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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

DM 83-1-IV-90



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TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
Summary	2
Claim and Patent Numbers	5
Location and Access	6
History	7, 8
Topography and Drainage	9
Timber	9
Geology	10, 11
Conclusions	12
Recommendations	14
References	16
Certification	17, 18

ILLUSTRATIONS

	<u>Page</u>
Location Map	3
Claim Map	4
Geology - Map	13
Vertical Section	15

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 Resources 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

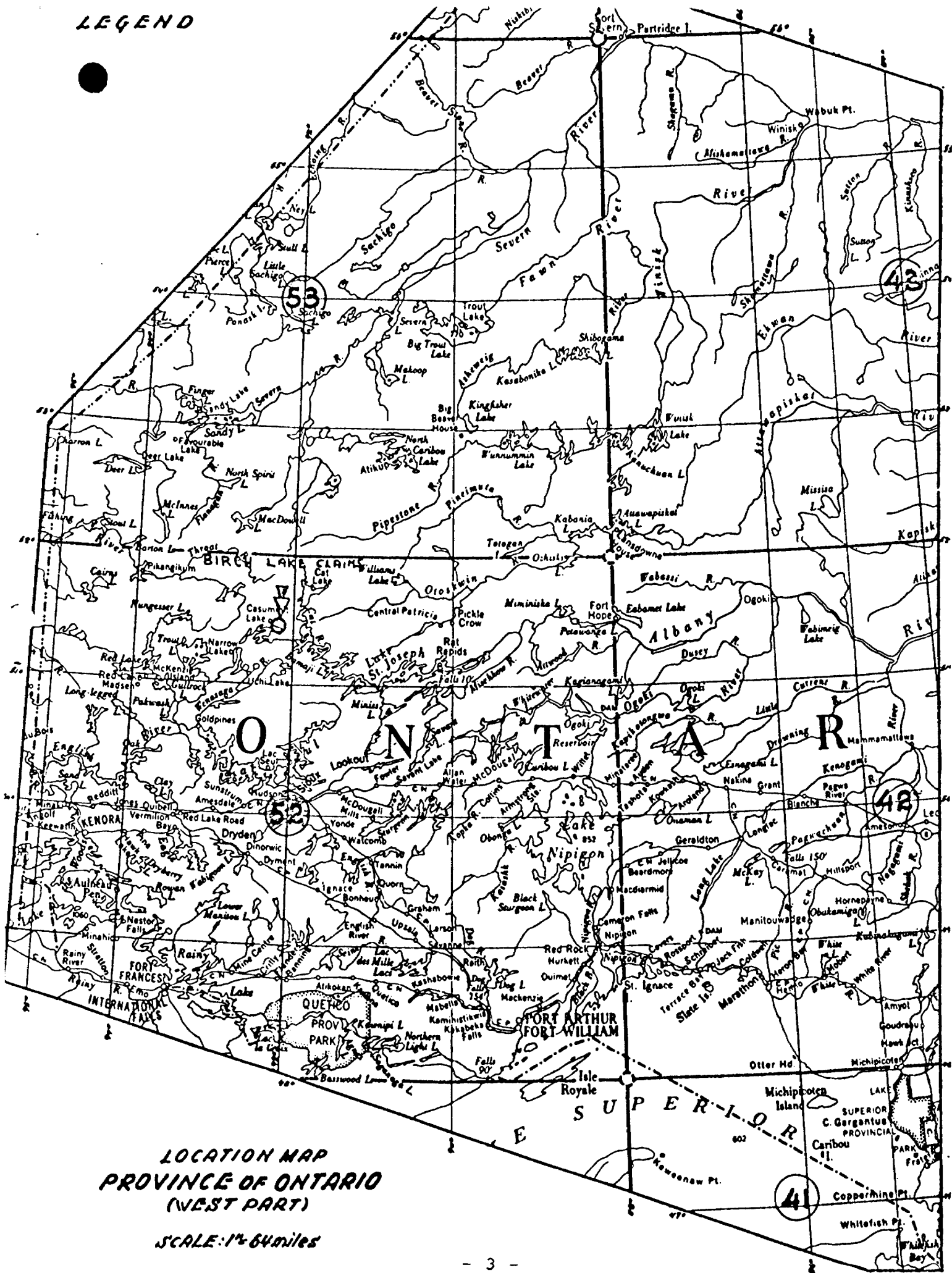
Considerable exploration work has been completed on the McIntyre Birch Lake claims since gold was discovered there in 1928. Gold occurs in quartz-carbonate-tourmaline veins accompanied by arsenopyrite, pyrite and chalcopyrite. The veins lie along shears in chloritized, carbonatized intermediate to basic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

The veins are lensey 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.

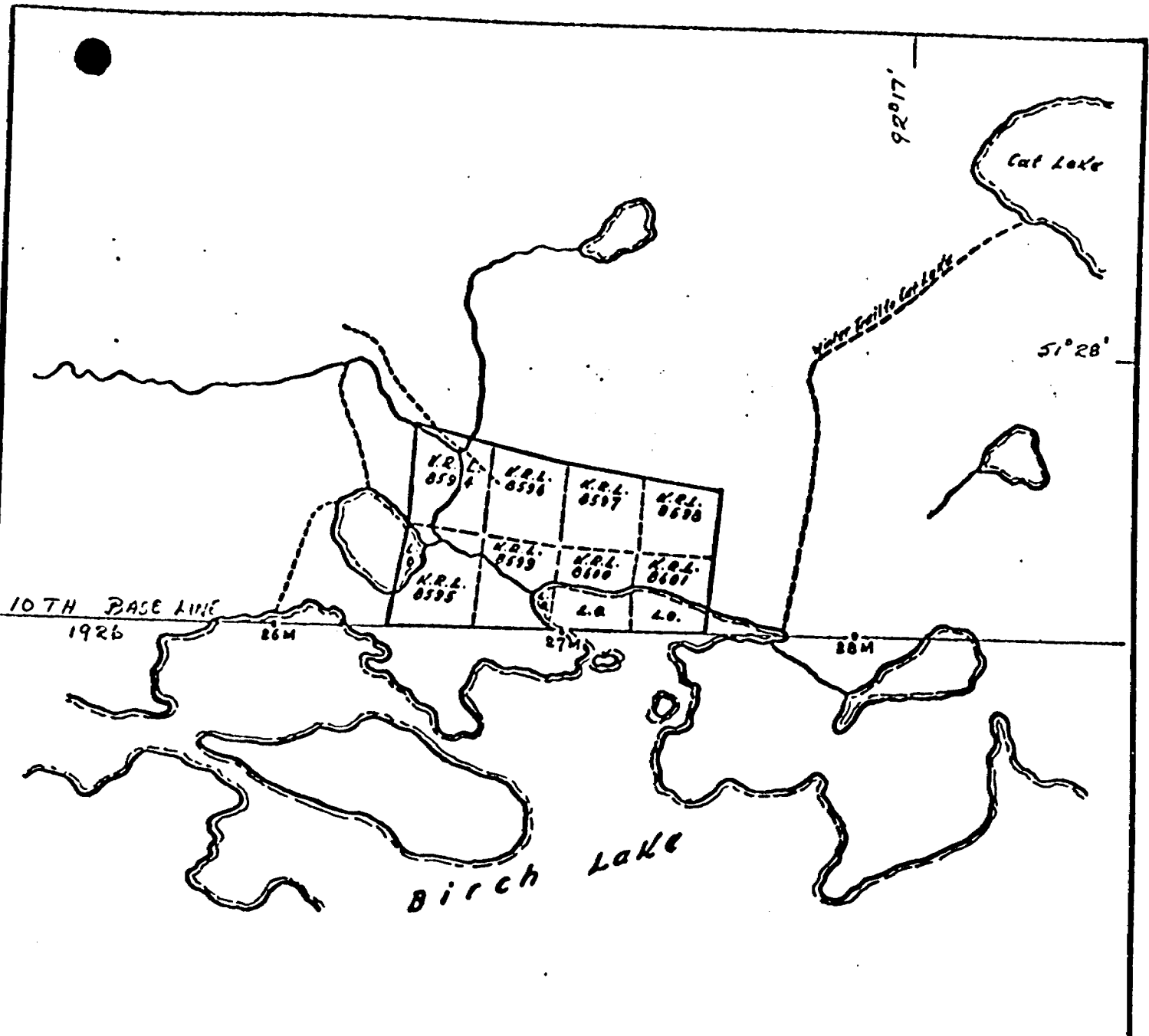
Costs of this program are estimated at \$67,000.

LEGEND



**LOCATION MAP
PROVINCE OF ONTARIO
(WEST PART)**

SCALE: 1:64 miles



M^CINTYRE PORCUPINE MINES LTD.
BIRCH LAKE 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:

<u>PARCEL NO.</u>	<u>PATENT NO.</u>	<u>CLAIM NO.</u>	<u>TOTAL ACREAGE</u>
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:	<u>398.91</u>

Over lake waters the following Licences of Occupation are held:

<u>CLAIM NO.</u>	<u>L.O. NO.</u>	<u>WATER ACREAGE</u>
KRL 8595	3213	8.96
KRL 8599	3214	7.50
KRL 8600	3215	27.39
KRL 8601	3216	25.41
	TOTAL:	<u>69.26</u>

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 quartz 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.
- 1934 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 intersected 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. Unfortunately, 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.

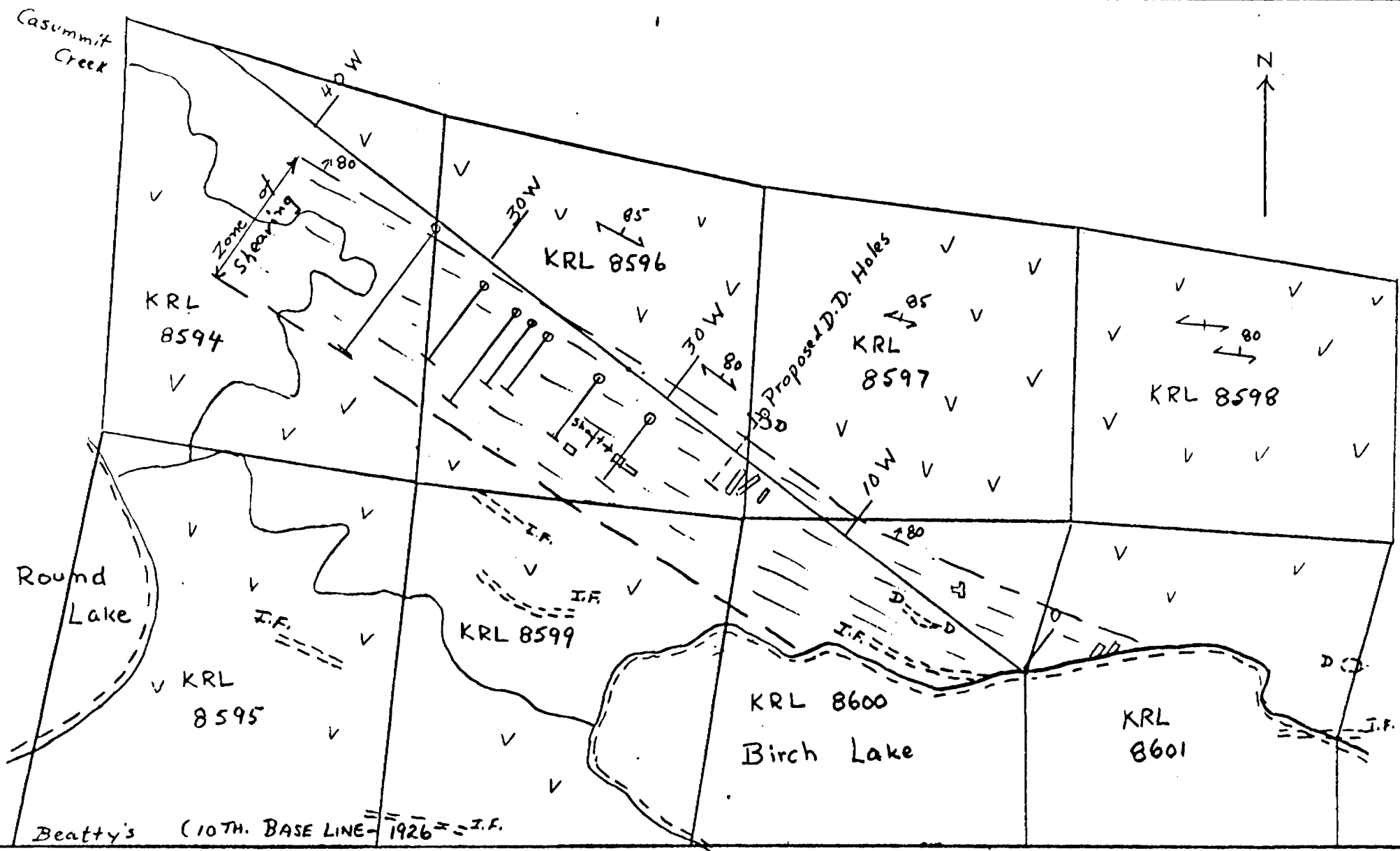
Several outcrops of quartz-diorite were uncovered by prospecting in 1975. Although all of these show quartz-carbonate veins the most prominent veins are exposed in the outcrop at 16 + 22W, 1 + 82N where quartz-carbonate veins constitute up to 30% of the exposure in places. Some pyrite is present but 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.

Casummit Creek



Beatty's (10th. BASE LINE - 1926 - I.F.)

Base Line

LEGEND

- D Diorite
- V Volcanics - Intermediate to Basic
- I.F. Iron Formation
- D.D. Diamond Drill Hole

CARMAC RESOURCES LTD.
 BIRCH LAKE CLAIMS
 GEOLOGY
 Scale: 1" = 600 Feet APR 1983

RECOMMENDATIONS

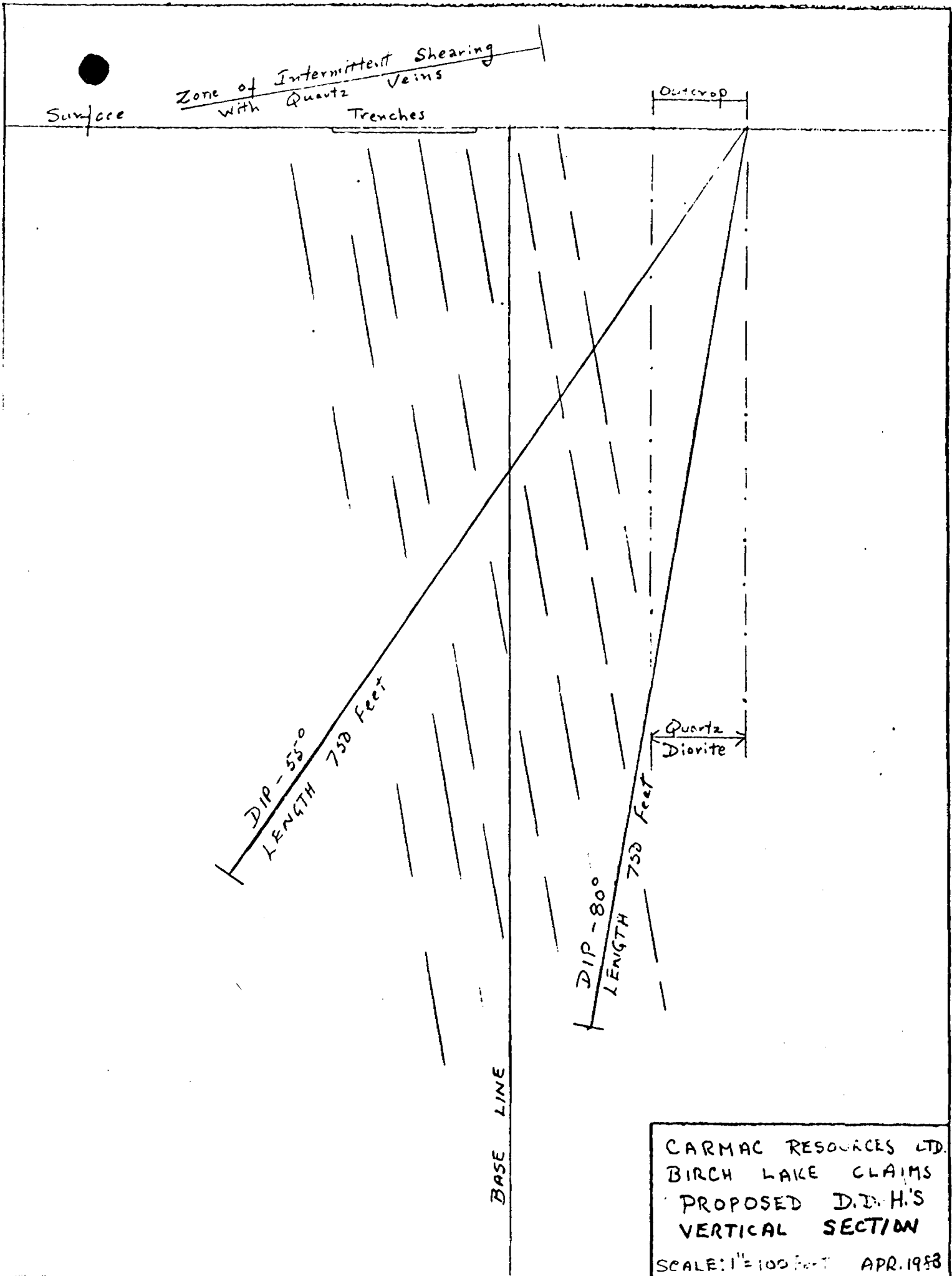
Two diamond drill holes are proposed to investigate the conditions which exist in the area of the quartz-diorite outcrop at 16 + 22W, 1 +82 N. These holes should tentatively be drilled as follows:

B Q CORE

	<u>COLLAR</u>	<u>DIP</u>	<u>AZIMUTH</u>	<u>LENGTH</u>	<u>PURPOSE</u>
1.	16 + 25W 2 + 00N	-55°	143° (Grid S.)	750'	To explore quartz veins in diorite and to check for veins within shears in vicinity.
2.	16 + 25W 2 + 00N	-80°	143° (Grid S.)	750'	To explore for quartz 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
		<hr/>
	TOTAL	<u>\$67,000</u>



CARMAC RESOURCES LTD.
 BIRCH LAKE CLAIMS
 PROPOSED D.D.H.'S
 VERTICAL SECTION
 SCALE: 1" = 100 FEET APR. 1988

REFERENCES

1. 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 Depart-
ment of Mines.

3. Northern Miner files.

Vancouver, B.C.
April 30, 1983

Respectfully Submitted,



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

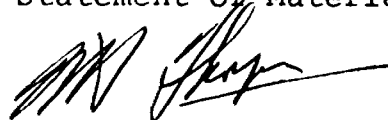


ENGINEER'S CERTIFICATE

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.





52N08NW0042

REPORT ON

BIRCH LAKE JOINT VENTURE

BIRCH LAKE AREA, ONT.

RED LAKE MINING DIVISION

FOR

TENAJON SILVER CORP.

BY

J. W. MACLEOD

VANCOUVER, B. C.

MARCH 20, 1984



52N08NW0042

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TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	1
PROPERTY	2
GENERAL	3
GEOLOGY	5
MINERAL OCCURRENCES	5
CONCLUSIONS AND RECOMMENDATIONS	7

ILLUSTRATIONS

	<u>Following Page</u>
LOCATION MAP	2
PLAN OF CLAIMS	2
PLAN OF DRILL HOLES	6
PLAN OF SECTION HOLES 83-1 & 2	6
APPENDIX I - DRILL LOGS	
APPENDIX II - EXPENDITURE	
APPENDIX III - ENGINEER'S CERTIFICATE	

BIRCH LAKE JOINT VENTURE
1983 PROGRAM & 1984 RECOMMENDATIONS

SUMMARY

During 1983 Tenajon Silver Copr. and Carmac Resources agreed to finance a proposal by Walter Thorpe to investigate a geological bet on ground owned by McIntyre Mines located on the north shore of Birch Lake.

The proposal involved drilling for the intersection of a sheared zone with a quartz-diorite stock. The projected intercept was not obtained but a quartz vein similar to the original discovery was cut which assayed 0.288 Au over 5.0 feet. This intercept requires follow-up and to this end 2200 feet of drilling is recommended at an estimated cost of \$88,000.00.

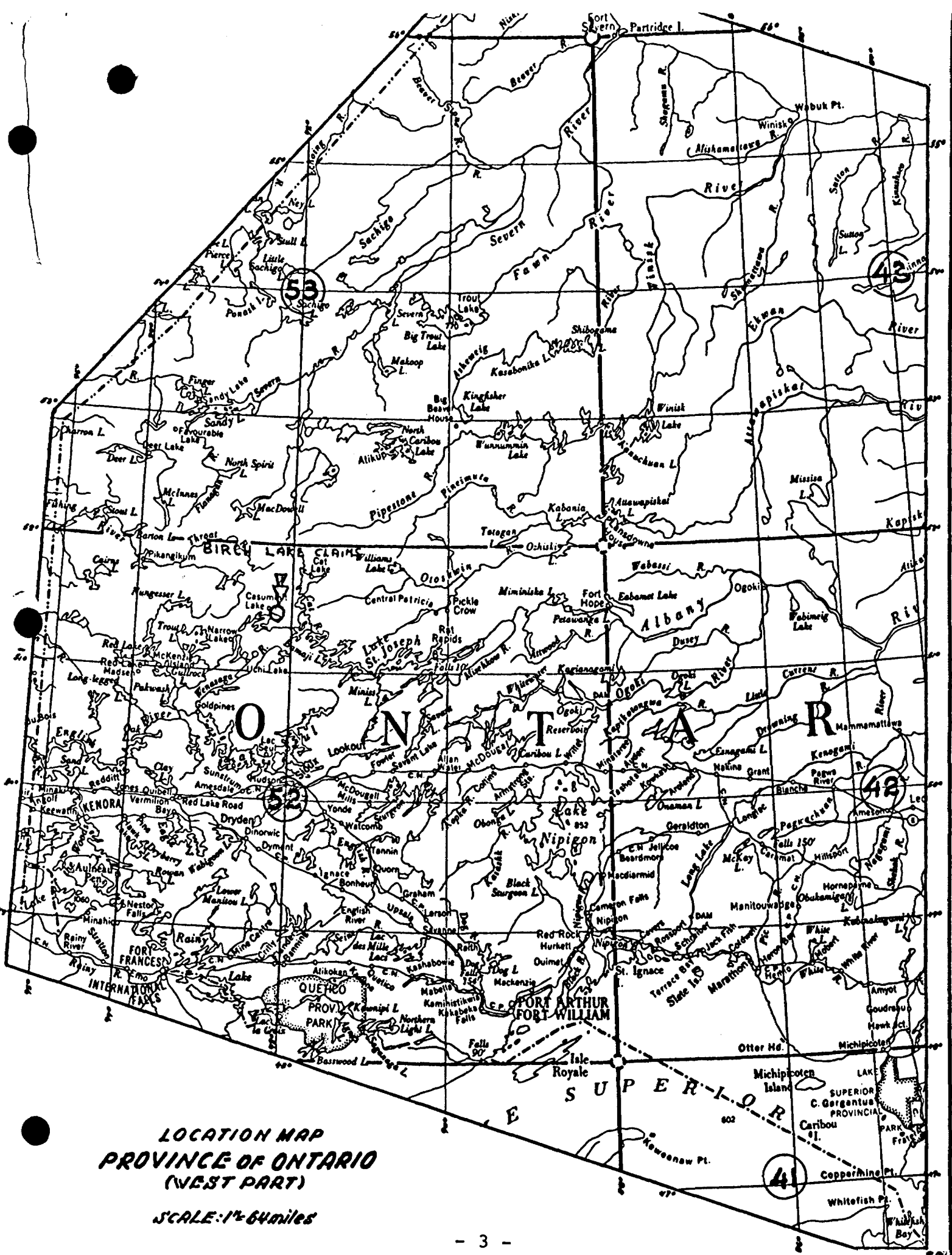
PROPERTY

The property consists of the following 8 patented claims:

<u>PARCEL NO.</u>	<u>PATENT NO.</u>	<u>CLAIM NO.</u>	<u>TOTAL ACREAGE</u>
421	8332	KRL 8594	56.83
422	8333	KRL 8595	60.68
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428	8340	KRL 8601	<u>45.57</u>
		TOTAL	<u>398.91</u>

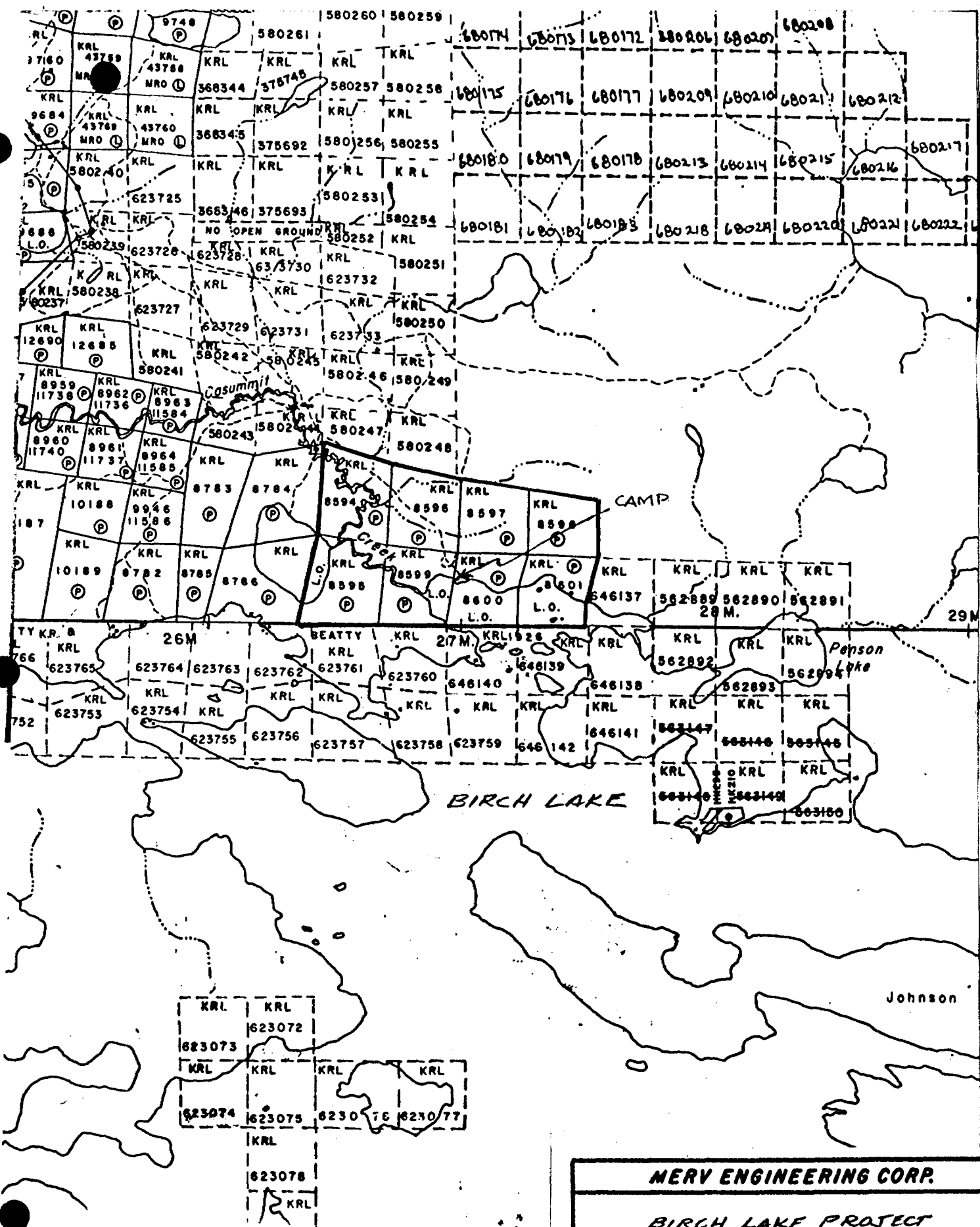
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KRL 8595	3213	8.96
KRL 8599	3214	7.50
KRL 8600	3215	27.39
KRL 8601	3216	<u>25.41</u>
	TOTAL	<u>69.26</u>



**LOCATION MAP
PROVINCE OF ONTARIO
(WEST PART)**

SCALE: 1" = 64 miles



MERV ENGINEERING CORP.	
<i>BIRCH LAKE PROJECT</i>	
<i>PLAN OF CLAIMS</i>	
DRAWN BY: JWAJ	SCALE: 1" = 1/2 Mi.
DATE: MARCH 15, 1964	N.T.S. :

GENERAL

The property is located on the north end of Birch Lake 70 miles ENE of Red Lake, the closest float charter base, and 25 miles NNE of Uchi Lake, the closest road access.

The following historical summary is after Thorpe:

- 1928 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.
- 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.
- 1934 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.

GEOLOGY

The general geology of the area is available in Ontario Geological Survey Preliminary Map P2387.

In 1975 McIntyre mapped the claim area on a scale of 1" = 200 feet with picket lines at 200 foot intervals for ground control.

The claims are underlain by a series of basic to intermediate metavolcanics consisting of flows, pyroclastics and iron formation. Map P2387 indicates the west boundary area to be intruded by quartz porphyry but this is not confirmed by McIntyre mapping.

The rocks are foliated along a general trend of N53°W with a steep dip to the north. Attitudes observed in the iron formation approximately parallel the foliation.

MINERAL OCCURRENCES

Gold has been the principal target in this area although Dome Mines has just completed (March 1984) a drilling program on their pyrrhotite, pyrite, copper, zinc and silver prospect 2 miles to the northeast of the McIntyre property.

Gold is mainly found associated with arsenical quartz veins and production from this type was achieved at the Casummit property 2 miles to the northwest of the McIntyre. Production at Cassumit amounted to 35,000 tons of 0.34

from 1935 to 1940 and 102,000 tons of 0.36 between 1946 and 1952.

The arsenical vein mined on the McIntyre property in 1934 has been extensively explored by drilling to the northwest. The best intersection from this work was in the most westerly hole (M4) which cut 0.93 Au over 1.0 feet.

Two holes were drilled in 1983 to test the possibility of the shear zone assaying values in the quartz-diorite intrusive. These holes did not intersect the anticipated values in the shear zone but hole 1-83 cut three quartz veins between 408 and 413 feet mineralized with 10% pyrite and arsenopyrite. Visible gold was also noted in this section. The five foot section assayed 0.288 Au. Also a 6 inch vein between 397 and 401 was mineralized with pyrite and arseno and the three foot section assayed 0.088.

CONCLUSIONS AND RECOMMENDATIONS

A new discovery has been made with the intersection of gold values in hole 1-83 which requires followup drilling. Three holes are recommended to explore this vein, one in section above 1-83 and one on either side at 100 foot spacing.

It has been suggested that the EM anomaly obtained by the 1975 program may be due to iron formation but the known IF outcrops do not give an anomaly so a hole is recommended to test this zone.

A hole is also recommended to the southeast of mined vein to test for possible improvement in this direction.

These holes are summarized below:

84-1	18+00W - 650 south; -50° , $S37^{\circ}W$ (to test EM anomaly)	350'
84-2	16+20W - 225 north; -52° , $S37^{\circ}W$ (to cut vein 200' above 1-83)	400'
84-3	15+20W - 225 north; -60° , $S37^{\circ}W$ (to test for southeast ext.)	550'

84-4	17+20W 225 north; -60° S 37° W (to test for northwest ext.)	550'
84-5	16+00W 300 south; -50° S 37° W (to test shaft vein to southeast)	350'
		<hr/>
		2200'

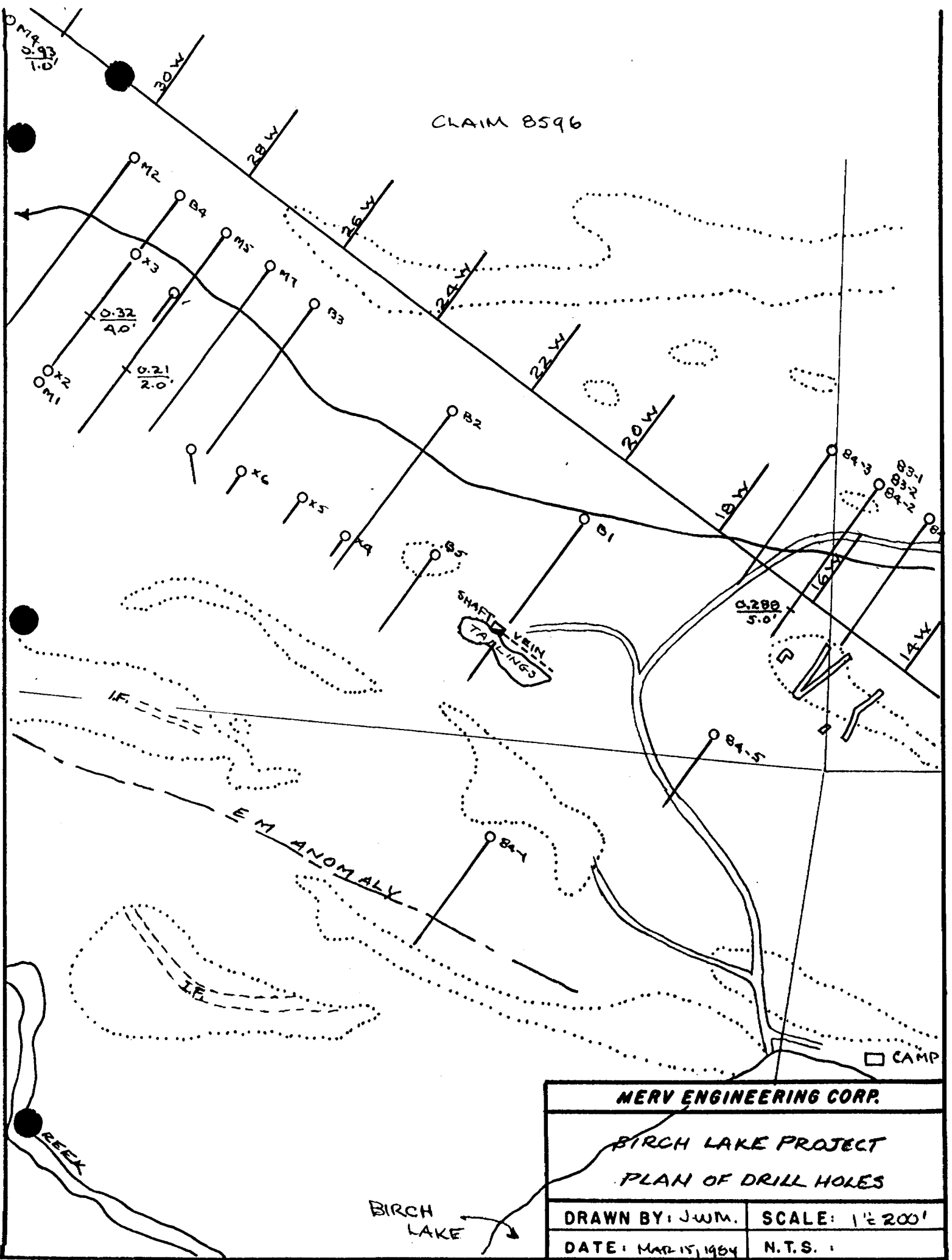
The estimated cost of this drill program is
\$88,000.00

Respectfully Submitted,
J. W. Seal, D. Eng.

A P P E N D I X I

1983 DRILL LOGS

CLAIM 8596



← S37°W

TRENCHES

BL

1-83

2-83

QV QUARTZ VEIN

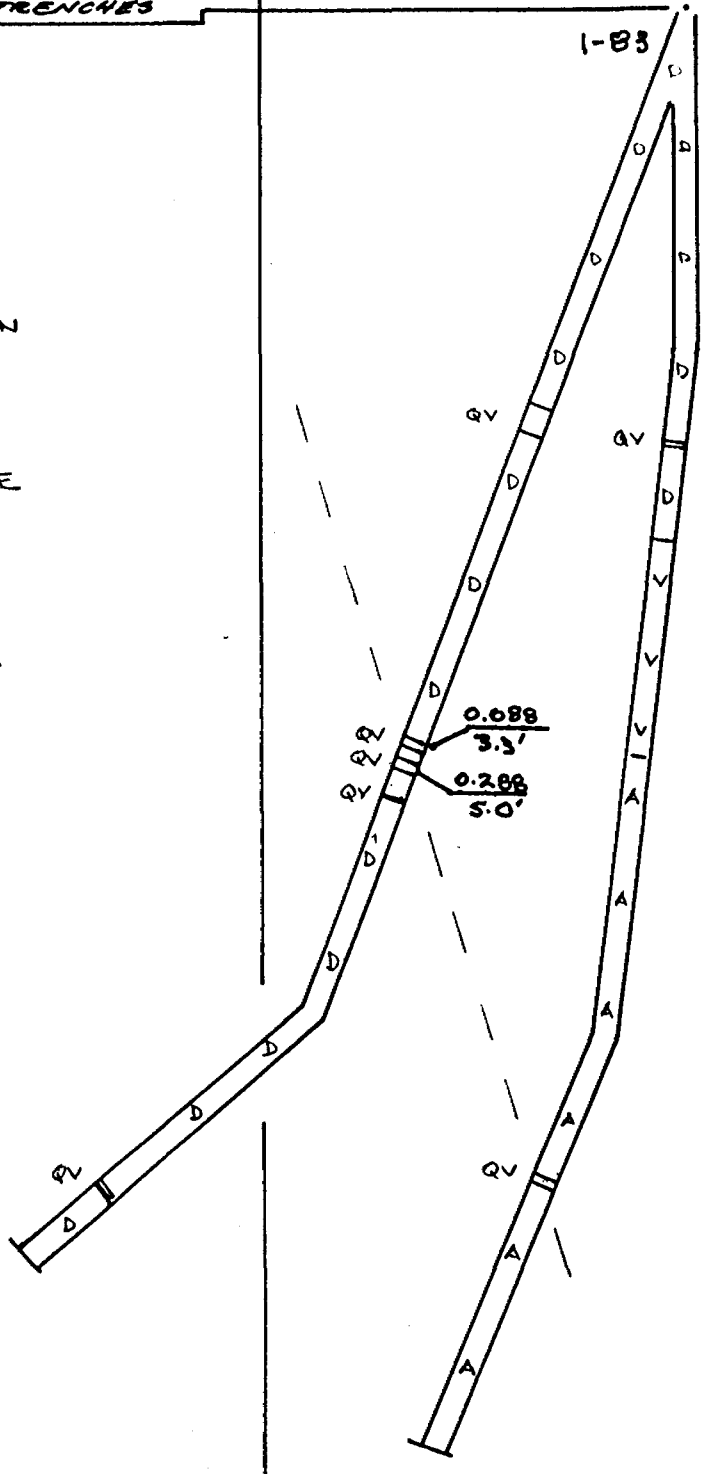
D DIORITE

A ANDESITE

V DACITE

0.288
5.0

02. AV
FEET



MERV ENGINEERING CORP.

BIRCH LAKE PROJECT
SECTION - HOLES 1-2-83

DRAWN BY: JWM

SCALE: 1" = 100'

DATE: Mar. 15, 1984

N.T.S. :

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 1-83

DIP TEST		
Collar	Angle	-70°
Footage	Reading	Corrected
350 feet	-72°	-68°
747 feet	-47°	-40°

Hole No. 1-83 Sheet No. 1
 Section 16 + 20 W
 Date Begun 10 July, 1983
 Date Finished 22 July, 1983
 Date Logged As drilled

Lat. 2 + 25N
 Dep. 16 + 20 W
 Bearing S 37° W
 Elev. Collar _____

Total Depth 747.0 Feet
 Logged By W.H.Thorpe
 Claim 8597,8596
 Core Size BQ

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE				
FROM	TO										
0	4.0	Nil	Casing								
4.0	215.0	100%	Diorite, dark green, carbonatized f.g. 2-3% disseminated pyrite, chloritic, slight schistosity to moderate schistosity. Occasional quartz-carbonate (sometimes tourmaline) veins trending along schistosity with traces of arsenopyrite, pyrite and pyrrhotite. 4.0-25.0 5% quartz-carbonate veins, traces pyrite. 25.0-42.0 less than 5% quartz-carbonate stringers with traces pyrite. 42.0-46.0 20% quartz-carbonate veins, 3% to 4% disseminated arsenopyrite, pyrite and chalcopyrite. 46.0-57.0 highly chloritic in places, slight schistosity at 35° to C.A. 57.0-98.0 10% irregular quartz-carbonate veins with traces pyrite. 98.0-118.0 5% quartz-carbonate stringers along slight schistosity at 60° to C.A.	17501	42.0	46.0	4.0				

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 1-83

DIP TEST		
		Angle
Footage	Reading	Corrected

Hole No. 1-83 Sheet No. 2 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE				
FROM	TO										
			112.0-113.0 5% pyrite, pyrrhotite in 1/2" QC vein at 65° to C.A.	17502	112.0	113.0	1.0				
			125.5-126.5 6" quartz vein at 45° to C.A. Prominent hematite, trace pyrite	17503	125.5	126.5	1.0				
			129.5-131.0. Three 1/2" QC veins with trace pyrite, at various angles to C.A.	17504	129.5	130.0	1.5				
			131.0-152.0 slight schistosity through- out at 55°-65° to C.A. A few QC threads along schistosity.								
			152.0-157.0 massive diorite with prom- inent hornblend crystals. Occasional quartz-hematite vein (less than 10% overall) not mineralized.								
			157.0-162.0 20% QTC veins at 80°-65° to C.A. apparently barren.	17505	157.0	162.0	5.0				
			162.0-163.0 massive as before 1" QC ground								
			162.5' at 75° to C.A.								
			163.0-177.0 highly chloritized with a few arsenopyrite crystals (<1.0%) along moderate schistosity at 45°-55° to C.A.								

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claim

HOLE No. 1-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 1-83 Sheet No. 3 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE					
FROM	TO											
			Carbonate threads along schistosity.									
			177.0-202.0 chloritized, slight schistosity									
			at 55°-65° to C.A. A few QC epidote									
			threads at various angles to C.A. Occ-									
			asional arsenopyrite crystal.									
			202.0-203.0 5" QC epidote vein in along	17506	202.0	203.0	1.0					
			schistosity at 75° to C.A., out irregular,									
			with trace arsenopyrite, pyrite									
			203.0-212.0 moderate schistosity at 70°									
			to C.A. QC threads along schistosity									
			with traces arsenopyrite, pyrite.									
			212.0-215.0 moderate schistosity at 70°	17507	212.0	215.0	3.0					
			to C.A. 10% QC veins along schistosity									
			with traces arsenopyrite, pyrite.									
215.0	230.0	100%	Vein, QTC with general trend at 70° to									
			C.A., 10% chloritic wall rock inclusions									
			215.0-220.0 traces pyrite	17508	215.0	220.0	5.0					
			220.0-225.0 traces arsenopyrite	17509	220.0	225.0	5.0					
			225.0-230.0 barren	17510	225.0	230.0	5.0					

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claim

HOLE No. 1-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 1-83 Sheet No. 4 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH FROM	TO	RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE						
230.0	408.0		Diorite, f.g.										
			230.0-233.0 slight schistosity at 75° to C.A. 5% to 10% QC veins along schistosity, traces arsenopyrite in veins, 5% to 10% arsenopyrite crystals in wall rock. 233.0-272.0 slight schistosity at 70°-60° to C.A., occasional QC thread along schistosity with trace pyrite.	17511	230.0	233.0	3.0						
			272.0-274.0 20% QC veins along schistosity at 60° to C.A. with 2% disseminated pyrite.	17512	272.0	274.0	2.0						
			274.0-292.0 a few QTC threads along slight schistosity at 75° to C.A. A few traces pyrite, arsenopyrite.										
			592.0-306.5 up to 10% QC stringers but apparently barren.										
			306.5-311.5 10% QC stringers along schistosity at 80° to C.A. with traces arsenopyrite and pyrite, hematite staining in places.	17513	306.5	311.5	5.0						
			311.5-316.5 20% QC stringers with traces	17514	311.5	316.5	5.0						

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claim

HOLE No. 1-83

DIP TEST		
		Angle
Footage	Reading	Corrected

Hole No. 1-83 Sheet No. 5 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	Au.		
FROM	TO									
			pyrite, arsenopyrite along slight							
			schistosity to 80° to C.A., hematite							
			staining in places.							
			316.5-354.5 5% QC threads along slight							
			schistosity at 70°-45° to C.A. traces							
			pyrite.							
			354.5-359.5 10% QC veins along slight	17515	354.5	359.5	5.0	-		
			schistosity at 65° to C.A., 2% dis-							
			saminated arsenopyrite.							
			389.0-392.0 highly chloritic, 10% QTC	17516	389.0	392.0	3.0	-		
			veins at 45° to C.A. along schistosity							
			with traces pyrite.							
			392.0-397.0 A few QC threads along							
			schistosity at 55° to C.A., traces							
			pyrite, arsenopyrite.							
			397.0-401.0 Two 1/2" irregular white	17517	397.0	401.0	4.0	0.02%		
			quartz, 6" QTC vein at 55° to C.A. with							
			15% pyrite, arsenopyrite. Wall rock has							
			10%-15% pyrite, arsenopyrite.							
			401.0-408.0 A few QC threads along							
			schistosity at 55° to C.A.							

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 1-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 1-83 Sheet No. 6 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH FROM	TO	RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	AU	
408.0	413.0	100%	Veins. Three -6", 22", 5" QTC veins at 45°-60° to C.A. with 10% pyrite, arsenopyrite, magnetite. Rest is f.g. diorite with 3% disseminated pyrite, arsenopyrite.	17518	408.0	413.0	3.0 5.0	0.288	
413.0	425.7	100%	Diorite, f.g., schistose 413.0-425.7 slight schistosity at 55° to C.A. a few QC threads.						
425.7	427.0	100%	Vein 14" QTC vein at 65° to C.A. with 2% pyrite, arsenopyrite, prominent magnetite.	17519	425.7	427.0	1.3	-	
427.0	692.2	100%	Diorite, f.g. schistose 427.0-434.5 5% QC stringers along schistosity at 60° to C.A. 434.5-435.5 9" QC-chlorite vein with traces pyrite, at 80° to C.A. Rest is chloritized diorite. 435.5-451.0 5% QC veins along slight schistosity at 60° to C.A.	17520	434.5	435.5	1.0	-	

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 1-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 1-83 Sheet No. 7 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE					
FROM	TO											
			451.0-452.0 4" QTC breccia vein, vuggy with large calcite crystals (up to 1/8") 50% disseminated pyrite. Wall rock is chloritized but unmineralized.	17521	451.0	452.0	1.0					
			452.0-467.5 slightly schistose at 60° to C.A. traces pyrite.									
			467.5-473.0 5% somewhat irregular QTC stringers with traces arsenopyrite.									
			473.0-477.0 20% QTC trending along slight schistosity at 75°. Some veins have hematite straining, 2% disseminated arsenopyrite.	17522	473.0	477.0	4.0					
			477.0-499.0 slightly schistose to massive, a few QTC threads which are irregular or aligned along schistosity at 70° to C.A. 3" QC-epidote vein at 495.0 with 2% pyrite.									
			499.0-500.0 6" QTC vein at 75° to C.A. with 2% pyrite, arsenopyrite.	17523	499.0	500.0	1.0					
			500.0-503.5 slight to moderate schist- osity at 75° to C.A. Traces pyrite,	17524	500.0	503.5	3.5					

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 1-83

DIP TEST		
		Angle
Footage	Reading	Corrected

Hole No. 1-83 Sheet No. 8 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE						
FROM	TO												
			pyrrhotite along QC threads.										
			503.5-507.0 5% QTC stringers and threads	17525	503.5	507.0	3.5						
			both along schistosity at 75° to C.A.										
			and irregular with 2% pyrite in places.										
			507.5-575.5 5% OC stringers mainly										
			irregular with Trace pyrite.										
			515.5-518.5 Two 2", 8" QTC veins with	17526	515.5	518.5	3.0						
			2% disseminated pyrite at 70° to C.A.										
			Rest is chloritized diorite with a few										
			QC threads.										
			518.5-523.0 slightly schistose at 70° to										
			C.A. or massive.										
			523.0-524.0 vein 9" QTC with 3% pyrite	17527	523.0	524.0	1.0						
			at 70° to C.A., prominent magnetite.										
			524.0-548.0 slightly schistose at 70°										
			to C.A. to massive. A few QTC threads										
			apparently barren.										
			548.0-552.0 chloritic, 10% irregular QC	17528	548.0	552.0	4.0						
			veins with traces pyrite, pyrrhotite.										
			552.0-557.0 35% irregular QC veins with	17529	552.0	557.0	5.0						
			traces pyrite, pyrrhotite.										

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 1-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 1-83 Sheet No. 9 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE				
FROM	TO										
			557.0-568.5 slight schistosity in places at 55° to C.A., a few QTC threads apparently barren. 1" QTC vein around 558.0' at 60° to C.A. with 4% coarse pyrite, arsenopyrite.								
			568.6-570.5 2 1/2" QTC vein at 60° to C.A. with coarse with 5% coarse pyrite, arsenopyrite. Rest is diorite with a few QTC threads and traces of pyrrhotite throughout.	17530	568.6	570.5	2.0				
			570.5-609.0 fairly massive with occasional QC thread at 75° to C.A., traces pyrrhotite.								
			609.0-622.0 slight schistosity at 75° to C.A., occasional QTC thread. 1" QTC around 620.0 feet with 5% coarse pyrite trending along schistosity at 75° to C.A.								
			622.0-655.5 silicified and carbonatized with numerous QC stringers along schistosity at 75° to C.A., 2%-3% disseminated pyrite in places.								

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 1-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 1-83 Sheet No. 10 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE				
FROM	TO										
			655.5-660.5 A few QC threads along slight schistosity at 80° to C.A. with traces pyrite, arsenopyrite.	17531	655.5	660.5	5.0				
			660.5-680.0 slightly schistose at 75° to C.A., a few QC threads along schistosity with traces pyrite.								
			680.0-686.5 15% QC veining apparently barren.								
			686.5-687.0 auto inclusion or dyke at 80° to C.A.								
			687.0-692.2 10% QC stringers along schistosity at 80° to C.A. apparently barren.								
692.2	694.2		Veins two 12", 2" QTC veins with 5% handed pyrite, contacts parallel to schistosity at 75° to C.A.	17532	692.2	694.2	2.0				
694.2	736.5		Diorite								
			694.2-696.5 slightly schistose. 3" QC vein along schistosity at 80° to C.A.	17533	694.2	696.5	2.3				

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 1-83

DIP TEST		
Angle		
Footage	Reading	Corrected

Hole No. 1-83 Sheet No. 11 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE			
FROM	TO									
			2% pyrite, arsenopyrite							
			696.5-720.5 chloritic, 10% QC threads							
			both along schistosity and cutting across							
			it in irregular fashion apparently barren.							
			720.5-722.0 a few irregular QTC stringers	17534	720.5	722.0	1.5			
			with 2% disseminated pyrite in veins							
			and wall rock.							
			722.0-736.5 fairly massive to slightly							
			schistose at 85° to C.A.							
736.5	740.0	100%	Veins 13" QTC vein at 80° to C.A. Rest	17535	736.5	740.0	3.5			
			is diorite with 15% QTC stringers at							
			80° to C.A. with 2% disseminated pyrite,							
			5% magnetite.							
740.0	747.0		Diorite. A few QC threads and stringers							
			both along slight schistosity at 80° to							
			C.A. and across it. 2" QTC with 2% pyrite							
			at 80° to C.A. around 724.5'.							
	747.0		END OF HOLE							

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 2-83

DIP TEST		
Footage	Angle	
	Reading	Corrected
0	-90°	
350	-85°	-84°
700	-73°	-69°

Hole No. 2-83 Sheet No. 1
 Section _____
 Date Begun 22 July, 1983
 Date Finished 25 July, 1983
 Date Logged As drilled

Lat. 2 + 25N
 Dep. 16 + 20W
 Bearing 537°W
 Elev. Collar Surface

Total Depth 757.0 feet
 Logged By W.H. Thorpe
 Claim 8597, 8596
 Core Size BQ

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	/Ton Au oz.			
FROM	TO										
0	4.0		Casing								
4.0	147.5	100%	Quartz Diorite								
			4.0-27.0 slight schistosity at 20° to C.A., 2% disseminated pyrrhotite and pyrite throughout. 5% irregular QC stringers with 2% pyrite.								
			27.0-32.0 5% irregular QC, 3% disseminated pyrite. Character sample. If assay interesting adjoining sections should be sampled.	17536	27.0	32.0	5.0				
			32.0-58.0 fairly massive, 2% disseminated pyrrhotite, pyrite.								
			58.0-60.0 slight schistosity at 60° to C.A.								
			60.0-111.5 fairly massive from 77.5 to 78.5 some barren irregular QC replacement.								
			111.5-112.8 Two 1 1/2" QTC veins at 45° to C.A. with 2% disseminated pyrite. Traces of arsenopyrite in wall rock.	17537	111.5	112.8	1.3				

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 2-83

DIP TEST		
		Angle
Footage	Reading	Corrected

Hole No. 2-83 Sheet No. 2 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	/ <i>ton</i> Au. oz.					
FROM	TO												
			112.8-145.0 A few QC stringers and threads at 45° to irregular to C.A. with traces pyrite in places 145.0-147.5 moderate schistosity at 45° to C.A., a few QC threads and stringers.										
147.5	158.0	100%	Basalt, highly chloritic, altered with numerous carbonate threads at all angles to C.A.										
158.0	221.5	100%	Diorite, contacts indefinite										
			158.0-169.5 f.g.										
			169.2-170.8 3" QTC at 45° to C.A. with 8% coarse pyrite in places. Rest is diorite with traces of pyrite pyrrhotite	17538	169.2	170.8	1.6						
			170.8-219.0 f.g. a few QC threads with traces pyrite.										
			219.0-221.5 a few QC threads, traces pyrite throughout.	17539	219.0	221.5	2.5						
221.5	222.8	100%	Vein 12" QTC vein at 80° to C.A. with	17540	221.5	222.8	1.3						

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 2-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 2-83 Sheet No. 3 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	/ ton Au oz.			
FROM	TO										
			3% disseminated arsenopyrite.								
222.8	237.5	100%	Diorite								
			222.8-227.8 a few QC threads with traces pyrite throughout.	17541	222.8	227.8	5.0				
			227.8-232.0 f.g.								
			232.0-237.0 highly chloritized, schist- ose at 20° to C.A. A few QC stringers and 2% disseminated pyrite throughout.	17542	232.0	237.0	5.0				
237.5	249.7	100%	Quartz Diorite, massive, 5% QC stringers apparently barren. Contacts at 20% C.A.								
249.7	266.3	100%	Diorite f.g.chloritic. Moderate schistosity in places at 45° to C.A. occasional trace pyrite. Out of contact along schistosity.								
266.3	273.5	100%	Quartz Diorite, slight to moderate schistosity at 50° to C.A. traces pyrite throughout. A few QC threads along								

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 2-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 2-83 Sheet No. 4 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH FROM	TO	RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	/ <i>ton</i>				
								Av.	oz.			
			schistosity. Out contact parallels									
			schistosity.									
273.5	387.0	100%	Dacite flow, slight to moderate schistosity at 50° to C.A., 2% pyrrhotite throughout.									
			322.0-323.0 3" QC vein along schistosity at 45° to C.A. with 2% disseminated pyrite.	17543	322.0	323.0	1.0					
			323.2-355.5 5%-1-% irregular QC stringers and threads apparently barren.									
			355.5-363.0 becoming slightly schistose at 30° to C.A. with occasional QC thread along schistosity.									
			363.0-367.0 moderate schistosity at 40° to C.A. 5% QC threads along schistosity with 2% disseminated pyrite throughout.	17544	360.0	367.0	4.0					
			367.0-369.0 10% somewhat irregular QC veins with traces pyrite.	17545	367.0	369.0	2.0					
			369.0-387.0 slight schistosity in places at 30°-45° to C.A., traces pyrite throughout.									

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 2-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 2-83 Sheet No. 5 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	Au. oz.			
FROM	TO										
387.0	608.2	100%	Andesite, green, f.g., chloritic, no clear contact with preceding.								
			387.0-501.0 slight schistosity in places at 25°-50° to C.A., 5% OC stringers apparently barren along schistosity. Appears resicular in places and possibly fragmental with fragments elongated along schistosity, occasional QC threads.								
			605.0-606.2 8" QC magnetite with 2% disseminated pyrite at 60° to C.A.	17549	605.0	606.2	1.2				
			606.2-608.2 10% QC threads along schistosity at 55° to C.A. apparently barren.								
608.2	614.0		Vein OC - magnetite vein with 5% cubic pyrite throughout up to 1/32", out at 45° to C.A. Includes 8" chloritic andesite with 5% pyrite.	17550	608.2	614.0	5.8				
614.0	757.0		Andesite								
			614.0-616.0 slight schistosity in places								

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 2-83

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. 2-83 Sheet No. 6 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH	FROM	TO	RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	701 Au. Oz.				
				at 55°-65° to C.A., a few QC threads along schistosity.									
				618.8-619.8 3" QC with trace pyrite at 65° to C.A.	17551	618.8	619.8	1.0					
				641.0-642.3 Two 4", 1" QC veins at 60° to C.A. with trace pyrite.	17552	641.0	642.3	1.3					
				645.7-647.0 4" QC magnetite vein at 60° to C.A., 5% disseminated pyrite. Wall rock has QC threads.	17553	645.7	647.0	1.3					
				501.0-520.0 magnetite - epidote-chlorite rich. From 517.0-520.0 is particularly rich in magnetite (10%) with 1% cubic pyrite to 1/16".									
				549.5-550.5 4" QC along schistosity at 40° to C.A., traces pyrite. Adjoining wall rock has some magnetite.	17546	549.5	550.5	1.0					
				556.6-558.0 Dacite, massive, a few QC threads. In at 60°, out at 45° to C.A.									
				558.0-608.2 Andesite, some pyroclastic inclusions.									
				558.0-562.0 moderate schistosity at 45°									

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

2-83

HOLE No. _____

DIP TEST		
		Angle
Footage	Reading	Corrected

Hole No. 2-83 Sheet No. 7 Lat. _____ Total Depth _____
 Section _____ Dep. _____ Logged By _____
 Date Begun _____ Bearing _____ Claim _____
 Date Finished _____ Elev. Collar _____ Core Size _____
 Date Logged _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE					
FROM	TO											
			to C.A.									
			590.5-592.7 15% irregular QC veins with 2% disseminated pyrite at 45° to C.A.	17547	590.5	592.7	2.2					
			598.0-605.0 a few QC threads apparently barren.									
			647.0-649.3 10" QC magnetite vein at 55° to C.A. with trace pyrite.	17554	647.0	649.3	2.3					
			649.3-650.6 8" QC vein at 50° to C.A., not mineralized.	17555	649.3	650.6	1.3					
			650.6-673.0 slight schistosity at 45°- 55° to C.A. A few QC threads along schistosity barren.									
			673.0-704.0 slight to moderate schistosity at 45° to C.A. A few QC threads along schistosity barren.									
			704.0-708.0 Three 2", 4", 6" QC veins trending along schistosity at 45° to C.A. A few QC threads along schistosity.	17556	704.0	708.0	4.0					
			712.0-757.0 slight schistosity at 55°- 60° to C.A., a few QC threads.									
			721.5-722.5 4" QC magnetite vein at 55°	17557	721.5	722.5	1.0					

DIAMOND DRILL RECORD

PROPERTY McIntyre Birch Lake Claims

HOLE No. 2-83

DIP TEST		
	Angle	
Footage	Reading	Corrected

Hole No. 2-83 Sheet No. 8
 Section _____
 Date Begun _____
 Date Finished _____
 Date Logged _____

Lat. _____ Total Depth _____
 Dep. _____ Logged By _____
 Bearing _____ Claim _____
 Elev. Collar _____ Core Size _____

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE				
FROM	TO										
			to C.A. with 3% fine pyrite.								
757	0		END OF HOLE								

C E R T I F I C A T E

I, James W. MacLeod, of 1220 Arbutus Street,
in the City of Vancouver in the Province of British
Columbia, do hereby certify:

1. That I am a Consulting Engineer, with a business address at 1450 - 625 Howe Street in the City of Vancouver, in the Province of British Columbia.
2. That I am a graduate of the University of Alberta with the degree of B.Sc. in Mining Engineering.
3. That I have actively practiced my profession in mineral exploration since graduation in 1946.
4. That I am a registered Professional Engineer in the Province of British Columbia.
5. That I and Walter Thorpe, P.Eng., directed the diamond drill program on the Birch Lake Joint Venture during 1983.

DATED at the City of Vancouver, Province of
British Columbia this 20th day of March 1984.

J. W. MacLeod, B.Sc., P.Eng.