		massive magnetite melagabbro composed of 10-30% greenish plagioclase 10-30% coarsely disseminated magnetite and 40-80% dark greenish-black to black clinopyroxene, and a coarse-grained to locally pegmatitic potassically altered gabbro with 45-60% greenish plagioclase rimmed by pink k-spar, <5% magnetite and 35-50% clinopyroxene; the melagabbro is usually oikocrystic	2184	67.20	68.20	1.00			
			2185	68.20	69.20	1.00			
			2186	69.20	70.20	1.00			
	70.33 - 70.39	- broken and fractured zone							
	70.55 - 70.66	- broken and fractured zone; portions of this unit are slightly to moderately fractured at between 30 and 62 deg. to CA; mineralization - unit is well mineralized initially but gradually drops off until only trace finely disseminated chalcopyrite is present							
	67.20 - 70.70	- 3-15% disseminated to large composite blebs of chalcopyrite, pyrrhotite	2187	70.20	70.70	0.50			
	70.20 - 70.50	- 15% large composite chalcopyrite blebs							
	70.70 - 75.67	- trace to <1% finely disseminated chalcopyrite (pyrrhotite)	2188	70.70	71.70	1.00			
			2189	71.70	72.70	1.00			
75.67	77.64	GABBRO - medium to coarse-grained, massive, subophitic textured, greyish to dark grey, occasionally potassically altered rock, composed of 5-10% disseminated magnetite; 40-45% plagioclase, 45-55% clinopyroxene; trace to <1% finely disseminated chalcopyrite (pyrrhotite); numerous calcite-filled fractures - veinlets range between <1mm to 5mm in diameter; orientations are variable but many range between 42 and 53 deg. to CA; both upper and lower contacts are gradational over 2-3cm							
77.64	94.14	GABBRO - fine-grained, massive, greyish gabbro; very similar to 75.67-77.64m except that it is finer-grained; 90.57-94.14m becomes slightly coarser-grained to about medium-grained overall and begins to become slightly more mafic; less plagioclase; more pyroxene; gradually begins to grade into a melagabbro; lower contact gradational over 2-3cm with underlying melagabbro; trace very finely disseminated chalcopyrite (minor pyrrhotite); also a slight increase in alteration of pyroxenes to actinolite							
94.14	102.86	MAGNETITE MELAGABBRO (Mineralized) - similar to 65.38 - 67.20m; fine to coarse-grained; occasional very coarse-grained to pegmatitic feldspathic patch; some amphibole due to alteration of pyroxenes; plagioclase increases slightly from 101.40m to contact; magnetite ranges from 10% to some localized zones of 30-35% coarse-grained magnetite; mineralization - 97.06-102.86m - 2-10% disseminated, coarse composite blebs, irregular net-textured patches and a few narrow stringers; very difficult to nail down percentages due to sporadic nature of mineralization - chalcopyrite, pyrrhotite (born); 101.21-101.62m - 5-8% blebs of bornite; contact at 102.86m is sharp at about 37 deg. to CA	2190	94.14	95.14	1.00			
			2191	95.14	96.14	1.00			
			2192	96.14	97.06	0.92			
			2193	97.06	98.06	1.00			
			2194	98.06	99.06	1.00			
			2195	99.06	100.06	1.00			
			2196	100.06	101.06	1.00			
			2197	101.06	102.06	1.00			
			2198	102.06	102.86	0.80			

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
102.86	116.00	ALKALI FELDSPAR QUARTZ SYENITE - reddish to pinkish in colour, fine to medium-grained, massive, heavily fractured locally, and fenitized along most fractures - near contact contains 50-60% pyroxene - this drops off downhole to average about 20-30%; trace to 10% quartz; 30-70% k-spar; many conjugate fractures ranging from 12 to 16 deg. to CA; syenite is mineralized near contact with 1-5% disseminated to blebby chalcopryite and pyrite; this gradually drops off downhole until: 108.59 - 3cm thick chalcopryite, pyrrhotite vein; 109.12m - 2cm thick chalcopryite, pyrrhotite, magnetite vein; only trace chalcopryite, pyrrhotite, pyrite past this point	2199	102.86	103.86	1.00			
			2200	103.60	104.86	1.26			
			2201	104.86	105.86	1.00			
			2202	105.86	106.86	1.00			
			2203	106.86	107.86	1.00			
			2204	107.86	108.86	1.00			
			2205	108.86	109.86	1.00			
			2206	109.86	110.86	1.00			
			2207	110.86	111.86	1.00			
116.00	116.00	END OF HOLD							

Hole No.	687.6	Northing	Grid Orient	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	December 2, 1987	Logged by	A.D. MacTavish
Property	Geordie Lake - Joa	Easting	Grid Azim.	50.0	-	38						Finished	December 4, 1987	Checked by	
Section		Elevation	Length (M)	103.00								Drill Co.	Falcon Drilling	Core	BB
Claim No.		Survey N.	Dip-Collar	-45.00								Drill No.		Comments:	
Target		Survey E.	Comp Bearing	90.00								Drill For.			

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
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**SUMMARY**

0.00	1.00	CASING							
1.00	10.09	INTERLAYERED ALTERED VARI-TEXTURED GABBRO AND MELAGABBRO							
11.09	28.56	ALTERED VARI-TEXTURED GABBRO							
28.56	35.36	GABBRO TO MELAGABBRO (Mineralized)							
35.36	43.58	ALTERED GABBRO							
43.58	44.40	MELAGABBRO (Mineralized)							
44.40	54.40	ALTERED VARI-TEXTURED GABBRO							
54.40	58.66	GABBRO TO MAGNETITE MELAGABBRO							
58.66	67.96	ALTERED VARI-TEXTURED GABBRO							
67.96	69.72	MELAGABBRO (Mineralized)							
69.72	79.91	ALTERED GABBRO TO MELAGABBRO							
79.91	89.79	MELAGABBRO (Mineralized)							
89.79	90.31	HYBRIDIZED ALKALI-FELDSPAR QUARTZ SYENITE							
90.31	90.98	ALTERED MELAGABBRO (Mineralized)							
90.98	103.85	ALKALI-FELDSPAR QUARTZ SYENITE							
103.85	103.85	END OF HOLE							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
0.00	1.00	CASING							
1.00	10.09	INTERLAYERED ALTERED VARI-TEXTURED GABBRO AND MELAGABBRO - an intimate, gradational alternation between grey to pinkish, medium to very coarse-grained massive, potassically-altered (patchy) gabbro and a slightly to moderately altered dark grey, medium to very coarse-grained melagabbro; all contacts are gradational over 10-15cm; the altered vari-textured gabbro is composed of 35 - 45 deg. usually k-spar-rimmed plagioclase crystals, 5-10% disseminated magnetite, and 45 - 60% black clinopyroxene (augite?); the augite is locally altered to greenish actinolite; the melagabbro is composed of 25 - 35% sometimes k-spar-rimmed plagioclase; 5 - 10% disseminated magnetite and 55 - 70% occasionally altered clinopyroxene; potassic alteration is much less intense within the melagabbro; the melagabbro is also locally slightly to moderately well mineralized; melagabbro units occur at 4.35-5.15m; 5.39-6.06m; 7.75-9.00m; 9.57-10.09m; mineralization - best mineralization occurs within or near the melagabbro units as disseminations and blebs and narrow stringers along thin shears; 1.00 - 4.35m - trace very finely disseminated chalcopyrite (minor pyrrhotite); 4.35-5.39m - <1 to locally 2-3% disseminated to blebby chalcopyrite, some bornite; 5.39-6.06m - 2-4% disseminated to blebby chalcopyrite, bornite and some hair thin chalcopyrite stringers; 6.06-7.75m - trace to <1% disseminated chalcopyrite (pyrrhotite); 7.75-9.00m - 1-5% disseminated, blebby and stringer chalcopyrite, bornite; narrow 1-3mm thick chalcopyrite, bornite stringer, irregular but roughly subparallel to CA for most of this unit; 9.00-10.09m - trace to 1% finely disseminated to small blebs chalcopyrite (minor pyrrhotite)							
			2256	3.35	4.35	1.00			
			2257	4.35	5.39	1.04			
			2258	5.39	6.06	0.67			
			2259	6.06	7.00	0.94			
			2260	7.00	7.75	0.75			
			2261	7.75	8.40	0.65			
			2262	8.40	9.00	0.60			
			2263	9.00	10.09	1.09			
			2264	10.09	11.09	1.00			
11.09	28.56	ALTERED VARI-TEXTURED GABBRO - similar to altered vari-textured gabbro described in the unit located at 1.00 -10.09m except that there are no distinctly separate melagabbro units enclosed within it; alteration is quite variable throughout unit - ranging from <5% to greater than 50% potassic alteration of plagioclase feldspars - major portion >30% alteration; fracturing occurs occasionally with one set ranging between 3 and 16 deg. to CA and another set at between 32 and 38 deg. to CA; other fractures occur but are irregular in nature; fractures at 3 to 16 deg. to CA tend to contain hair thin carbonate stringers and are quite chloritic, possibly indicating some shearing; sulphides range from trace to <1% finely disseminated chalcopyrite and some pyrrhotite; plagioclase content decreases gradually with depth as does potassic alteration; upper contact relatively gradational - over 5-10cm; lower contact gradational over 2-3cm							
			2265	26.56	27.56	1.00			
			2266	27.56	28.56	1.00			
28.56	35.36	GABBRO TO MELAGABBRO (Mineralized) - dark greenish-grey to dark grey, medium to locally very coarse-grained, massive, unaltered to slightly altered rock composed of 20 - 40% greenish to greyish plagioclase, 5-10% disseminated magnetite and 50-75% slightly altered							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		clinopyroxene - pyroxenes are skeletal, dendritic and radial in crystal form; plagioclase content varies considerably over short distances; mineralization - varies considerably throughout unit; 28.56-29.39m - trace to <1% very finely disseminated chalcopyrite; 29.39-30.86m - 1-3% disseminated to blebby chalcopyrite with some bornite; 30.86-33.62m - up to 1% disseminated to locally blebby chalcopyrite; 33.62-34.38m - 1-4% bornite and chalcopyrite - finely disseminated to blebby; 34.38-35.36m - <1% to locally 2% chalcopyrite - disseminated to small blebs	2267	28.56	29.39	0.83			
			2268	29.39	30.10	0.71			
			2269	30.10	30.86	0.76			
			2270	30.86	31.86	1.00			
			2271	31.86	32.86	1.00			
			2272	32.86	33.62	0.76			
			2273	33.62	34.38	0.76			
			2274	34.38	35.36	0.98			
35.36	43.58	ALTERED GABBRO - coarse to very coarse-grained, locally pegmatitic, massive, pinkish-grey in colour; plagioclase is rimmed by k-spar due to potassic alteration - 20-40% of plagioclase altered in this way; composed of 40-55% greyish to greenish rimmed plagioclase, 5-10% disseminated magnetite, 45-55% black clinopyroxene; few fractures throughout most of unit, however at 42.73-43.29m an irregular vein, narrow shear, or shear fracture cuts through the core subparallel to CA - slickensides are readily observable within the chloritic sides of the feature; 39.46-40.12m - a marginally melagabbro unit which is gradational with surrounding gabbro - 20-30% alteration of pyroxene to actinolite; mineralization - most of unit has trace to <1% very finely disseminated chalcopyrite (pyrrhotite); a few areas had some enrichment; 35.36-35.75m - approx. 1% blebby chalcopyrite; 39.46-40.12m - <1 to 1% disseminated chalcopyrite with a couple of hair thin chalcopyrite stringers; 40.20-40.50m - slightly sheared and chloritic gabbro with 1-2% hair thin chalcopyrite stringers	2275	35.36	36.36	1.00			
			2276	36.36	37.36	1.00			
			2277	37.36	38.36	1.00			
			2278	38.36	39.36	1.00			
			2279	39.36	40.20	0.84			
			2280	40.20	40.70	0.50			
			2281	40.70	41.70	1.00			
			2282	41.70	42.70	1.00			
			2283	42.70	43.58	0.88			
43.58	44.40	MELAGABBRO (Mineralized) - similar to 28.56-35.36m - rock is variable in plagioclase content; gradational contacts on either end of unit; mineralization - <1 to locally 3% disseminated to blebby, very locally hairline stringers of chalcopyrite (bornite)	2284	43.58	44.40	0.82			
44.40	54.40	ALTERED VARI-TEXTURED GABBRO - similar to 11.09-28.56m; occasionally fractured, sometimes at about 90 deg. to CA and other times at between 15 - 30 deg. to CA; quite chloritic along some irregular fractures near 53.00m; trace very finely disseminated chalcopyrite (pyrrhotite)							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
			2285	44.40	45.40	1.00			
			2286	45.40	46.40	1.00			
			2287	53.40	54.40	1.00			
54.40	58.66	GABBRO TO MAGNETITE MELAGABBRO - similar to 28.56-35.36m; upper contact relatively diffuse and irregular; lower contact quite gradational - grades into an altered unit; plagioclase content and amount of potassic alteration increase with depth; mineralization - sporadic mineralization throughout unit - the only significant mineralization observed at: 54.50-54.91m - 1-4% disseminated to blebby chalcopyrite and bornite - most are composite grains; rest of unit ranges from trace to 1% chalcopyrite (bornite)	2288	54.40	55.40	1.00			
			2289	55.40	56.40	1.00			
			2290	56.40	57.40	1.00			
			2291	57.40	58.40	1.00			
58.66	67.96	ALTERED VARI-TEXTURED GABBRO - similar to 44.40-54.40m; <1% finely disseminated sulphides until near lower contact; 67.60-67.96m - 1-3% disseminated to blebby chalcopyrite	2292	58.40	59.40	1.00			
			2293	65.96	66.96	1.00			
			2294	66.96	67.96	1.00			
67.96	69.72	MELAGABBRO (Mineralized) - locally becomes a magnetite melagabbro with 10-20% disseminated magnetite; similar to 43.58-44.40m - fewer altered plagioclase-rich patches; mineralization - 1-3% disseminated to blebby composite grains of bornite and chalcopyrite; upper and lower contacts are both diffuse	2295	67.96	68.96	1.00			
			2296	68.96	69.72	0.76			
69.72	79.91	ALTERED GABBRO TO MELAGABBRO - similar to 28.56-35.36m; plagioclase content and potassic alteration decrease with depth; rock grades in and out of gabbro and melagabbro with very gradational contacts - locally a subophitic texture is visible; generally trace to <1% disseminated chalcopyrite, however there are a few minor concentrations near 1% chalcopyrite, specifically near melagabbro zones; sulphides increase after 77.70m; mineralization - 77.70-79.91m - <1 to locally 2% chalcopyrite, bornite as disseminations, blebs and locally along fractures as thin discontinuous smears	2297	69.72	70.72	1.00			
			2298	70.72	71.72	1.00			
			2299	71.72	72.72	1.00			
			2300	72.72	73.72	1.00			
			2301	73.72	74.72	1.00			
			2302	74.72	75.72	1.00			
			2303	75.72	76.70	0.98			
			2304	76.70	77.70	1.00			
			2305	77.70	78.70	1.00			
			2306	78.70	79.30	0.60			
			2307	79.30	79.91	0.61			
79.91	89.79	MELAGABBRO (Mineralized) - similar to 67.96-69.72m - more mineralization; localized feldspathic patches that exhibit potassic alteration; clinopyroxenes exhibit good skeletal, dendritic and radial textures; mineralization - variable, but usually over 2% -							



FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		always a finely disseminated background of 1-2% chalcopyrite and bornite; 2-4%, locally 8% bornite and chalcopyrite in small to large composite blebs; lower contact is gradational over 4-5cm; altered plagioclase content increases rapidly near contact	2308	79.91	80.91	1.00			
			2309	80.91	81.91	1.00			
			2310	81.91	82.91	1.00			
			2311	82.91	83.91	1.00			
			2312	83.91	84.91	1.00			
			2313	84.91	85.91	1.00			
			2314	85.91	86.91	1.00			
			2315	86.91	87.91	1.00			
			2316	87.91	88.91	1.00			
			2317	88.91	89.79	0.88			
89.79	90.31	HYBRIDIZED ALKALI-FELDSPAR QUARTZ SYENITE - 40-50% pink to orange k-spar and 50% black clinopyroxene - massive fine to locally medium-grained; large number of irregular amphibole and chlorite-bearing fractures - fenitization - 0-10% quartz; locally mineralized along fractures; 1-2% localized chalcopyrite							
			2318	89.79	90.31	0.52			
90.31	90.98	ALTERED MELAGABBRO (Mineralized) - similar to 79.91-89.79m except that plagioclase has locally been altered by potassic alteration; 3-6% disseminated to blebby, locally thin stringers of chalcopyrite; upper and lower contacts irregular but sharp; possible xenolith?							
			2319	90.31	90.98	0.67			
90.98	103.85	ALKALI-FELDSPAR QUARTZ SYENITE - fine to medium-grained, pink in colour, massive to locally fractured; numerous irregular fenitized fractures (1-3mm in thickness) exhibiting amphibole and chlorite; conjugate fractures common at 30-40 deg. to CA; composed of 60-80% k-spar, 0-5% magnetite, 15-40% clinopyroxene and trace chalcopyrite and pyrrhotite							
			2320	90.98	91.98	1.00			
			2321	91.98	92.98	1.00			
			2322	92.98	95.98	3.00			
103.85	103.85	END OF HOLE							

## ST. JOE CANADA

## DIAMOND DRILL HOLE RECORD

Page #1 of

Hole No.	687.8	Northing	Grid Orient	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	06/12/87	Logged by	J. Paul
Property	Geordie Lake - Joa	Easting	Grid Azim.	47.8	-	38						Finished	07/12/87	Checked by	
Section		Elevation	Length (M)	47.80								Drill Co.	Falcon Drilling	Core	BG
Claim No.	864005	Survey N.	L22+00S	Dip-Collar	-45.00							Drill No.		Comments:	Mineralized Gabbro/ Syenite Contact
Target		Survey E.	3+30W	Comp Bearing	90.00							Drill For.			

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
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**SUMMARY**

0.00	3.82	CASING							
3.82	10.21	MELAGABBRO							
10.21	20.10	GABBRO							
20.10	28.64	MELAGABBRO (Mineralized)							
28.64	30.61	GABBRO (Mineralized)							
30.61	37.56	ALKALI-FELDSPAR QUARTZ SYENITE AND ALTERED GABBRO							
37.56	47.80	ALKALI FELDSPAR QUARTZ SYENITE							
47.80	47.80	END OF HOLE							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
0.00	3.82	CASING							
3.82	10.21	MELAGABERO							
		-coarse-grained, dark grey in colour, massive, some fractures; composed of 30-35% greyish plagioclase laths, 3-5% fine-grained magnetite, 0-5% black amphiboles, 50-67% clinopyroxene, often altered to actinolite; very minor patches of potassic alteration of plagioclase-tends to occur in slightly coarser areas -mineralization: ranges from trace to <=0.5%- predominantly disseminated chalcopyrite; up to 3% along some fractures - cp and po -grain size decreases towards end of interval into medium-grained.							
10.21	20.10	BARRO							
		-fine to locally medium-grained, grey in colour, massive with some irregularly oriented fractures; composed of 35-45% plagioclase, occasionally altered to potassium feldspar, 0-5% finely disseminated magnetite, 50-65% black pyroxene. -fractures show no preferred orientation- often filled with with chlorite and have more potassic alteration -17.30- fracture at 48 degrees to core axis, filled with up to 10% cpy -18.58-18.80 - up to 0.5% disseminated cpy surrounded by green alteration haloes -19.47-19.69 - extremely highly altered - chlorite, potassically altered and calcareous along fractures -19.69-20.10 - grades into medium to coarse-grained							
20.10	28.64	MELAGABERO (Mineralized)							
		-medium to coarse-grained, dark grey in colour, massive, composed of 15-20% plagioclase, 2-3% finely disseminated magnetite, 77-83% clinopyroxene, commonly altered to green actinolite; potassic alteration absent except along some fractures; fractures uncommon - no preferred orientation - calcareous or chloritic -mineralization: -20.53-20.89- trace to 0.5% disseminated cpy -20.89-23.00 - nil to trace sulphides, disseminated bornite and cpy along one chlorite fracture (48 degrees to core axis) at 21.57 -25.90-26.60 - trace -0.5% disseminated cpy -26.60 -28.64 - 3-8% cpy - coarsely and finely disseminated, blebby and stringers	2367	21.89	22.90	1.01			
			2366	22.90	23.90	1.00			

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
			2369	23.90	24.90	1.00			
			2370	24.90	25.90	1.00			
			2371	25.90	26.60	0.70			
			2372	26.60	27.60	1.00			
			2373	27.60	28.64	1.04			
28.64	30.61	GABBRO (Mineralized) -medium-grained, greyish in colour, massive (few fractures), composed of 45-60% plagioclase laths, 40-55% pyroxenes; fractures randomly oriented and slightly to non-calcareous; some potassic alteration towards base of interval -mineralization: 28.64-30.61 - same as interval 26.60 to 28.64	2374	28.64	29.64	1.00			
			2375	29.64	30.61	0.97			
30.61	37.56	ALKALI-FELDSPAR QUARTZ SYENITE AND ALTERED GABBRO -core alternates between syenite and gabbroic and altered gabbroic rocks; syenite generally orangy in colour, fine to medium-grained, composed of 50-60% reddish - orange alkali feldspar, 35-45 mafics and 5-10% quartz -large number of fractures- prominent set at approx. 12 to 24 degrees to C.A. - fractures are commonly fenitized or calcareous - contacts between gabbroic and syenitic rock are gradational - gabbroic material is roughly 50% plagioclase or potassically altered plagioclase and 50% mafics (pyroxenes) - approximate intervals are: 30.61-32.71m - syenitic; 32.71-32.85m - gabbroic; 32.85-33.12m - syenitic; 33.12-34.04m - gabbroic; 34.04-34.58m - syenitic; 34.85-37.23m - gabbroic; 37.23-37.56m - very mafic syenite - extremely altered gabbro; 37.79-39.71m - only has 0.63m of core and lots of rubble from 38.24 - 39.54m - mineralization only occurs approximately 10cm into syenite - 30.61-30.71m - 0.5% chalcopyrite - also trace - 0.5% chalcopyrite - finely disseminated in gabbroic areas	2376	30.61	31.61	1.00			
			2377	31.61	32.71	1.10			
			2378	32.71	33.71	1.00			
			2379	33.71	34.71	1.00			
			2380	34.71	35.71	1.00			
			2381	35.71	36.71	1.00			
			2382	36.71	37.56	0.85			
37.56	47.80	ALKALI FELDSPAR QUARTZ SYENITE							

## ST. JOE CANADA

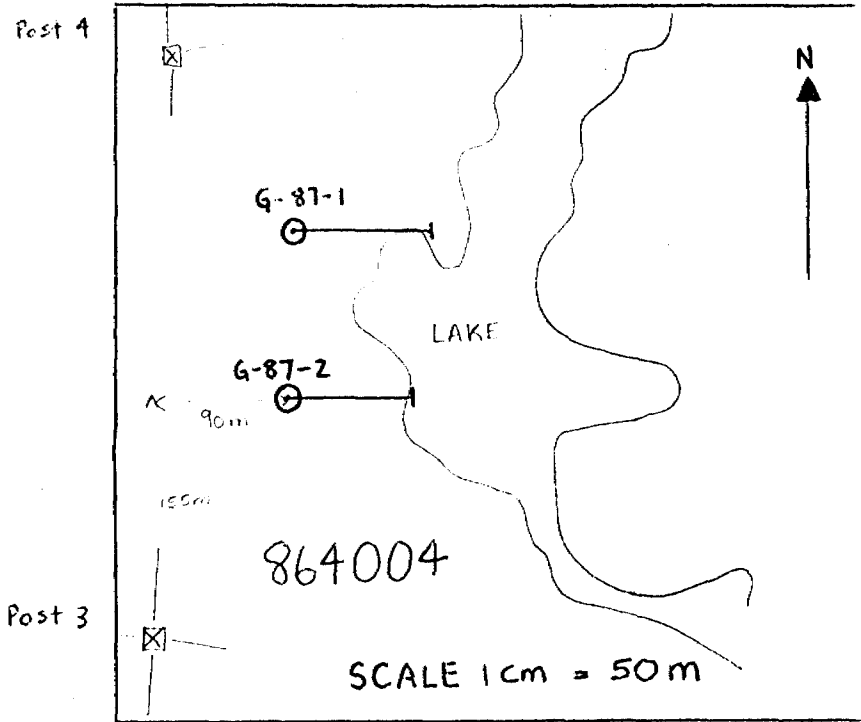
PROPERTY - Geordie Lake - Joa

HOLE - 887.8

PAGE # 4

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		- similar to interval 30.61-32.71m with locally very fine-grained patches - extremely fractured with prominent set at 15 - 20 deg. and secondary set at 50 - 65 deg.	2383	37.56	39.56	2.00			
			2384	39.56	40.56	1.00			
47.80	47.80	END OF HOLE							

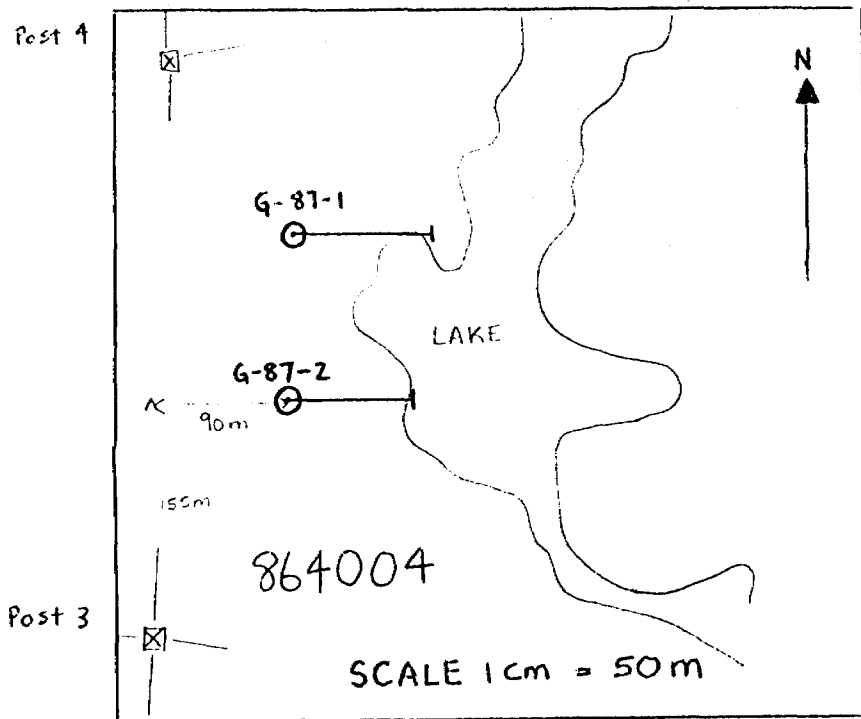
GEORDIE LAKE  
COLLAR LOCATION SKETCH



Hole #: G-87-1  
 Bearing: 090  
 Dip-Collar: -44  
 Latitude: 16+00S  
 Length: 125.0m

Hole #: G-87-2  
 Bearing: 090  
 Dip-Collar: -45  
 Latitude: 17+00S  
 Length: 118.0m

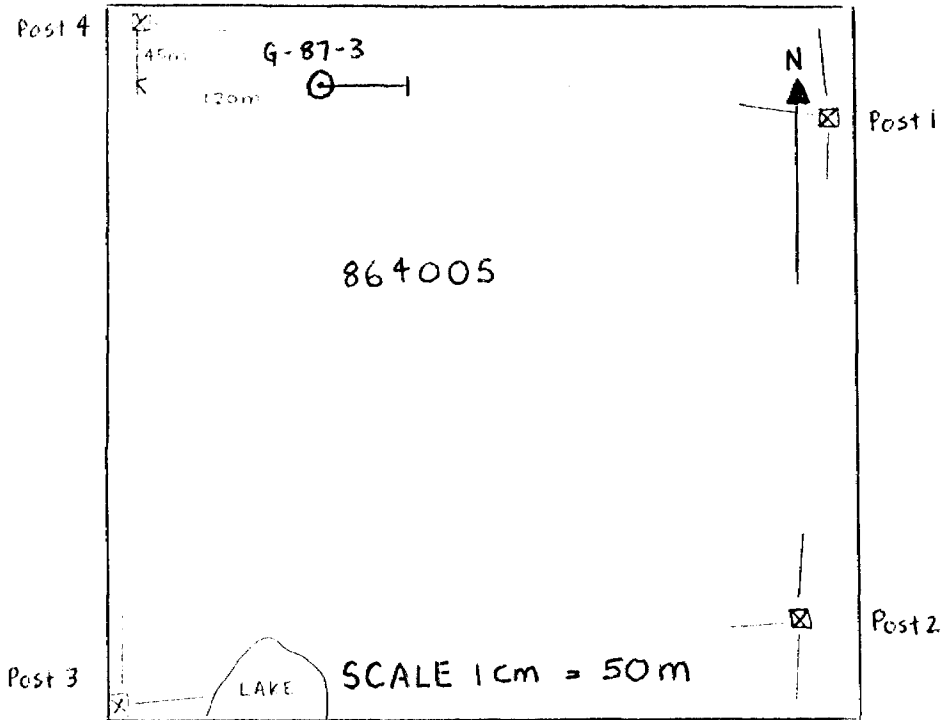
GEORDIE LAKE  
COLLAR LOCATION SKETCH



Hole #: G-87-1  
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 Dip-Collar: -44  
 Latitude: 16+00S  
 Length: 125.0m

Hole #: G-87-2  
 Bearing: 090  
 Dip-Collar: -45  
 Latitude: 17+00S  
 Length: 118.0m

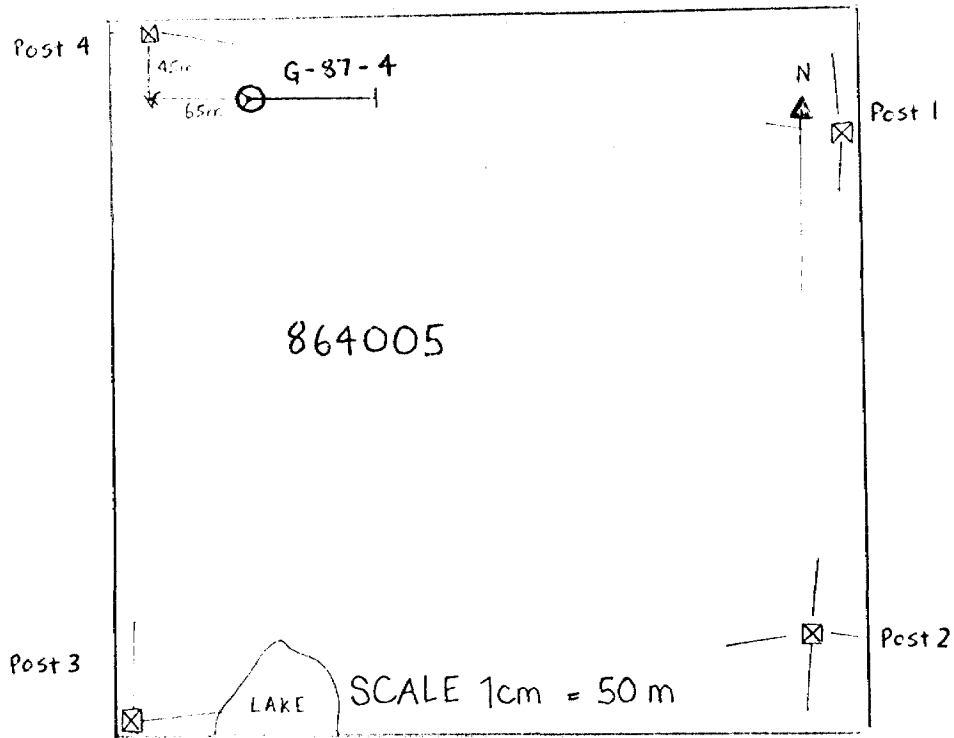
GEORDIE LAKE  
COLLAR LOCATION SKETCH



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Bearing: 090  
Dip-Collar: -45  
Length: 80.00m

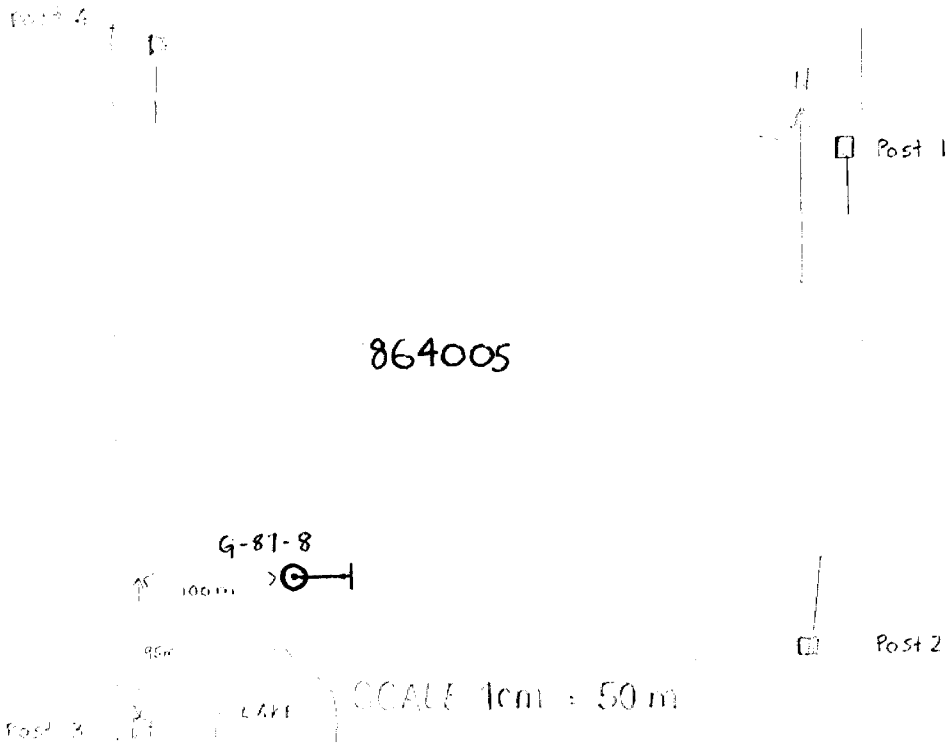


GEORDIE LAKE  
COLLAR LOCATION SKETCH



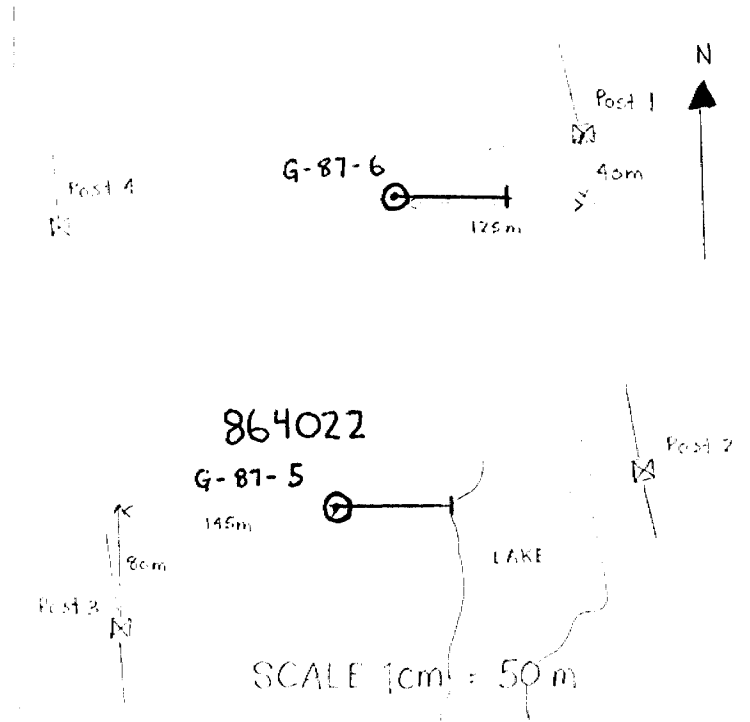
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Bearing: 090  
Dip-Collar: -45  
Length: 116.0m

GEORDIE LAKE  
COLLAR LOCATION SKETCH



Hole #: G-87-8  
Bearing: 090  
Dip-Collar: -45  
Length: 47.80m

GEORDIE LAKE  
COLLAR LOCATION SKETCH



Hole #: G-87-5  
Bearing: 090  
Dip-Collar: -45  
Length: 106.39m

Hole #: G-87-6  
Bearing: 090  
Dip-Collar: -45  
Length: 103.00m

Minin



42D16SW0015 53 SEELEY LAKE

900

Name and Address of Recorded Holder  
St. Joe Canada Inc.

1116-111 Richmond St. W. Toronto, Ontario M5H 2J4

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed <b>1934</b>	Mining Claim			Mining Claim			Mining Claim		
	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.
for Performance of the following work. (Check one only)  <input type="checkbox"/> Manual Work <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping <input checked="" type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey	TB	949174	20	TB	949185	20	TB	949193	20
		949175	20		949186	20		949194	20
		949176	20		949187	20		949195	20
		949177	20		949188	20		949196	20
		949178	20		949189	20		949197	20
		949182	20		949190	20		949198	20
		949183	20		949191	20		949199	20
		949184	20		949192	20		949200	20

All the work was performed on Mining Claim(s): TB864004, TB864005, TB864022 ( con't on Schedule)

Required Information eg: type of equipment, Names, Addresses, etc. (See Table Below)

Drilling Contractor: Falcon Drilling  
P.O. Box 578  
Prince George, B.C.  
V2L 4S8

Machine: JKS Super 300 Diamond Dr

Dates of Work: Nov. 22-29, 1987 (G87-1-G87-4)  
Dec. 2-4, 1987 (G87-6)  
Dec. 6-7, 1987 (G87-8)

RECEIVED  
THUNDER BAY  
MINING DIVISION  
JAN 11 10 AM '88  
ONTARIO GEOLOGICAL SURVEY  
ASSESSMENT FILES  
RESEARCH OFFICE  
RECEIVED  
JAN 26 1988

*Credits Available - 1934*  
*Credits Used - 1760*  
*Credit Balance (174)*

*Work Assignment:*  
TB864004 - 757 days - Balance - 3243  
TB864005 - 760 days - Balance - 3040  
TB864002 - 300 days - Balance - 3351

Date of Report: Jan. 14/88  
Recorded Holder or Agent (Signature): *Robin Jowett*

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying

Robin Jowett 883 Sunningdale Bend Mississauga, Ontario L5J 1G1

Date Certified: Jan 14/1988  
Certified by (Signature): *Robin Jowett*

Table of Information/Attachments Required by the Mining Recorder

Type of Work	Specific information per type	Other information (Common to 2 or more types)	Attachments
Manual Work	Nil	Names and addresses of men who performed manual work/operated equipment, together with dates and hours of employment.	Work Sketch: these are required to show the location and extent of work in relation to the nearest claim post.
Shaft Sinking, Drifting or other Lateral Work			
Compressed air, other power driven or mechanical equip.	Type of equipment	Names and addresses of owner or operator together with dates when drilling/stripping done.	
Power Stripping	Type of equipment and amount expended. Note: Proof of actual cost must be submitted within 30 days of recording.		
Diamond or other core drilling	Signed core log showing; footage, diameter of core, number and angles of holes.	Nil	Work Sketch (as above) in duplicate
Land Survey	Name and address of Ontario land surveyor.		Nil

Schedule "A"

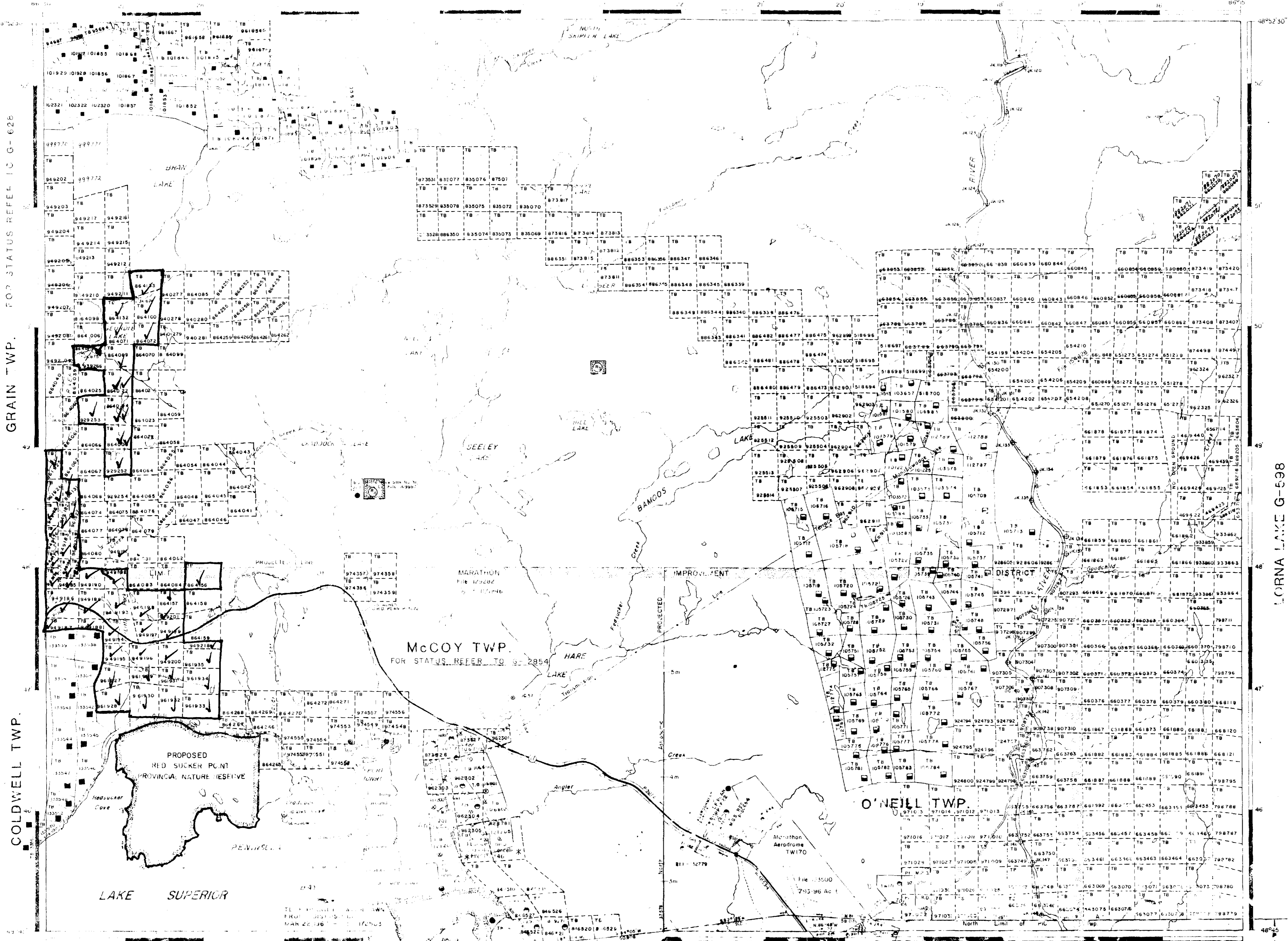
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	949218	20		961931	20
	961902	20		961932	20
	961903	20		961933	20
	961904	20		961934	20
	961905	20		961935	20
	961906	20		961936	20
	961907	20		961937	20
	961908	20		961938	20
	961909	20		961939	20
	961910	20		961940	20
	961911	20		961941	20
	961912	20		864156	20
	961913	20		864073	20
	961914	20		864004	40
	961915	20		864005	40
	961916	20		864022	40
	961917	20		864131	20
	961918	20		864133	40
	961922	20		864100	40
	961923	20		864072	40
	961924	20		864071	40
	961925	20		864069	40
	961926	20		929253	40
	961927	20		929252	40
	961928	20		864132	40
	961929	20			

24 - Pg. 1  
53 - Pg. 2  

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77 claims

MARTINET LAKE G-601



**REFERENCES**

AREA SHOWN THUS WITHDRAWN FROM STAKING PURSUANT TO PROVISIONS OF SECTION 32 OF THE MINING ACT, R.S.O. 1980, CHAPTER 258. DISPOSITION BY EXPLORATORY LICENCE OF OCCUPATION ONLY.

LAND UNDER WATER IN LAKE SUPERIOR IS WITHDRAWN FROM STAKING BY ORDER IN COUNCIL, DATED APRIL 30, 1912.

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**LEGEND**

MINING RIGHTS ONLY

LEASE SURFACE & MINING RIGHTS

LEASE SURFACE RIGHTS ONLY

LEASE MINING RIGHTS ONLY

LEASE SURFACE & MINING RIGHTS

LEASE SURFACE RIGHTS ONLY

LEASE MINING RIGHTS ONLY

ORDER OF OCCUPATION

RESERVATION

CANALS

SANITARY GRAVE

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**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	◒
LEASE MINING RIGHTS ONLY	◓
ORDER OF OCCUPATION	◔
RESERVATION	◕
CANALS	◖
SANITARY GRAVE	◗

NOTE: MINING RIGHTS IN PARCELS SHOWN WITH THIS SYMBOL ARE SUBJECT TO THE ORIGINAL PATENTS BY THE CROWN LANDS ACT, R.S.O. 1980, CHAPTER 258, SECTION 32.

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SCALE 1 INCH = 40 CHAINS

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**AREA**

**SEELEY LAKE**

M.N.R. ADMINISTRATIVE DISTRICT

**TERRACE BAY**

MINING DIVISION

**THUNDER BAY**

LAND TITLES / REGISTRY DIVISION

**THUNDER BAY**

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Ministry of Land Resources  
Ontario

Land Management Branch

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APRIL 9, 1982

FEBRUARY 1982

Number

**G-613**

RIGHTS  
File

GRAIN TWP. FOR STATUS REFER TO G-628

COLDWELL TWP.


MAR 22 1982

PIC TWP. FOR STATUS REFER TO G-630



MARTINET LAKE G-601








REFERENCES

AREA SHOWN THUS  IS WITHDRAWN FROM STAKING PURSUANT TO PROVISIONS OF SECTION 32 OF THE MINING ACT, R.S.C. 1980, CHAPTER 258.












LAND UNDER WATER IN LAKE SUPERIOR IS WITHDRAWN FROM STAKING BY ORDER IN COUNCIL, DATED APRIL 30, 1912.



**LEGEND**

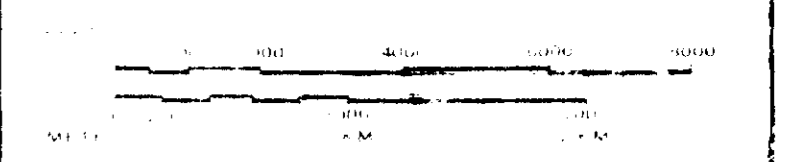
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RAILWAY RIGHTS OF WAY	
NON-PERMANENT STREAM	
FLOODING OR OTHER HAZARDOUS SUBDIVISION OR COMPOSITE PLAN RESERVATIONS	
ORIGINAL SURVEY LINE	
MAJOR OR MINOR MINES	
TRAVERSE MONUMENT	

**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	
LINE OF OCCUPATION	
ORDER IN COUNCIL	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO 1912 ARE NOT STAKED PURSUANT TO SECTION 32 OF THE MINING ACT, R.S.C. 1980, CHAPTER 258.

SCALE 1 INCH = 40 CHAINS



AREA

**SEELEY LAKE**

M.N.R. ADMINISTRATIVE DISTRICT

**TERRACE BAY**

MINING DIVISION

**THUNDER BAY**

LAND TITLES / REGISTRY DIVISION

**THUNDER BAY**

Ministry of Natural Resources  
Land Management Branch

Ontario

DATE: FEBRUARY 1982

Number: **G-613**

GHTS  
File

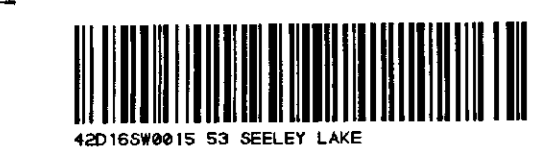
GRAIN TWP. FOR STATUS REFER TO G-628

COLDWELL TWP.

O'NEIL TWP. FOR STATUS REFER TO G-630

*J. A. ...*

LORNA LAKE G-598



FOXTRAP LAKE G-592

REFER

TOPOGRAPHY  
LAKES, RIVERS ETC.  
RESOURCES INVENTORY

**SURVEYS**  
SURVEY OF THE EAST BOUNDARIES OF  
TOWNSHIP 79 BY E. STEWART O.L.S. 1894  
FIELD NOTE BOOK No 2544  
SURVEY OF MERIDIAN LINE BEING THE EAST  
BOUNDARY OF TOWNSHIP 76 BY C.R. MORGAN  
O.L.S. 1956 FIELD NOTE BOOK No 2842.

**ROADS**  
HIGHWAY No 17 THROUGH CROWN LANDS  
FROM DEPARTMENT OF HIGHWAYS PLANS  
AS NOTED ON FACE OF THIS PLAN.

*M.D. Owen*

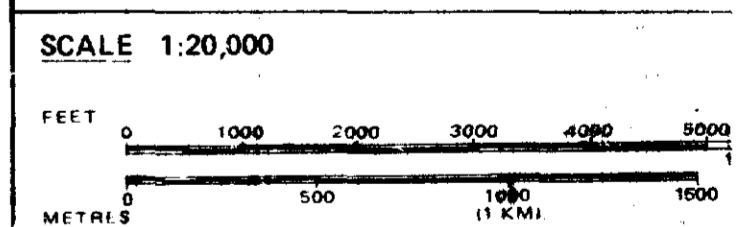
**LEGEND**

- 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 MUSKIESS
- MINES
- TRAVERSE MONUMENT

**DISPOSITION OF CROWN LANDS**

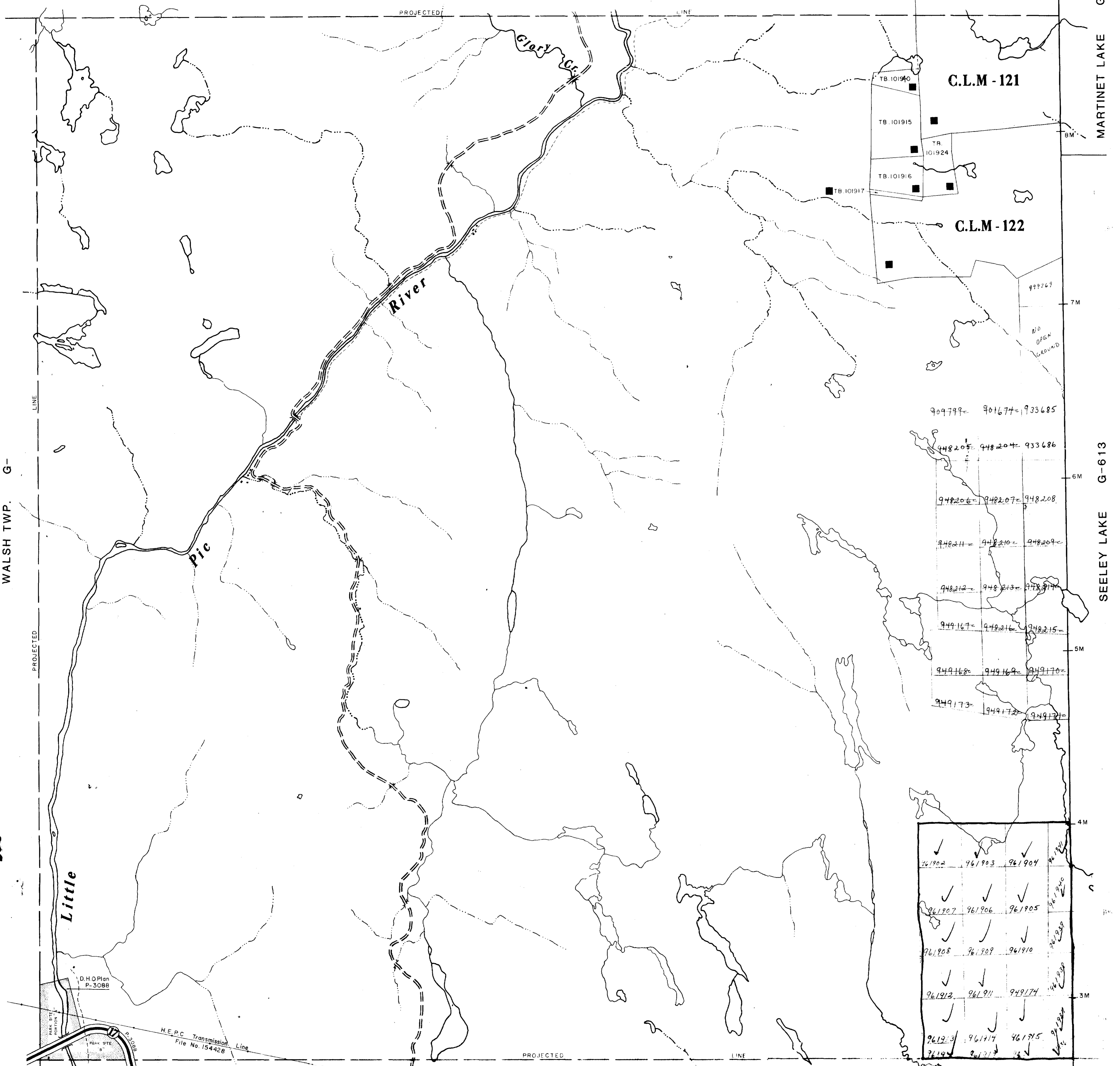
TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	◐
LEASE, SURFACE & MINING RIGHTS	◑
" SURFACE RIGHTS ONLY	◒
" MINING RIGHTS ONLY	◓
LICENCE OF OCCUPATION	◔
ORDER-IN-COUNCIL	OC
RESERVATION	⊙
CANCELLED	⊗
SAND & GRAVEL	⊘

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1



TOWNSHIP  
**GRAIN**  
M.N.R. ADMINISTRATIVE DISTRICT  
**TERRACE BAY**  
MINING DIVISION  
**THUNDER BAY**  
LAND TITLES / REGISTRY DIVISION  
**THUNDER BAY**

Ministry of Land Management  
Natural Resources Branch  
Ontr. **APR 14 1982**



WALSH TWP. G-

MARTINET LAKE G-601

SEELEY LAKE G-613

ASHBURTON HAY G-577

