

52N08NW0041 63.4511 CASUMMIT LAKE

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REPORT ON McINTYRE BIRCH LAKE PROPERTY RED LAKE MINING DIVISION, ONTARIO (NTS 52-N-8)

for

CARMAC RESOURCES LIMITED

OM 83-1- (-386

by

A.W. Dean, P.Eng.

April 30, 1984



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MCINTYRE BIRCH LAKE PROPERTY

SUMMARY

The McIntyre Birch Lake property, consisting of eight patented mining claims, is located 70 air miles northeast of Red Lake, Ontario.

The property lies within part of the Birch-Uchi Lakes belt containing metavolcanic-metasedimentary rocks which are Early Precambrian in age. Several gold occurences have been reported within the belt. The Argosy mine, located three miles northwest of the property, operated intermittently from 1934 to 1952 milling 250,903 tons with an average recovery grade of 0.334 oz Au per ton.

Rock types on the property generally strike east-west to north 550 west and consist mainly of mafic to intermediate metavolcanics with iron formation in places.

Following the discovery of gold on the property in 1928 several exploration programs were undertaken on the property without success. Gold occurs within a main shear zone some 300 feet wide associated with sections containing narrow quartz stringers and arsenopyrite mineralization.

In early April, 1984 drill holes 84-5 and 84-6 outlined a mineralized section with appreciable gold values over mineable widths. (Hole 84-5 intersected the section over an estimated true width of 11.8 feet assaying cut to 1 oz, 0.506 oz Au per ton.) These holes are located within the main shear zone in an overburden covered area that remains untested over a strike length of 1,000 feet.

It is recommended that a detailed geophysical survey and soil sampling program be undertaken on the property and a grid diamond drill program be undertaken in the new discovery area. Estimated programe costs for a Stage I and Stage II program are \$255,000.00 and \$360,000.00, respectively.

INTRODUCTION

The following report on the McIntyre Birch Lake property has been prepared for Carmac Resources Limited, 1450 - 625 Howe Street, Vancouver, B.C., at the request of Mr. J. E. Millette, President.

The report is based on a review of reports and data available covering exploratory work undertaken on the property intermittently from 1929 to April 1984 by McIntyre Mines Limited and Carmac Resources Limited. Also reviewed were reports and maps available from government sources pertaining to the Birch Lake area.

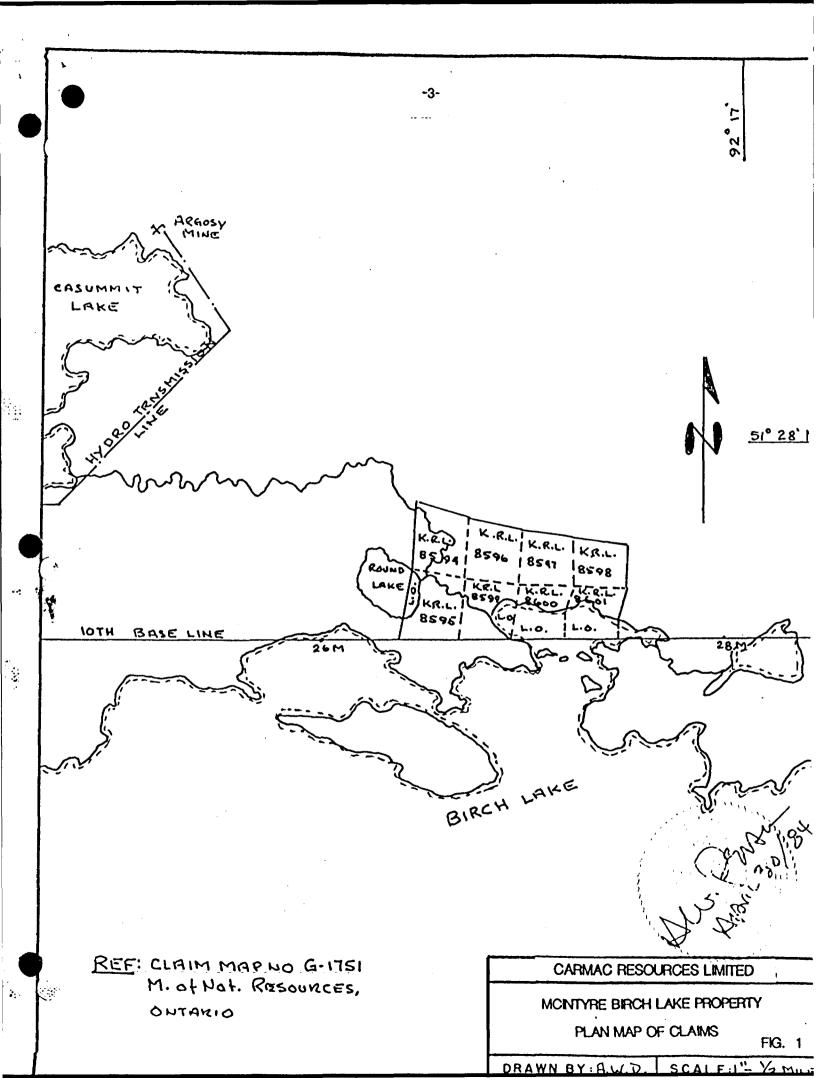
The author was on the property as a geological consultant, supervising a drill program recently undertaken during the period March 26 to April 9, 1984.

References to reports and records used by the author have been referenced by code numbers in parenthesis. The list of references with corresponding code numbers are contained in Appendix I.

PROPERTY (Figure 1)

The property consists of eight patented mining claims covering 398.92 acres and four licenses of occupation over water covering 69.26 acres as follows:

Parcel No.	Patent No.	Claim No.	Acreage
421	8332	KRL 8594	56.83
422	8333	KRL 8595	60.68
423	8334	KRL 8596	51.40
424	8336	KRL 8597	45.58
425	8337	KRL 8598	40.50
426	8338	KRL 8599	50.40
427	8339	KRL 8600	47.95
428	8340	KRL 8601	45.57
		TOTAL	398.91



Over lake waters the following Licences of Occupation are held:

Claim No.	L.O. No.	Water Acreage
KRL 8595	3213	8.96
KRL 8599	3214	7.50
KRL 8600	3215	27.39
KRL 8601	3216	25.41
	TOTAL	69.26

The property is currently held by Carmac Resources Limited under an option agreement with the owners, McIntyre Mines Limited.

LOCATION AND ACCESS (Figure 2)

The property is located on the north end of Birch Lake, 70 air miles northeast of Red Lake, Ontario and 35 air miles north of South Bay, Ontario.

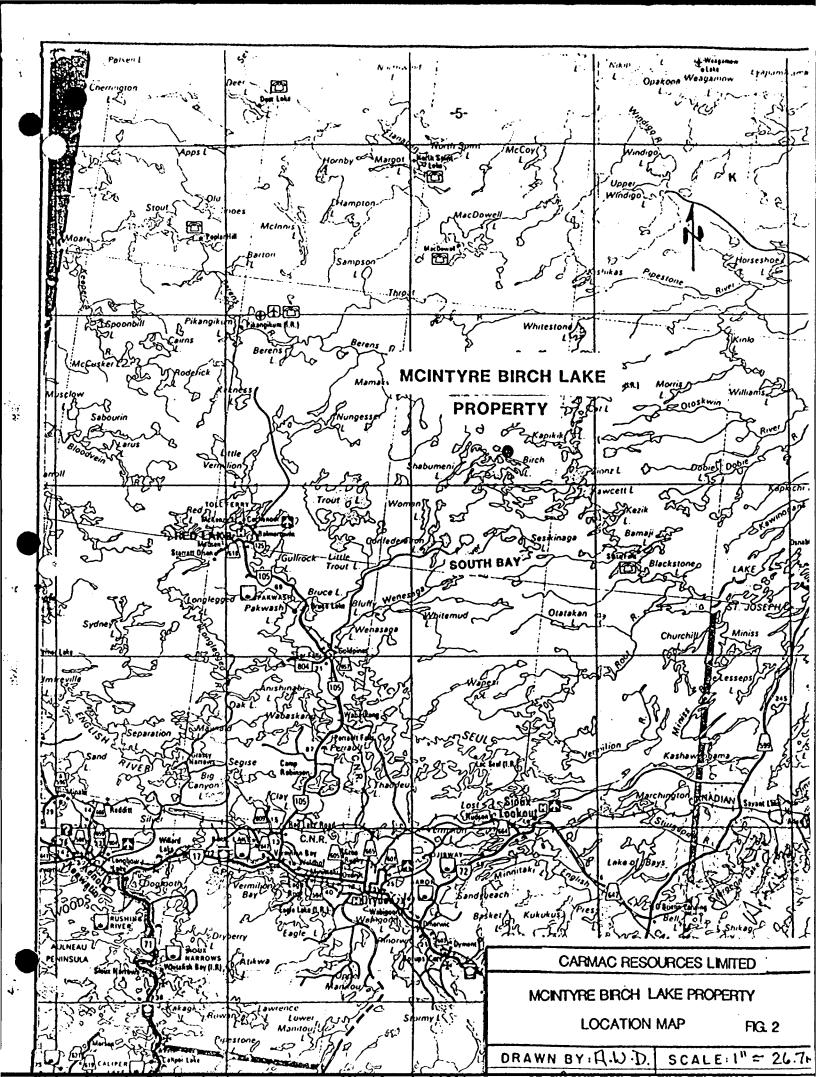
Access is by bush plane from Red Lake and feasible in winter by tractor from South Bay.

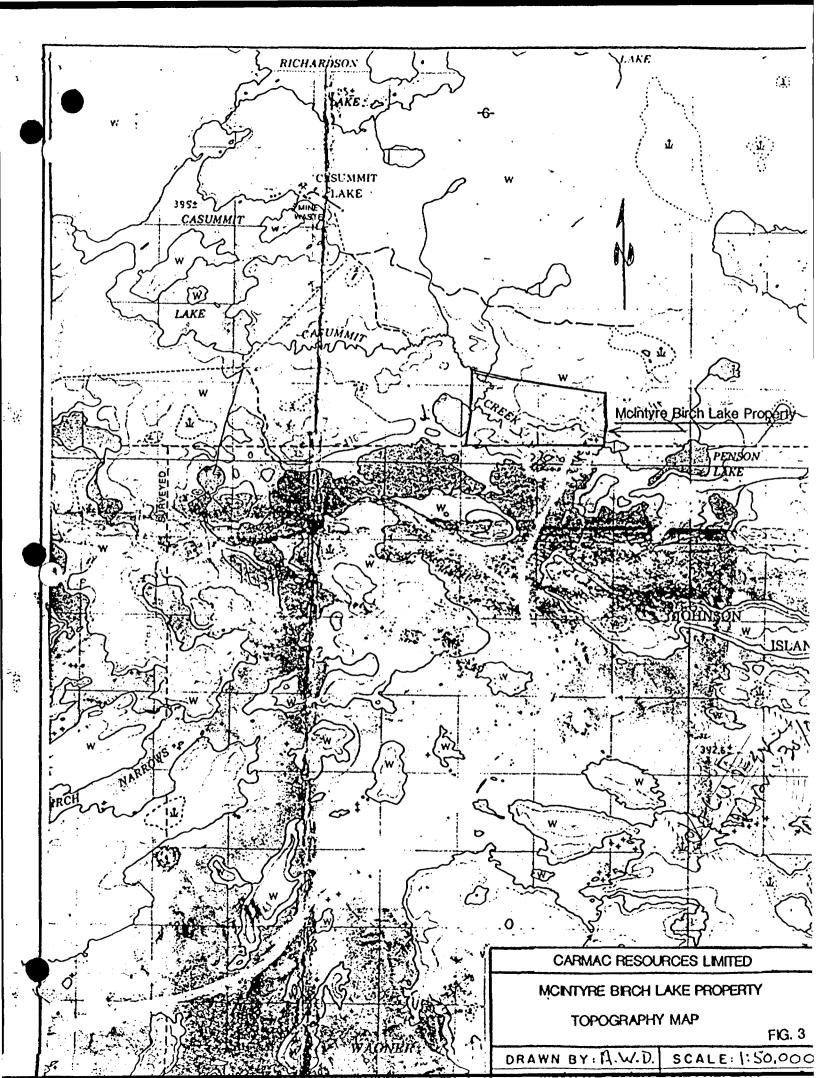
A hydro transmission line, in use at the Argosy mine until 1952, is located 2 miles northwest of the property.

TOPOGRAPHY AND TIMBER (Figure 3)

The relief within the area is generally low with drainage sluggish and muskeg common. Some rock cliffs some 25 feet high exist however the terrain is generally flat to undulating where bedrock occurs near surface. Maximum relief above lake water level is some 60 feet.

The property is covered for the most part by conifers with a few scattered poplar and birch trees.





Forest growth is generally poor as it is limited by swampy ground and shallow overburden covering bedrock. Usually conifer stump diameters are in the 6 to 8 inch range with the largest some 35 feet high.

HISTORY

Following the discovery of gold on the property in 1928, several exploration programs were undertaken on the property. The following is a historical summary for the most after Thorpe. (1)

- Discovery of gold-bearing quartz vein by Jack Miller, a McIntyre prospector. A boundary survey was completed in September and the claims brought to patent.
- Extensive prospecting and trenching by McIntyre personnel led to the discovery of other veins along the general strike.
- 1931 Five diamond drill holes at 300 foot spacing were put down northwest of line 20 west totalling 1,954 feet. One ore intersection, 0.38 ounces of gold over 13 feet, in hole No. 31-4, was obtained.
- Property leased to Cooper and Barry. A 60 foot vertical shaft was sunk and a 20 ton mill erected which produced at least 200 ounces of gold. Tailings suggest 1,200 tons were processed. A drift was driven approximately 50 feet below surface from the shaft area on line 20 west for a horizontal distance of 155 feet, only part of which was ore grade. Evidently most of the mill feed came from surface trenches.
- Approximately 2000 feet of diamond drilling was carried out by Cooper along the main shear zone strike. The results must have been discouraging as the property was returned to McIntyre afterwards.

McIntyre put down 7 holes totalling 3,185 feet along the main shear zone strike between lines 27 west and 33 west to test the previously known veins for continuity. Occasional erratic values were intersected but these could not be correlated from hole to hole.

A McIntyre field crew carried out a program of soil sampling, geophysical surveying, blasting, rock sampling and geological mapping. An H.E.M. survey indicated some conductivity in bands of iron formation. Several quartz-diorite intrusives were located by prospecting. These had not been recorded previously.

Two holes 83-1 and 83-2 collared at line 16+20W totalling 1,504 feet were drilled north of the shaft shear zone area. A five foot section in hole 83-1 between 408 and 413 feet assayed 0.288 oz Au per ton.

Six holes totalling 2,380 feet were drilled in early April prior to break up. Holes 84-5 and 84-6 intersected encouraging gold values.

GENERAL GEOLOGY

Bedrock in the area is Early Precambrian in age and is part of the Birch-Uchi Lakes metavolcanic-metasedimentary belt within the Uchi Subprovince. The rock units within the vicinty of the property consist mainly of mafic and intermediate metavolcanics and magnetite rich iron formation extending easterly from Mink Lake to the north end of Birch Lake. Overlying these units to the north are clastic metasediments. Based on limited outcrop exposures and airborne magnetic data, a quartz-porphyry intrusive, some four miles long by one mile wide, is inferred to occur immediatley west of the west boundary of the property.

Within the belt gold occurrences have been reported over a strike length of at least five miles from east to west. The Argosy mine, located three miles northwest of the McIntyre property, operated intermittently from 1934 to 1952. The mine produced 83,827 troy ounces of gold and 1,471 troy ounces of silver from 250,903 tons milled. (2)

The average recovery grade over the period was 0.334 troy ounce gold and 0.006 troy ounce silver per ton. Ore was mined underground from several north trending quartz veins that extended to depths of 900 feet.

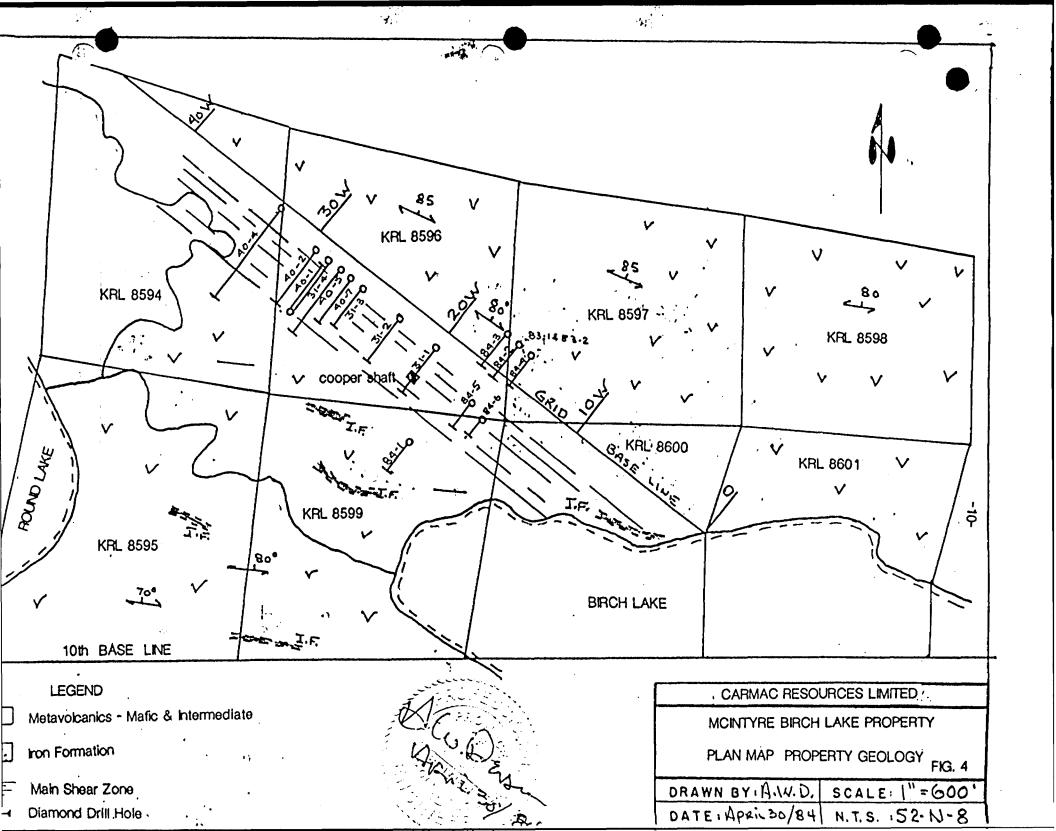
PROPERTY GEOLOGY (Figure 4)

Rock types on the property consist mainly of mafic to intermediate metavolcanics generally striking east-west to north 55° west and dipping steeply 80° northeast. The metavolcanics commonly occur as chloritic schists. Trenching and diamond drilling has outlined weak to moderate shearing in a zone some 600 to 700 feet wide traversing the property apparently conformable to flow contacts. Within this zone is a main shear zone some 300 feet wide in which the Cooper shaft is located.

Banded iron formation has been mapped in several outcrops and has been outlined in diamond drill holes. The iron formation occurs as alternating thin bands of magnetite, sugary quartz and chlorite. The formation is generally narrow however attains a thickness of ten feet or more in places. The iron formation units for the most part appear to conform to the enclosing volcanics. Ground magnetic survey data (1) indicates the iron formation trending east-west converges and changes strike to north 55° west with the main shear zone around line 15 west.

MINERALIZATION

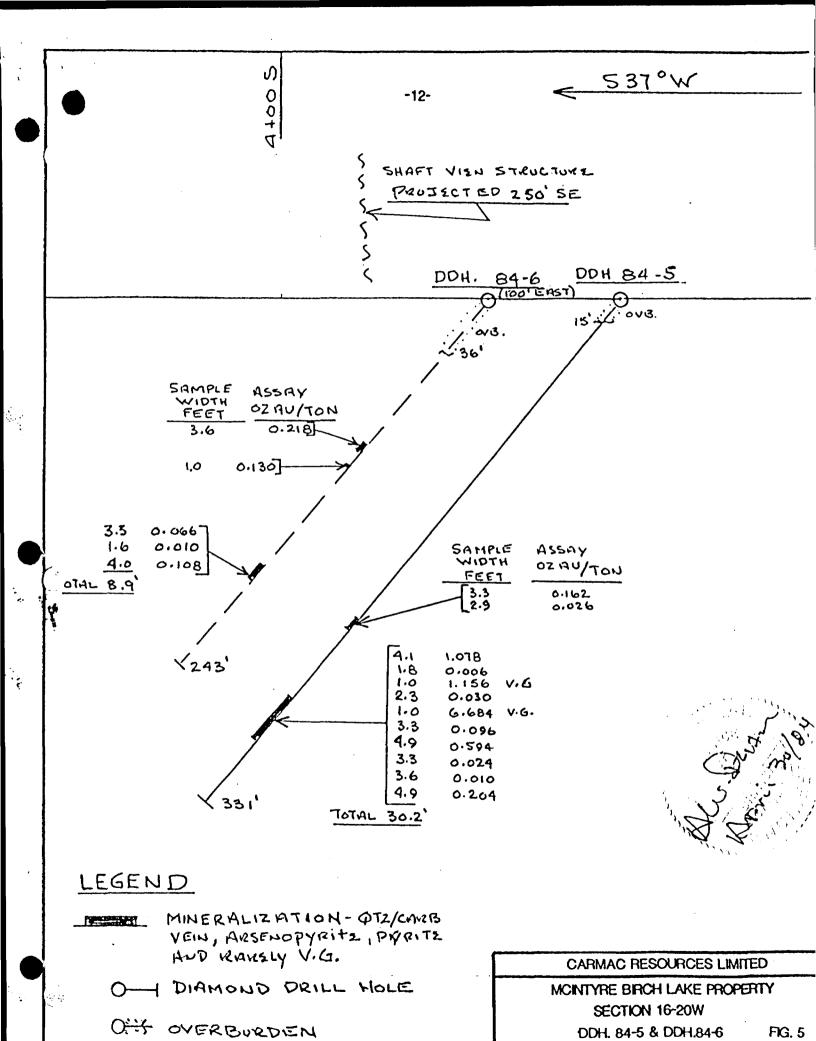
The main shear zone, some 300 feet wide, was explored prior to 1984 by trenching and angle hole diamond drilling for 1,400 feet on strike northwest of the Cooper shaft on line 20 west. (4) Several narrow quartz veins were encountered with a few individual sections mineralized with arsenopyrite, pyrite and occassionally visible gold. The mineralized sections are usually parallel to the local schistosity, are erratic and discontinuous. The better significant interceptions are reported to assay as follows:



Hole No.	Sample Width (feet)	Gold oz per ton
31-4	13.2	0.38
40-1	0.7	0.23
	1.0	0.83
40-4	1.0	0.93
40-5	2.7	0.20

In early April 1984, diamond drill holes 84-5 and 84-6 were drilled at -50° to test the projected main shear zone 350 feet southeast of the Cooper shaft (Figure 5). This is an overburden covered area that had not been drilled previously. Drill hole 84-5 intersected two sections containing narrow quartz veins, arsenopyrite and pyrite mineralization and visible gold in two places. Drill hole 84-6 drilled 100 feet south of 84-5 intersected the same sections however they were not as well mineralized. Assays of the mineralized sections are summarized below: (5)

<u>Hole</u>	Core <u>Interval</u> (feet)	Sample Width (feet)	Gold oz per ton	Silver oz per ton
84-5	213.2 - 216.5	3.3	0.162	0.06
	216.5 - 219.5	2.9	0.026	0.03
	263.1 - 267.2 267.2 - 269.0 269.0 - 270.0 370.0 - 272.3 272.3 - 273.3 273.3 - 276.6 276.6 - 281.5 281.5 - 284.8 284.8 - 288.4	4.1 1.8 1.0 2.3 1.0 3.3 4.9 3.3 3.6	1.078 0.006 1.156 0.030 6.684 0.096 0.594 0.024	0.33 0.02 0.94 0.02 1.28 0.08 0.13 0.03 0.02
84-6	288.4 - 293.3	4.9	0.204	0.05
	97.8 - 101.4	3.6	0.218	0.53
	113.8 - 114.8	1.0	0.130	0.06
	177.8 - 118.1	3.3	0.066	0.04
	118.1 - 182.7	1.6	0.010	0.01
	182.7 - 186.7	4.0	0.108	0.01



DRAWN BY: M.ω.D. SCALE: 1"=50"

Upper Section

The upper mineralized section in hole 84-5 assays 0.162 oz Au per ton over 3.3 feet. Hole 84-6 intersected a corresponding section assaying 0.218 oz Au per ton over 3.6 feet.

Lower Section

The lower mineralized section in hole 84-5 has an average assay cut to 1.0 oz Au per ton of 0.506 oz Au per ton over 18.4 feet (263.1' to 281.5') or 0.345 oz Au per ton over 30.2 feet (263.1' to 293.3'). Uncut average assays for the 18.5 foot interval is 0.834 oz Au per ton and the 30.2 foot interval is 0.545 oz Au per ton.

The corresponding section intercepted in hole 84-6 located 100 feet southeast has an average assay of 0.074 oz Au per ton over 8.9 feet.

The lower mineralized section cored in hole 84-5 is significant, assaying cut to 1 oz, 0.506 oz Au per ton over a true width of 11.8 feet or 0.345 oz Au per ton over a true width of 19.3 feet. This section in hole 84-6 assays 0.074 oz Au per ton over a true width of 5.1 feet. Although less encouraging it nonetheless indicates continuity over mineable widths.

Secondary structural features controlling mineralization concentrations have not been determined. Of interest however, is that ground magnetic data indicates that iron formation converges with the main shear in the vicinity of holes 84-5 and 84-6.

RESERVE TARGET POTENTIAL

Holes 84-5 and 84-6 indicate the lower mineralized section has mineable width potential greater than 5 feet. Deposit target grade of 0.50 oz Au per ton (\$250.00 per ton with gold at \$500.00 Can per oz) with an average width of 10 feet is considered viable. Assuming various potential strike lengths within the 1,000 foot untested area southeast of the Cooper shaft, the following hypothetical reserve tonnage potential is calculated.

Strike Length	Width	Depth	Tons
200	10	300	50,000
400	10	300	100,000
800	10	300	200,000
200	10	500	83,000
400	10	500	166,000
800	10	500	332,000

With a grade of around 0.50 oz Au per ton a deposit with the above tonnage potential is considered a viable exploratory target.

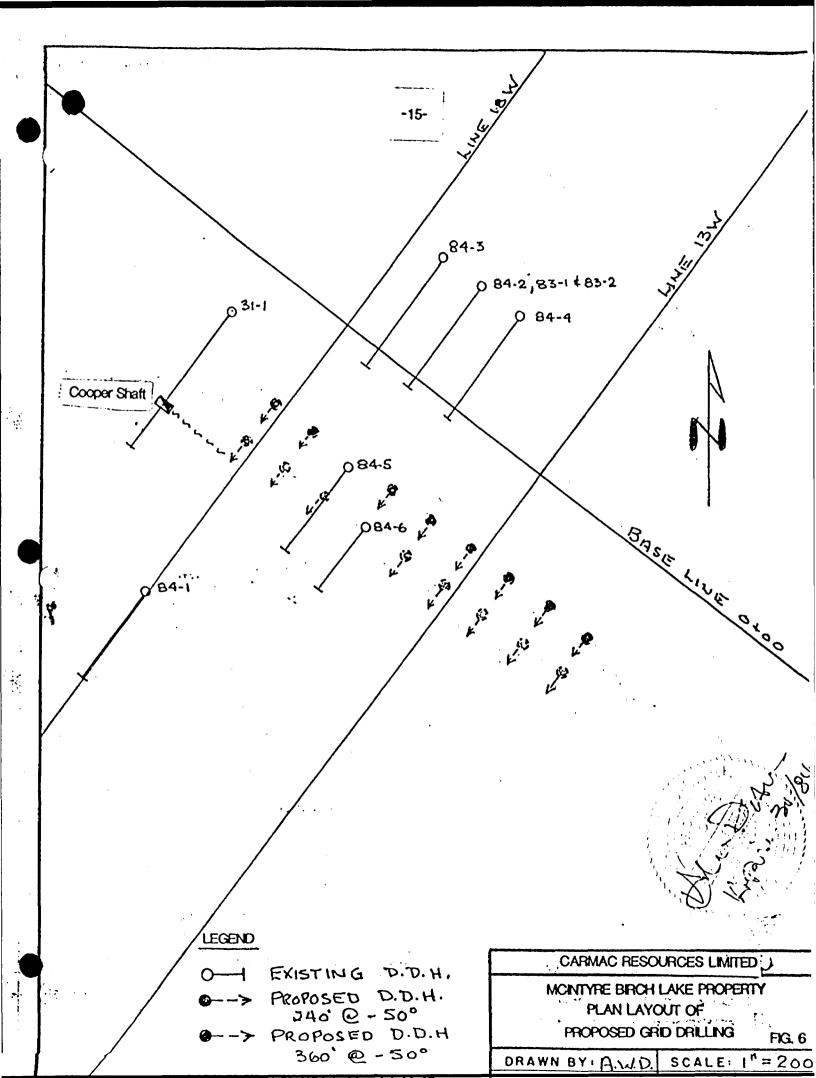
CONCLUSIONS AND RECOMMENDATIONS

The lower mineralized section cored in hole 84-5 is significant, assaying cut to 1 oz, 0.506 oz Au per ton over a true width of 1.3 feet. This section in hole 84-6 assays 0.074 oz Au per ton over a true width of 5.1 feet. Although less encouraging it nonetheless indicates continuity over mineable widths.

These holes are located within an overburden covered main shear zone extending 1,000 feet southeast to Birch Lake. With a reserve target grade of 0.50 oz Au per ton a detailed exploration grid drilling program is recommended. Two diamond drill holes at -50° per grid line spaced 100 feet apart to test mineralization to a depth of 300 feet for a strike length of 800 feet is recommended (Figure 6).

Secondary structural features that may have contributed to concentrations of gold mineralization within the main shear have not been determined. A detailed magnetometer survey and V.L.F. E.M. survey is recommended to be undertaken on the property to outline potential local structural features such as folds and faults.

Anomalous arsenic soil geochemical anomalies centred at 500 north on line 30 west and 800 north on line 14 west warrants detailed sampling and testing. Experimental soil horizon geochemical sampling in the vicinity of hole 84-5 is



recommended to be undertaken. This may establish the potential of detailed soil geochemcial sampling elsewhere on the property.

The estimated budget for the recommended exploration program is presented as a two stage program in the next paragraph.

ESTIMATED PROGRAM COSTS

Stage I	Amount
Re-establish lines (15 miles)	\$ 2,500.00
Magnetometer and V.L.F. E.M. Survey (\$500/mile)	7,500.00
Soil Sampling and Assaying	5,000.00
Grid Drilling (5,000' @ \$40.00/ft)	200,000.00
Exploratory Drilling (1,000' @ \$40.00/ft)	40,000.00
Total Stage I	\$ 255,000.00

Stage II

Assuming Stage I confirms continuity and tonnage potential, additional close spaced drilling to establish reserves of the mineralized section to a depth of 500 feet is recommended.

	Amount
Grid Drilling (8,000' @ \$40.00/ft)	\$ 320,000.00
Exploratory Drilling (1,000' @ \$40.00/ft)	40,000
Total Stage II	\$ 360,000.00
Total Stage I and II	\$ 615,000.00

Respectively submitted,

A.W. Dean, P.Eng.

CERTIFICATE

I, Alexander W. Dean of 1327 Lake Bonavista Drive S.E., Calgary, Alberta, do hereby certify that:

- I am a graduate of the Michigan Technological University holding a B.Sc. in Geological Engineering, 1958.
- 2. I am registered as a Professional Geologist of the Province of Alberta, and registered as a Professional Engineer of the Province of British Columbia.
- 3. I have practiced my profession for 26 years mainly in Canada and the U.S.A.
- 4. The accompanying report is based on my personal analysis of unpublished data provided by Carmac Resources Limited, reports and maps available from government sources and my direct geological supervision of a diamond drill program on the property in early April 1984.
- 5. I have not, nor do I expect to receive any interest directly or indirectly in the property or in the securities of Carmac Resources Limited.
- 6. I consent to the use of this report in, or in connection with, a Prospectus, or a Statement of Material Facts relating to the raising of funds for conducting the exploration program recommended in the report.

, Dated at Calgary, Alberta, this 30th day of April A.D., 1984.

A.W. Dean, P.Eng.

REFERENCE LIST

Reference No.

- 1. Thorpe, W.H.
 1975: Field work on Birch Lake Claims, report and maps prepared for McIntyre Mines Limited.
- 2. Thurston, P.C., Jackson, M.C., and Pirie, I.
 1981: Precambrian Geology of the Birch Lake Area, Kenora District
 (Patricia Portion); Ontario Geological Survey Preliminary Map
 P. 2387, Geological Series, Scale 1:50,000. Geology 1977-78.
- 3. G.S.C.
 1960 Birch Lake, Kenora District, Ontario; Ontario Department of Mines, Map 883G. Scale: one inch to one mile.
- 4. Adams, N.D.
 1940 Report on McIntyre Birch Lake claims, Drilling Campaign,
 September 10 November 1, 1940, report prepared for McIntyre
 Mines Limited.
- 5. Dean. A.W.
 1984 Report on Diamond Dill Program, March 26 to April 9, 1984, for
 Carmac Resources Limited.

PROPERTY MCT. Lyds Broth Lake HOLE NO. 84-1 SECTION FROM CO TO 15.1 meles STARTED MINICH VII/EN SHEET NUMBER (SA) LATITUDE 4 64 80 Second COMPLETED MARCOL 300/601 DATUM. BEARING 537 W DEPARTURE Kns 2 18 100 Wast-ULTIMATE DEPTH (Cot por los) ELEVATION ____ U/1. PROPOSED DEPTH____ PASTERS
DEPTH PRET GOLD \$ <u>د - ک.5</u> Everboardon. Busherin Dank garage whitentiged markeret 2.6-3.4 Ikon Formation: banded five grained maquetite and sugary quorty - brinds May 2 cm wide & 350 to corre, 30 to 25% magnetite. Bresnet: Darch queen, chiontized, moderate schiotosity, very frie gramed, occasional glas/curb strusger 1 cm, 3.4-6.9 1-2% crystalline pyrite. 69-12.3 Tron Formation: branded five grand magnetile, over quoits & moso cherite - bands, max 4cm wide 2350 to core 25% may retite. 12.3-15.1 Brasnit: Die green, chloitiged, moderate
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	Dugony 9t3 - 15	: branded figimag, 5% magnetile.						-
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30.0-43.4.	BASALT: DARLGREEN, GENERAL	Ly				
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	1 4000 to core, 1-2% pyr	<u>. </u>						
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51.1-65.0	ANDESITE! AS above with 9-3	Topyk.						- -
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	of the rock.							
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	54.9-55.05 " " -	<u>"</u>						
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MCTATERES - Birch Lake

	PROPERTY MCTAty	es-Biech Lusies_	но	OLE NO	84-2			
 _ SHEET NUMBER	THUSS_	SECTION FROM 83.0 TO_		STA	RTED		· · · · · · · · · · · · · · · · · · ·	
LATITUDE	A STATE OF THE PARTY OF THE PAR	DATUM		_ CON	MPLETED_			
DEPARTURE		BEARING		_ ULT	IMATE DE	EP TH		
ELEVATION		DIP		_ PRO	POSED DE	PTH	· · · · · · · · · · · · · · · · · · ·	
DEPTH PEET	FORN	AATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SOLD S		
	BASALT: Darele Gra Zhlorilized, very f 1 cm p 72/cupp veri 12cliss. pyr.	erra, generally mus nic graved occurrion s with epidote.	Sive.					
	JRON FORMATION	¿ < herty aphantice 2% enhedral pyrite	tofine	quand	9,			
111.4-112.9	BASMIT: AS a	bove						 -
112.9-113	Iron Formation	: As above						-
113-122	Chlaitized, V.f.	graved, occur los with epidote.	h	e,				
		21.6 - < Hert, wo mad						-
Dip 12575 12TCH ANG	30 metas - 50 E · (oto metas - 50 ANGLO, GT metas - 50	lebretus 97m 3°-58° -52° 5° -48° -43° Corre Recovery 99	efers					-
N.M.P., TORONTO-STO	CK FORM NO. BOT REV. 12/51	Lors Recovery 99	V70		1.08	Mu		ــــــــــــــــــــــــــــــــــــــ

	PROPERTY / W Ja J	CHE DIRCH MAKE						
SHEET NUMBER _		SECTION FROM	33.5 m	atecs STA	RTED_	naech 3	1/84	
LATITUDE A 2	-+25 North	DATUM		_ CON	MPLETED_	Mpril 2	184	
DEPARTURE 15+20West BEARING 537° WEST.				_ ULT	TIMATE DI	EPTH 16	7 meter	ડ
ELEVATION		DIP60°		_ PRC	POSED DE	PTH		
DEPTH PEET	FOR	MATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$		
0-24	CASING:							
	() A () A							ļ
24-17.7	V77025178 (DIDITE)	: Grey Grezzo mus mottled fexture, occa vei < 1% chès. priè	ع رسف					+
	the grained with	mother fextive, occa	<u> </u>					+
<u> </u>								\dagger
17.7-19.5	Audesitz (Divile)	i Grery gilern, MASE with mother texture,	sive,					
	medion grained	with mother texture.						
	< 1% chis pul.	·						_
}								-
19.5-29.3	ANDESITE (Dionili): As above, fine	_					-
	grained.							-
19.3-33.5	ANDSSITS GRE	in moderate Achinto	<u> </u>					+
	enloritized with	ochistosity - 2550 too yrite.	6					
	stragas 11 to	adhis tosity ~ 2550 too	ine.					
	1% suhedral p	yièite.						_
	,			·				_
-			-					+
						l		+-
· · · · · · · · · · · · · · · · · · ·					L.,			

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MeTutures - Birch Lake

	PROPERTY We had	lyes. Birch Lake	Но	DLE NO	84-3			
SHEET NUMBER _	Two.	SECTION FROM 33.5 TO	59.1m	etus sta	ARTED	· · · · · · · · · · · · · · · · · · ·		
LATITUDE		DATUM		COI	MPLETED_			
DEPARTURE		BEARING		_ UL	TIMATE DI	EPTH		
ELEVATION		DIP		_ PRO	POSED DE	PTH		
DEPTH FRET	FORMATION		SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SCHOOL S		Γ
33.5 - 46.9	ANDESITE: GIV	eren , chloritized with						1
***	weals schistos	ity: Constrains a series	•		· · · · · · · · · · · · · · · · · · ·			
	of white at	veins 33% of section	,					
	972 contraiss m	ison pyrite. RKINCLUSIONE	,					
	contains = 3% p	مربقرك أ						
*****	QTZ VEILS > 10 cm	n. 34.15 - 34.5				!		
	,	36.6 - 36.7						
		36.9 - 37.0			··- ·- · · · · · · · · · · · · · · · ·			
		39.9 - 40.4						
		40.8 - 43.3	17564	40.8- 4	2.0			
•		44.1 - 44.4	17565	42.0 -	43.3			L
To a 1/2 and the second se		44.7 - 44.8						_
		45.3 - 45.4						\downarrow
		46.4 -46.9				<u></u>		\downarrow
HI G 591	1A1 DSC TE 1 (-20	sen Khoritized with						\vdash
10: 1-31:1	Market Adl	witosity, find Live					-	\vdash
	Musical Sch	06/1 1 11 12 ANI. 2 13	L					t
	1 10 0 to ca o	1% outedras pyrite.	,,,,,	· · · · · · · · · · · · · · · · · · ·				╁╴
	70 10 10021	10 annotar popular						T
N.M.P TORONTO-STO	CK FORM No. 501 REV. 12/81			<u> </u>				

PROPERTY MC July & Direch Luske HOLE NO. 84-4 SHEET NUMBER _ DUT_ . SECTION FROM O TO 40.5 LATITUDE A 2125 NO27H DATUM_ BEARING 5 37° W.257 DEPARTURE L 15+20 W ULTIMATE DEPTH DIP_ -60° PROPOSED DEPTH____ ELEVATION ____ HICKUS. WIDTH OF BAMPLE GOLD 8 FORMATION 0 - 2,3 CASING 2.3 - 4.2, HNDESITE (TKEEN, chloritized, mussing (ine greating) with diss echelen par 1% 4.2-33.5 BASALT: DAVEL GREEN, chloritized, massoni towarde Achorosity in penes v.f.q. with occopional ats/comes stringer with exidate, 29.66 - 29.9: 972/conb vein BASALT: Unall green, chloritized moderate scholosic 33.5-38.2 % din enhand pur & scensoral glarcub Very co lollows 34.67-34.8 : 95/cub white backen 36.95-37.35: " 38.2-40.51 MND25.72: EIRSY giken, fine to medium grained, mothled

MACIST diss PYR.

exture, chioitized matic grantes popphylle (a 55th core

N.M.P., TORONTO-STOCK FORM NO. BOT REV. 12/51

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PROPERTY MCTU-14125-BIRCH LUKE HOLE NO. 814-4 SHEET NUMBER (WS) SECTION FROM _____TO____ STARTED _____ LATITUDE _____ DATUM_____ COMPLETED _____ ULTIMATE DEPTH_____ DEPARTURE BEARING _____ PROPOSED DEPTH_____ ELEVATION _____ 40.5-48.1 Mudesite: Greeze zhloritizer moderite adhistority at MAGLE 550 to come line 4760-47.1: 96/conbust with lovetiline. BASALT: DAVEL giken chlorilized, weally schoolise a grained occurring as 1045 offinger BASALT: Davele green, shloritized 85.7-99.2 schistosity (a might 309 to cole octorsional das stringer with epidate 1102 1/2 744 ciliquison 96.5-97.0: T.F banced Vitig a 47.4. 97.9 : IF. Donwood therty BASALT: North green, weilly Achistose tomps sie 19.2 -1509 < hloritized, occass isnal attach with shinker with</p> epidote, 162% substant our blebs Continue Numerous baseds or Jan 1 branchion as N.M.P., TORONTO-STOCK FORM No. 301 REV. 12/31

PROPERTY MCTWIGE BIRCH LAKE HOLE NO. 84-4

	HOLE NO.							
SHEET NUMBER _	TURES_ SECTION FROM	то		STA	RTED			
LATITUDE	DATUM			. COI	MPLETED_			
DEPARTURE	BEARING			บเว	TIMATE DI	EPTH		
ELEVATION	DIP			PRC	POSED DE	PTH	<u>. </u>	
DEPTH FEET	FORMATION	SAMP	LE No.	WIDTH OF BAMPLE	GOLD \$	SCHDOR		
	GG / MAR 1 has 1 h	<i>J</i>		√ذ، و∙		•,		
	99.6-100.2 : banded, U.F.9 15	ان بلددد	٠	3/2/34/3	13/	CHROTE		
	102.1-102.8: " , (, 9 1	0% ma	الم را	ugory.	13/ch	Luile	 	
	105.3-105.5! 11 , cherty	5 70 m	۸۷ دا,	3% 0	yR.			
	115.9-116.1: CHat, apha	13,410			L			
	137.17-137.34: banded, (ig	15% ma	۹.	BGUCY	95	To par A	(30°	unn
	137.75-138.0 " , X.f. 4	57 mg	. Ca	53/.	04,2.			
	140.5 - 140.8: W V.1.9				\\X			
	V.(.9	7 10 "	XC-C1	•				
					[
150.9-152.9	VINdESITE! Green green, chloritizes	, Mc.S	> 3 L	a (12	٥			
	to rudum grained, mother	Fixto	ve-	<pre>Lhlu</pre>	itized	molie		
	pheno's RANJOM, CNT LS	-310	R	/				
	P 7 7 C N S S S S S S S S S S S S S S S S S S	3 19 61						
152.9-157.7	PANDISITE: EINER GREEN, MASSU	ie v	رو ر) ر	m gr	enimed	more		
	Jelou pleur have quessia							
	SND of 1102s							
			· · · · · · · · · · · · · · · · · · ·					
DIP TEST.	50m 100m 150m							
	ES -66° .62° -54°			l				
LUCKECTEN K	25 - 59° -54½° -51°							
N.M.P., TORONTO-STO	CK FORM NO. 501 REV. 12/51							

PROPERTY / We In 1422 - Direct Lake Hole No. 84-5

			34.5	/ht 110	.1	_		
SHEET NUMBER _	ONE	SECTION FROMTO_	tio rach	STA کار	RTED	100,00	184	
ATITUDE	2+30 South	DATUM		_ CO!	MPLETED_	Apr. = 7/	<u> </u>	
DEPARTURE	16+20 W	BEARING 537°W		_ ULT	IMATE DE	EPTH 10	1.0 m	<u> 27</u>
ELEVATION		DIP50°		_ PRC	POSED DE	PTH		
DEPTH PEET	FOR	MATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SOLD S		
0.4.6	Chasing							
4.6-36.0	BASALT: DANEL.	gressin, chloritizes, h	Pak A	יטומיון	14			
	very live your	ed, accessional						
	city/circle string	er less than 1cm wide er less than 1cm wide e Minger, 180 pens.	ঠ					_
	naidom apridot	e Minger, 180 purk						_
					·			_
36.0-42.5	BASALT: Davele	guerry chlorityin, mo	Linete	Ach is	25, C			-
	45/cons 12	re time strongers 11 10	Achiot	ديركم ك	5% 3H	KK)		_
	(CN Nosile	re time Atingers II lo 235° larine 72% pri	K					-
	l / J.		ľ	:				-
42.5 - 45.5	1-12-desits: ^ C-122	su massure live qu	Raines					-
	withruolled	texture, through dir	B PUR	:				+
1.65 (5.1)	2			. i	1			╁
45.5 - 50.4	DUSALT: WARL	green, <h(vitize)< td=""><td>weile</td><td>30 ho</td><td>140,6</td><td></td><td></td><td>+</td></h(vitize)<>	weile	30 ho	140,6			+
	Very finigh	te, 1/- 2% pyx enhe	1/000	D tring	-		 -	+
	with epido	re 1/- 1/3/14/2 line	Decx.					+
2/1-242	HANGE to GUA	g green massive, 1						+
51.6	Wedin and	weed when Her	Live	C: 120. 20		(. (.AA.).		1
	les Man	1% disa zyk.	7	11-1050		***************************************		T
	M. T.	· · · · · · · · · · · · · · · · · · ·						
N.M.P., TORONTO-STOC	CK FORM NO. BO! REV. 12/81			4/	1)701		
					7 / . \	1101		

PROPERTY MCJU-tyke Buck Lunks HOLE NO. 84-5 SHEET NUMBER TWO SECTION FROM 54.5 TO 76.2 Michis STARTED LATITUDE _____ DATUM_____ COMPLETED_ DEPARTURE BEARING ULTIMATE DEPTH ELEVATION ... DIP PROPOSED DEPTH_____ DEPTH PEET GOLD 8 54.5-61.1 Bosper: Dokk green shlowlise, moderably wintone Very live greated G5/cont line time stungers 661-70.6 BASALT! Driele green, chloritize weak Acholds.t. With occasional at /and stringers average
7-570 pine, invesses pinete in places is follows
65.0 -66.0: 30% GTZ/corb Knudom, 4%pine, 1% fig. 1485000. - (15.76) 660-669; < KLONTE, 3% 1.9. Arising Duhided 3% 24,8 14, 10 Hor Mich 70.6-71.3 I Low Formation: bander, line Grander indirected 10% bigon 9/2 and charte, 9% zend, balado Aragle 35° to race BASALT! Driele green Khloritizer weal Achistosic, Chartisty VIng U.f.g., 1% dissochered privile. 71.3 - 74.7 74.7-76.2 HDDSSITS: CIRCY GREEN, MASSIVE, live to medim house dis Priva N.M.P., TORONTO-STOCK FORM No. SOI REV. 12/51

DRILLED BY

DEPARTURE		PROPERTY 16 July 25 Birch LAKE	—— Н	OLE NO	84-5				
DEPARTURE DIP PROPOSED DEPTH DEPTH PETT PARTICION DIP PROPOSED DEPTH PROPOSED POLICIE DEPTH PROPOSED PROPOSED PROPOSED PROPOSE	SHEET NUMBER _	SECTION FROM 76.2 TO 101.0 MUTES STARTED							
DIP PROPOSED DEPTH DEFINITION	LATITUDE	DATUM		_ CO!	MPLETED_				
PORMATION PAMPLE NO OFFICE OLD STATE OCCUPY TO 2 - 91.7 BASALT: DAKE CUESSA, CHININGED WITH MONOCUPTE TO CHOSTORY CONTROL 35° 10 TORE, JUNE 115 CUTS, CAN OF THAGEST CONTROL OF MAN DESCRIPTION OF THE CONTROL OF THAGEST CONTROL OF THE CONTROL	DEPARTURE	BEARING		_ ULT	TIMATE D	EPTH			
TORMATION AMERICA ON THE PROSPET OF THE PROPERTY OF ARCHIOLA PROPERTY OF ARCHIOLAND PROPERTY OF A P	ELEVATION	DIP		PRO	OPOSED DI	EPTH			
Could project 35° to case, fine line (15 carb strager) (100 occorrend 9/5/cab vein, coth plaser) pik Pork & V.C. 100 to 100 10003. 78 9 - 80.2 : https://www.2.20.com/balkenburd 80.2 - 81.4 : 34 cm qla treats vein, 3% masso 25, max balkenburd 81.98 - 82.28 : 8 cm qla treats vein, V.G. 10 cm & 25, max balkenburd 81.98 - 82.28 : 8 cm qla treats vein, V.G. 10 cm & 25, max balkenburd 82.28 - 83.0 : https://www.abs.no.no.no.com/balkenburd/ 83.0 - 83.3 : Schoold parkenburd/ 83.0 - 83.3 : Schoold parkenburd/ 83.0 - 83.3 : Schoold parkenburd/ 83.0 - 83.3 : Schoold parkenburd/ 83.0 - 83.3 : Schoold parkenburd/ 83.3 - 84.3 : Schoold parkenburd/ 84.3 - 84.3 : Schoold parkenburd/ 84.3 - 84.3 : Schoold parkenburd/ 84.3 - 84.3 : Schoold parkenburd/ 85.8 - 86.8 : https://www.abs.no.no.no.com/balkenburd/ 85.8 - 89.4 : https://www.abs.no.no.no.com/balkenburd/ 85.6 - 87.45 : https://www.abs.no.no.no.com/balkenburd/ 86.7 - 89.4 : https://www.abs.no.no.com/balkenburd/ 87.9 - 89.4 : https://www.abs.no.no.com/balkenburd/ 87.9 - 89.4 : https://www.abs.no.no.com/balkenburd/ 88.55 - 82.45	HULLS. DEPTH FRET	DEPTH FRET FORMATION S			GOLD \$	SCHOOK			
Could project 35° to case, fine time (to carb of ringer) (100 occorded (15/cab vein) could place profe Porch & V.C. 100 to 100 1010000000000000000000000000	76.2 -91.7	BASALT: Davele gresson chloritized wit	h mode	ate 1	cholo	<i>هر</i> ځړ			_
Prix & V.C. Note 113/cab very with present prix. Prix & V.C. Note 113 follows. 78.9 - 80.2 : <a href="https://www.new.new.new.new.new.new.new.new.new.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>P-12 # V.C. 120to 12 10005. 789 - 80.2 : Khunle 176 1245 22 74.2 b. Leahard 2802 - 81.4 : 34cm qts/carb 281. 370 areno 270, 24 b. behard 81.48 - 82.28 : 8cm qts/carb 281. 4.5 vareno 270, 244 b. behard 82.28 · 83.0 : Chronte 3cm phisquit 176 enhilled 1201. 5 82.28 · 83.0 : Chronte 3cm phisquit 176 83.1 : 370 areno in chlid 83.0 - 83.3 : Scm qts/carb 281. 49 (83.1 : 370 areno in chlid 83.3 - 84.3 : 25cm qts/carb 2810, 100 pya, 570 areno enhibed 200 mayorth 84.3 - 84.8 : (20% qts/carb 120 pya, 570 areno enhibed 200 mayorth 85.8 - 86.8 : fine him qts/carb 280, 176 areno . 8789 - 89.4 : 10% qts/carb 2810, 176 areno . 8789 - 89.4 : 10% qts/carb 2810, 176 areno . 82.55 - 82.65 : 5% mayorthic with 3cm of 10% pya, 2% areno . 81.7-1010 BASALT: David queen, Chontizer with acm of 10% pya, 2% areno . 91.7-1010 BASALT: David queen, Chontizer with acm of 10% pya, 2% areno . 91.7-1010 BASALT: David queen, Chontizer with acm of 10% pya, 2% areno . 91.7-1010 BASALT: David queen, Chontizer with acm of 10% pya, 2% areno . 91.7-1010 BASALT: David queen, Chontizer with acm of 10% pya, 2% areno . 91.7-1010 BASALT: David queen, Chontizer with acm of 10% pya, 2% areno . 91.7-1010 BASALT: David queen, Chontizer with acm of 10% pya, 2% areno .</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>78. 9 - 80.2 : < hr. n. le 176 News 2 % Eq. 2 h. headwood 80.2 - 81.4 : 34 cm of securb veis 3% news 2 2 2 24 beth edward 81.98 - 82.28 : 8 cm of securb veis , VG. et cut @ 82.05 . 476 news 82.28 · 83.0 : < hr. orite 3 cm phog not part 176 cutival nons 83.0 - 83.3 : S cm of securb veis , VG. in of 60 83.1 , 376 news in which 83.3 - 84.3 : 25 cm of securb veis , Audicage 18 Aromo , 276 of 8.3 : - 84.3 : 25 cm of securb veis , Audicage 18 Aromo , 276 of 8.3 : - 84.3 : 25 cm of securb veis , Audicage 18 Aromo , 276 of 8.5 : - 85.8 : (00%) of securb veis , 376 news enhanced por magnette 85.8 - 86.8 : fine him of securb veis , 786 of securb , 200 magnette 876.9 - 89.4 : 10% of securb veis , 786 of securb . 876.9 - 89.4 : 10% of securb veis , 786 of securb . 88.55 - 82.65 : 5% magnetile with 3 cm of 10% of securb . 82.55 - 82.65 : 5% magnetile with 3 cm of 10% of securb . 61.7 - 101.0 13 ASMET: Dance of securb of securb securb of securb of securb of securb securb of s</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>80.2 - 81.4; 34 cm q to low b vein, 3% anomo, 2% que bella electral 81.98 - 82.28; 8 cm q to locar to vein, V.G. at Lat (2082.05), 4% neone 82.28 - 83.0; Chante, 3 cm phisquist 7% entried anomo 83.0 - 83.3; S cm q to loo by vein, V.G. in q to (83.1, 3% neone, in the lite 83.3 - 84.3; D s cm q to loo by the pye, 5% neone, 2% gue. 84.3 - 85.8; (00% q to loo by the pye, 5% neone, entried, 20 may net to 85.8 - 86.8; from the q to loo by the street, 3% neone. 887.9 - 89.4; 10% q to loo by the veins, 7% phye, 3% neone. 1050 included in a thin board of I.f. so follows. 82.55 - 82.65; 5% may net the with down of 10% pie 2% arcoro. 91.7-101.0 PARSMLT: Drade queen, 2 hartised with what to moderate Achibolity accuse will q to loo thingen (commis bands of I.f. promatical and to look to lo</td><td>***</td><td></td><td></td><td>ye bo</td><td>henher</td><td>الك</td><td></td><td></td><td></td></tr><tr><td>81.98 - 82.28: 8 cm q 5/cars vei J. V.G. et Cut @ 82.05. 4% means 82.28 - 83.0 ; < h(s), te 3 cm phisq n st park, 13e enhised from s 83.0 - 83.3; S cm q 13/cars vein, VG. in q 5 @ 83.1, 3% means, in the life 83.3 - 84.3; 25 cm q 13/cars vein, Average 13. A Ramo, 2% q 48. 84.3 - 85.8: (60% q 13/cars) 10% park, 5% means enhised, son meanelly 85.8 - 86.8: fine hime q 13/cars 3% park, 1% average 87.9 - 89.4: 10% of 13/cars veins, 7% park, 3% means 10.55 - 82.05: 5% magnetile with 3cm of 10% park, 2% areone. 91.7-101.0 BASALT: Danale queen, < h(s), tiger with weak to moderate 11.7-101.0 BASALT: Danale queen, < h(s), tiger with means bands to T. Fermahamas (13) (13) (14) (14) (15) (15) (15) (15) (15) (15) (15) (15</td><td></td><td></td><td></td><td></td><td></td><td></td><td>cheden</td><td>(</td><td></td></tr><tr><td>82.28-83.0; <a href=" https:="" td="" www.no.no.no.no.no.no.no.no.no.no.no.no.no.<=""><td></td><td>81.98 - 82.28: 8cm 95/carby</td><td>ein V.G.</td><td>at Cut</td><td>@ 82.05</td><td>H% AR</td><td>sus</td><td></td><td></td>		81.98 - 82.28: 8cm 95/carby	ein V.G.	at Cut	@ 82.05	H% AR	sus		
8.3.3 - 84.3 : 25cm qtz/cab ve a, Avalue e 1% ARONDE, 2% qq.R. 84.3 - 85.8 : (00% qtz/cab, 10% pqx, 5% ARONDE, 20 mognet to 85.8 - 86.8 : fine hine qtz/cab 32/pqx, 1% ARONDE. 876.9 - 89.4 : 10% qtz/cab veins, 7% pqx, 3% ARONDE. Muso included in a thin band of I.f. in follows. 82.55 - 82.65 : 5% mognetile with dem of 10% page 2% ARONDE. 91.7 - 101.0 PASALT: Davele queen, < hlaitized with weak to moderate Acholosty acassival qtz/cab stringer Contriss bands of I. Fermatical con 15 stringer. 94.4 - 96.5 : I.f., 20% mog, with qtz tqhorite.	B	82.28-83.0 i < h(oite, 3cm	phings	10h 74x	176	entired	inor;		
8.3.3 - 84.3 : 25cm qtz/cab ve a, Avalue e 1% ARONDE, 2% qq.R. 84.3 - 85.8 : (00% qtz/cab, 10% pqx, 5% ARONDE, 20 mognet to 85.8 - 86.8 : fine hine qtz/cab 32/pqx, 1% ARONDE. 876.9 - 89.4 : 10% qtz/cab veins, 7% pqx, 3% ARONDE. Muso included in a thin band of I.f. in follows. 82.55 - 82.65 : 5% mognetile with dem of 10% page 2% ARONDE. 91.7 - 101.0 PASALT: Davele queen, < hlaitized with weak to moderate Acholosty acassival qtz/cab stringer Contriss bands of I. Fermatical con 15 stringer. 94.4 - 96.5 : I.f., 20% mog, with qtz tqhorite.		83.0 - 83.3; Scm 9/3/coby	ew, VG. 1	4950	83.1.3	To Auson.	دائم	·hly),
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91.7-101.0 PARSALT: Dravele queen, < hloritiger with bent to vowerte Achobsty. Occassival 93/cab stringer Contrains bandsoft Total Contrains band									
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94.4-96.5: J.F., 20% may, with gt schorte.		82.55 - 82.65 : 5% magnetil	e with	dem of	10% PUR	2% ARO	eno.		
94.4-96.5: J.F., 20% may, with gt schorte.						ļ			
94.4-96.5: J.F., 20% may, with gt schorte.	91.7-101.	MASALT: Davile green, < hloritized	with a	beach lo	vuselen	ti			
94.4-96.5: J.F., 20% may, with gt schorte.		Achorbity occussional 95/ens	Stunger	Contra	is 614.	dooh I.	Ferm	ah	حم
	**************************************	(V) (SLIOWS:					ļ		
			wilk a	12 rgh	loch.	<u> </u>			

DIAMOND DRILL RECORD

	PROPERTY	HOLE NO. 84-8						,			
SHEET NUMBER	Four	SECTION FROM	то_		STA	RTED					
LATITUDE DATUM					COMPLETED						
DEPARTURE		BEARING			ULT	IMATE D	EPTH				
ELEVATION		DIP		PROPOSED DEPTH							
DEPTH PEET		FORMATION		SAMPLE No.	WIDTH OF BAMPLE	GOLD \$	SUDDE				
	47.3-	17.6: I.F. 10%	o magnetil	- Deiry	95,0	hlvit	stringer	2) 041	0		
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	100.7	108.8:T.F , 10:	<u> </u>	<u>~</u>	u	u.		 -			
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DIAMOND DRILL RECORD

	PROPERTY VI JNIHVE WAY				_ ,	_	
SHEET NUMBER _	ONS SECTION FROM	<u>то 35.0 м</u>	itis STA	RTED_H	3/12 7/8"	4 .	-
LATITUDE	BLUZ SOUTH DATUM		_ col	MPLETED	Ja: - 8/8	<u>34.</u>	
DEPARTURE 1-	15+20 VJEST BEARING_		UL1	TIMATE DI	EPTH 74.	D Meler	٤.
ELEVATION	DIP -50°		_ PRC	POSED DE	EPTH		
HU KIS. DEPTH ERET	FORMATION	SAMPLE NO.	WIDTH OF BAMPLE	GOLD #	SOLD S		
0-11	Chris						
11- 22.3	BASALT: DAVEL FIREIN, Chl	nitized moder	te su	historia	4		
	U. (.g. live hime yts/onto str	werens Illo Do			.,		
	Mugle 350 to come diss	748 16.		<u>'</u>			
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22.3-22.4	IRON FORMation. BANded, 15%	MAGNETILL, 95	& dklon	li,			
72.1 20.1			1	-4-			
70,4 - 18,4	MAGNET: DAVEL GVEREN, Chlor	itizio woule	104010	رادر			<u> </u>
	Jelsie phenocraph alliquid wi	ik scholosing	dus				
	124×5 15/2						_
39 11 30 D	I Row Formation: Banded, 10	5) (17.	, to 4			_
70.4- 31.0		• •	Jerice,	43 80	March		i –
	two phingers of cese	= 74K.					
34.0 - 35.0	BASALT: DARL GREEN, Chl	outice build	Lat. Ac	history	ć .		_
7,70	live live 95 cmb 1 Him is 11	to Achislosite	with		7-		i—
	Octows Signed of Thin, Area	ouc 1 muz as	اداروس	•			
	•		_				
	29.8-30.9: 10cm \$ 40cm	15/careb veins	2% p	(2 % A)	wwo		
	30-9-						L
	34.7-35.0; locus ala	Konb reine 1 to	12% AV	coore.			İ

N.M.P., TORONTO-STOCK FORM NO. 301 REV. 12/51

SIGHED WY MI

DRILLED BY

PROPERTY MC Joshy & BIRCH Mole HOLE NO. 84-6

SHEET NUMBER _	HEET NUMBER 1600 SECTION FROM 35.0 TO		_ STA	ARTED				
LATITUDE		DATUM		COMPLETED				
DEPARTURE		BEARING	·	ULTIMATE DEPTH				
ELEVATION		DIP		_ PROPOSED DEPTH				
DEPTH FEET	FOR	MATION	SAMPLE NO	WIDTH OF SAMPLE	GOLD \$	SCLD S		
35.0 - 45.8	BASALT: DARLE C to massive a chip pry ! I	pkzzw. churitized ju with Iclose phenos allig	مودرال م ما نام	recircol Places				
45.8-64.5	BASALT: Darle	green, Chloritizer,						
	Arbero	consional off/cirb As focus. -55.2; fine (15/cirb				ne, 5%.	nesino	
	55.7 -	- 56.9: 15% 95/enb	V150)	Avenc.,	3%,24	R 3%.	ARS110	٠ .
	51.3- 62.1	5000 or Jron torm -51.5: 20% magnet -62.4: 15% magnet -63.2: 15% magne	14,95	chluit		٠ ١٩٠٠ .		
64.5-74.0	BASALT: DAK	ole in piners.			1 nd 9 16	ained		
		12 ND OF 11028						
N.M.P., TORONTO-STO	D ANKILS -490 CK FOAM NO. SOI AEV. 12/51 DRILLED BY		SIGN	IED \	10	irm-		<u></u>



REPORT ON

MCINTYRE MINES PROPERTY BIRCH LAKE AREA RED LAKE MINING DIVISION, ONTARIO

for

CARMAC RESOURCES LIMITED

by

W. H. THORPE, P.ENG.
WHITE ROCK, B.C., 30 APRIL, 1983

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REPORT ON

MCINTYRE MINES PROPERTY
BIRCH LAKE AREA

ONTARIO

for

CARMAC RESOURCES LIMITED

INTRODUCTION

The following report on the McIntyre Birch Lake claims has been prepared for Carmac Resouces Limited. This report indicates new possibilities for exploration which have not been pursued previously.

The report is based on the writer's knowledge of the area, previous work at producing gold properties, access to McIntyre records and limited published information.

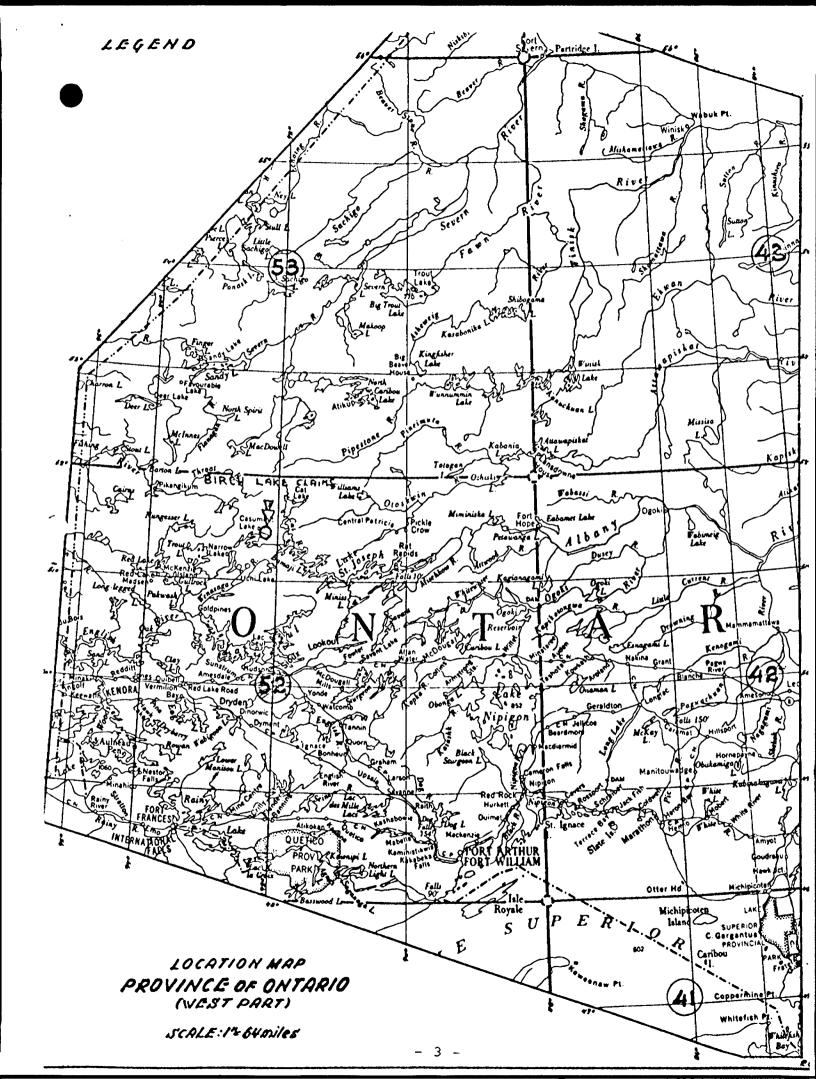
SUMMARY

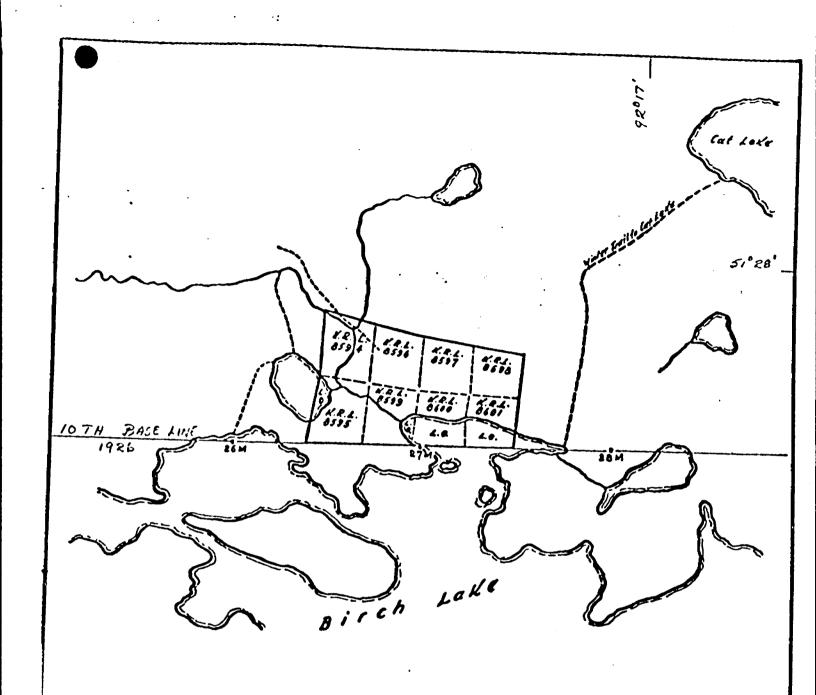
Considerable exploration work has been completed on the McIntyre Birch Lake claims since gold was discovered there in 1928. Gold occurs in quartz-carbonate-tourmaline veins accompanied by arsenopyrite, pyrite and chalcopyrite. The veins lie along shears in chloritized, carbonatized intermediate to basic volcanics.

The veins are lensy in shape and usually lie en echelon along shear planes. Thus all exploration carried out to date has been discouraging because of the limited nature of individual veins. Prospecting and geological mapping by a field crew in 1975 discovered several quartz-diorite intrusives containing quartz-carbonate veins which have not been investigated previously.

The most favourable quartz-diorite along with its adjacent shears have been selected for a diamond drill investigation.

Costs of this program are estimated at \$67,000.





M°INTYRE PORCUPINE MINES LTD. BIRCHLAKE CLAIM GROUP DISTRICT OF KENORA ONTARIO

SCALE: 1"= 40 CHAINS

FEBR. 1960.

CLAIMS

A total of 8 claims, 398.91 acres (land and lake water) make up the Birch Lake property as follows:

PARCEL NO.	PATENT NO.	CLAIM NO.	TOTAL ACREAGE
421	8332	KRL 8594	56.83
422	8333	KRL 8595	60.68
423	8334	KRL 8596	51.40
424	8336	KRL 8597	45.58
425	8337	KRL 8598	40.50
426	8338	KRL 8599	50.40
427	8339	KRL 8600	47.95
428	8340	KRL 8601	45.57
		TOTAL:	398.91

Over lake waters the following Licences of Occupation are held:

CLAIM NO.	L.O. NO.	WATER ACREAGE
KRL 8595	3213	8.96
KRL 8599	3214	7.50
KRL 8600	3215	27.39
KRL 8601	3216	25.41
	TOTA	AL: 69.26

LOCATION AND ACCESS

The Birch Lake property, consisting of 8 contiguous patented claims and making up 398.91 acres, is located on the north end of Birch Lake, approximately 70 miles northeast of the town of Red Lake. The former gold producer known as the Casey Summit or New Jason, on Casummit Lake, is situated about 2 miles to the northwest on Casummit Lake.

There are no roads or landing fields in the area, the usual method of access being by air from Red Lake.

HISTORY OF BIRCH LAKE CLAIMS

- 1928 Discovery of gold-bearing quarts vein by Jack Miller, a McIntyre prospector. A boundary survey was completed in September and the claims brought to patent.
- 1929 Extensive prospecting and trenching by McIntyre personnel led to the discovery of other veins along the general strike.
- 1931 Five diamond drill holes were put down totalling 1,954 feet. One ore intersection, 0.38 ounces of gold over 13 feet, in hole No. 4, was obtained.
- Property leased to Cooper and Barry. A 90 foot vertical shaft was sunk and a 20 ton mill erected which produced at least 200 ounces of gold. Tailings suggest 1200 tons were processed. A drift was driven approximately 50 feet below surface from the shaft area for a horizontal distance of 155 feet, only part of which was ore grade. Evidently most of the mill feed came from surface trenches.
- 1935 Approximately 2000 feet of diamond drilling was carried out by Cooper along the main strike.

 The results must have been discouraging as the property was returned to McIntyre afterwards.

HISTORY (continued)

- 1940 McIntyre put down 7 holes along the general strike to test the previously known veins for continuity. Occasional erratic values were interesected but these could not be correlated from hole to hole.
- 1975 A McIntyre field crew carried out a program of soil sampling, geophysical surveying, blasting, sampling and geological mapping.

 An EM survey indicated some conductivity in bands of iron formation. Several quartz-diorite intrusives were located by prospecting. These had not been recorded previously.

TOPOGRAPHY AND DRAINAGE

The region is one of low relief, drainage is sluggish and muskeg is common. Some cliffs of 25 feet high are present where the initial vein was found on the McIntyre property but generally the country is flat although undulating where bedrock is shallow. Low lying areas are often covered with muskeg which is underlaid by glacial drift. Maximum relief above lake waters is approximately 60 feet.

TIMBER

Trees grow to sufficient size to be useful for finished lumber. Timber for ground support, draw points and raises is also available. However, forest growth is not heavy being restricted in swampy ground or often stunted elsewhere due to the proximity of bedrock. The largest conifers would be about 22 inches in diameter and 35 feet tall.

GEOLOGY - GENERAL

The Birch Lake property lies within a belt of Keewatin type acid to basic lavas, pyroclastics and iron formation which extends along the north shore of Birch Lake in the east to the Mink Lake area in the west. Overlying the Keewatin are some Timiskaming-type sediments. Intrusions of Algoman type include granite, syenite, quartz porphyry, quartz-feldspar porphyry, diorite and quartz veins.

Along this belt gold finds have been reported over a length of at least 12 miles from east to west. Some production of gold has come from the Richardson Lake area but the best known concentration is probably that of the Casey Summit property (1930's) or the New Jason as it was known later in the 1950's. A 150 ton mill was present on this property when the last closure took place in 1952. Mill heads were reported to be between 0.30 and 0.40 ounces of gold per ton.

GEOLOGY - BIRCH LAKE CLAIMS

The McIntyre property is located on a band of intermediate to basic volcanics which generally strike N53°W and dip vertically or steeply northward to a minimum of 65°. Within this band of volcanics is a zone of intermittent shearing approximately 600 to 700 feet in width. The shearing generally appears to be conformable to the flow contacts

GEOLOGY- BIRCH LAKE CLAIMS (continued)

but has been noted to cross them on local folds within the volcanics. All gold discoveries to date have occurred along the shears and the quartz veins appear to be controlled partly by the intensity of shearing, partly by fold structures and pillows in the volcanics and partly by the different competencies of the flows. Unfortunatley, all efforts to extend the known gold-bearing veins in the past have been fruitless and further work does not appear to be warranted in this regard.

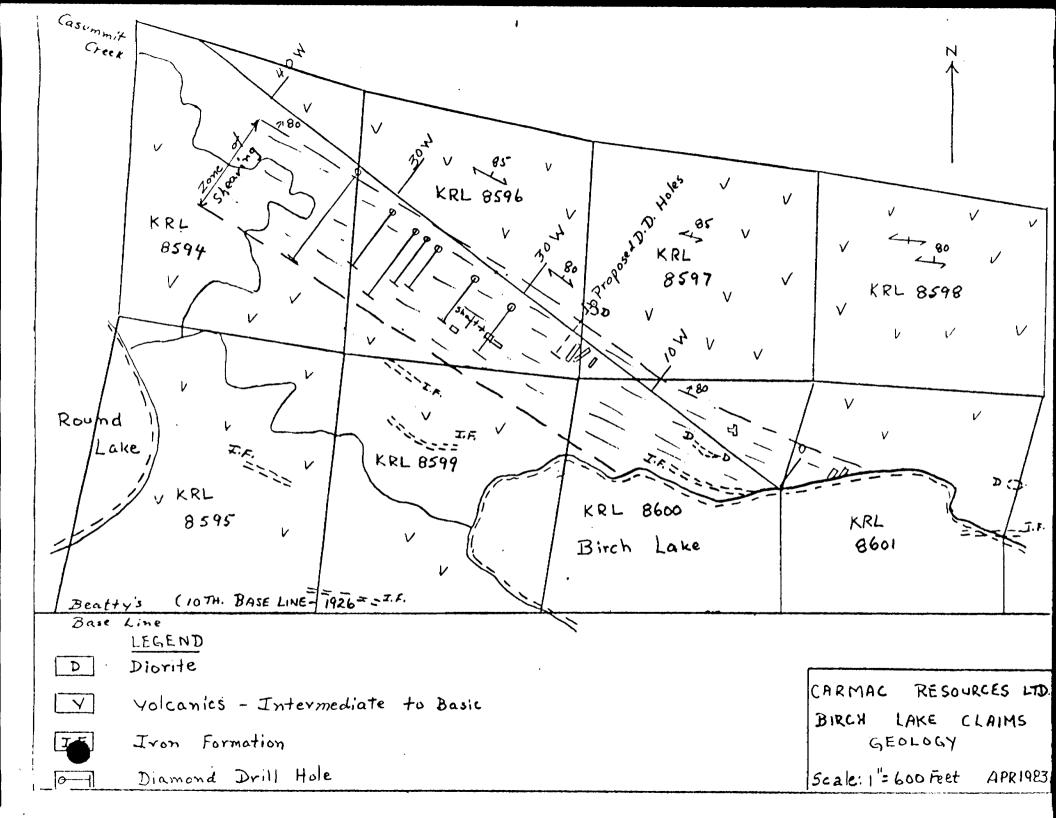
Although iron formation is present in several outcrops no gold values have been found and there is no suggestion it may be a host rock. In general the attitudes appear to conform to the enclosing volcanics.

Several outcrops of quartz-diorite were uncovered by prospecting in 1975. Although all of these show quartz-carbonate veins the most prominent veins are exposed in the outcrop at 16 + 22W, 1 + 82N where quartz-carbonate veins constitute up to 30% of the exposure in places. Some pyrite is present but surface samples have indicated negligible gold content. Exploratory diamond drilling is warranted to check the quartz-diorite for values on its own merits and to check the areas of shearing within and nearby this intrusive. For lack of exposure the contacts are assumed to be vertical but the true horizontal outline of this intrusive is unknown.

GEOLOGY - BIRCH LAKE CLAIMS (continued)

CONCLUSIONS

An interesting situation is considered to exist in which geological and structural conditions may combine to form an economic gold deposit.



RECOMMENDATIONS

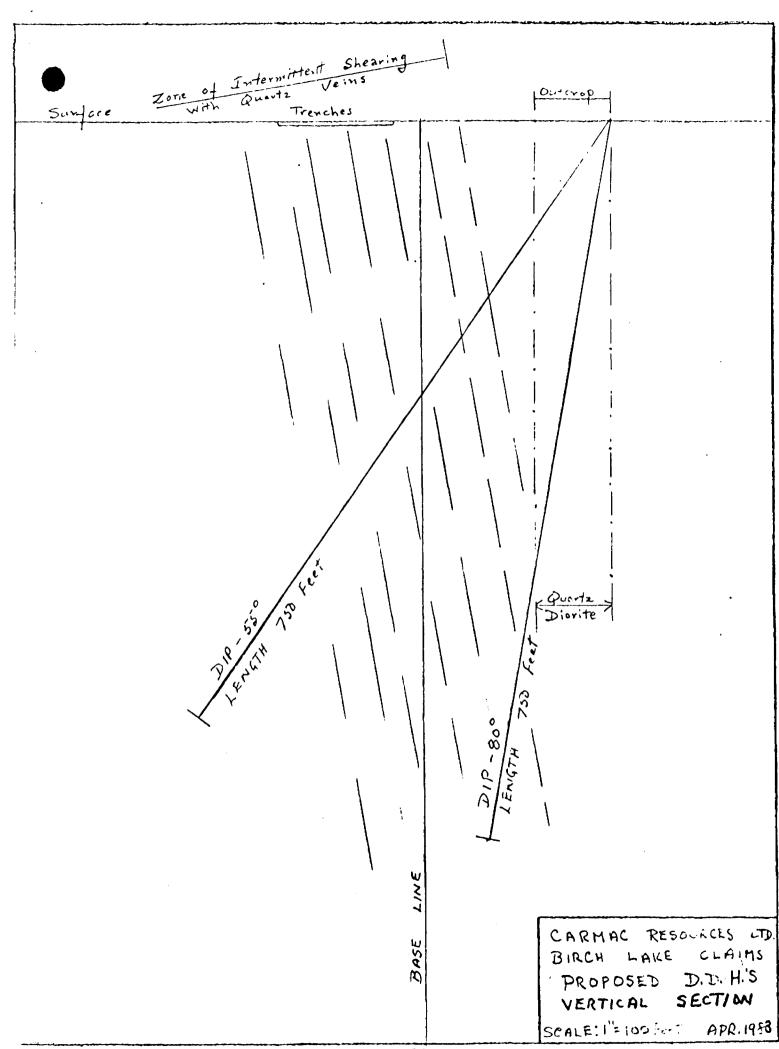
Two diamond drill holes are proposed to investigate the conditions which exist in the area of the quartz-diorite outcrop at 16 + 22W, 1 +82 N. These holes should tentatively be drilled as follows:

B Q CORE

	COLLAR	DIP	AZIMUTH	LENGTH	PURPOSE
1.	16 + 25W	-55°	143°	750'	To explore quartz
	2 + 00N		(Grid S.)		veins in diorite and
					to check for veins
					within shears in
					vicinity.
2.	16 + 25W	-80°	143°	750 '	To explore for quartz
	2 + 00N		(Grid S.)		veins in depth within
					diorite and to check
					south contact area.

ESTIMATE COSTS OF DIAMOND DRILLING PROGRAM

Diamond drilling 1500 feet x \$25.00 per foot =	\$37,500
Helicopter and fixed wing support 1500 x \$10.00 =	15,000
Overhead, assays, geological expenses 1500 x \$10=	15,000
TOTAL	\$67,000



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REFERENCES

- McIntyre Mines Limited files.
- 2. Geology of the Shabumeni Birch Lakes Area by George D. Furze, Vol, XLII, Part VI, 1933, Forty-second Annual Report of the Ontario Department of Mines.
- 3. Northern Miner files.

Vancouver, B.C. April 30, 1983

Respectfully Submitted,

W.H. Thorpe, B.Sc., P. Eng.



ENGINEER'S CERTIFICATE

I, WALTER H. THORPE, of 1379 Merklin Street, Suite 204, in the City of White Rock, British Columbia,

DO HEREBY CERTIFY:

- 1. That I am a Consulting Geologist with a business address as preceding in the City of White Rock, British Columbia.
- 2 That I am a graduate of the University of New Brunswick with a degree of B. Sc. in Geology.
- 3. That I have actively practiced my profession in mining and mineral exploration since graduation in 1951.
- 4. That I am a registered Professional Engineer in the Province of Ontario and am a member of the Canadian Society for Professional Engineers as well as a fellow of the Geological Association of Canada.
- 5. That this report is based on the writer's general and particular knowledge of the area, visits to the property and a review of available data.
- 6. That I have no interest either directly or indirectly in the property or securities of Carmac Resources Limited, nor do I expect to receive any.
- 7. That permission is hereby given to Carmac Resources Limited to reproduce this report with a Statement of Material Facts.

W.H. THORPE, B.Sc., P. Eng.

DATED at the City of White Rock, Province of British Columbia. This 30th day of April, 1983.

