GEOLOGICAL REPORT
OF THE
VULCAN-CAULFIELD JOINT VENTURE
HEMLO AREA
DISTRICT OF THUNDER BAY, ONTARIO

October 3, 1983
Timmins, Ontario

By: Stephen Conquer
Per: David R. Bell Geological Services In

TABLE OF

I INTRODUCTION

During the period from July 23, 1983 to July 26, 1983 a geological mapping program was conducted for Vulcan Resources Limited, on the Hemlo area claim group of Caulfield Resources Limited. The purpose of this program was three fold. First, to investigate several anomalous geophysical zones (EM, Mag and IP) delineated during the 1982 field season. Second, to locate and delineate any mineralized zones and last, to gain a better understanding of the local geology for aid in the interpretation of the drilling results.

II PROPERTY

This geological survey covered a total of 15 unpatented mining claims, numbered TB393034 to TB393038 incl. and TB393043 to TB393052 incl. All claims are held by Caulfield Resources Ltd., #1520 - 609 Granville St., Vancouver, B.C. This report is being submitted for assessment credits by Vulcan Resources Ltd., 403-595 Howe Street, Vancouver, B.C.

Location and Access (see Figures 1, 2, 3)

The Caulfield property is located in the Molson Lake Area (Hemlo Area), Thunder Bay Mining Division approximately 20 miles due east of Marathon, Ontario and 1.5 miles north of Highway 17.

Access to the property can best be acheived by helicopter from Marathon. Alternate routes include walking a drill road (in the vicinity of Botham Lake) north from Highway 17 or by boat up the Black River which passes under Highway 17 approximately 8 miles east of Marathon.

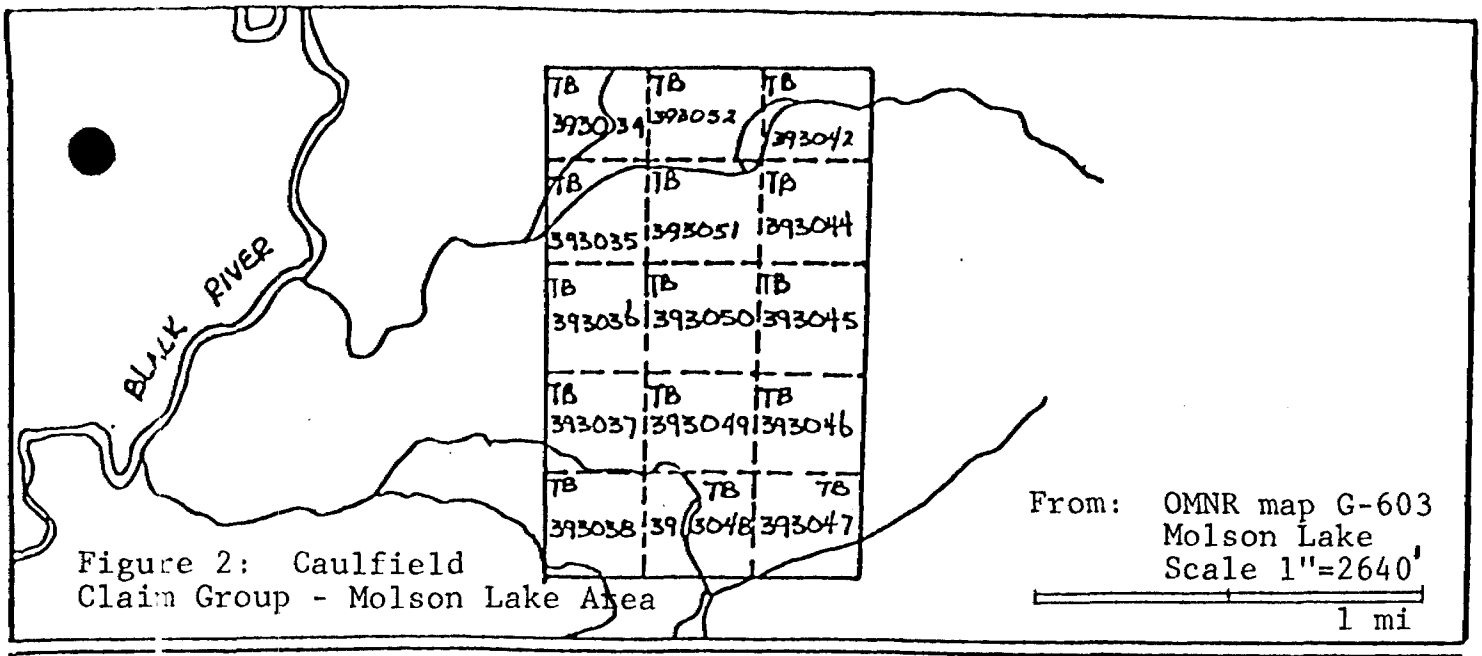

Figure 2: Caulfield Claim Group - Molson Lake Area

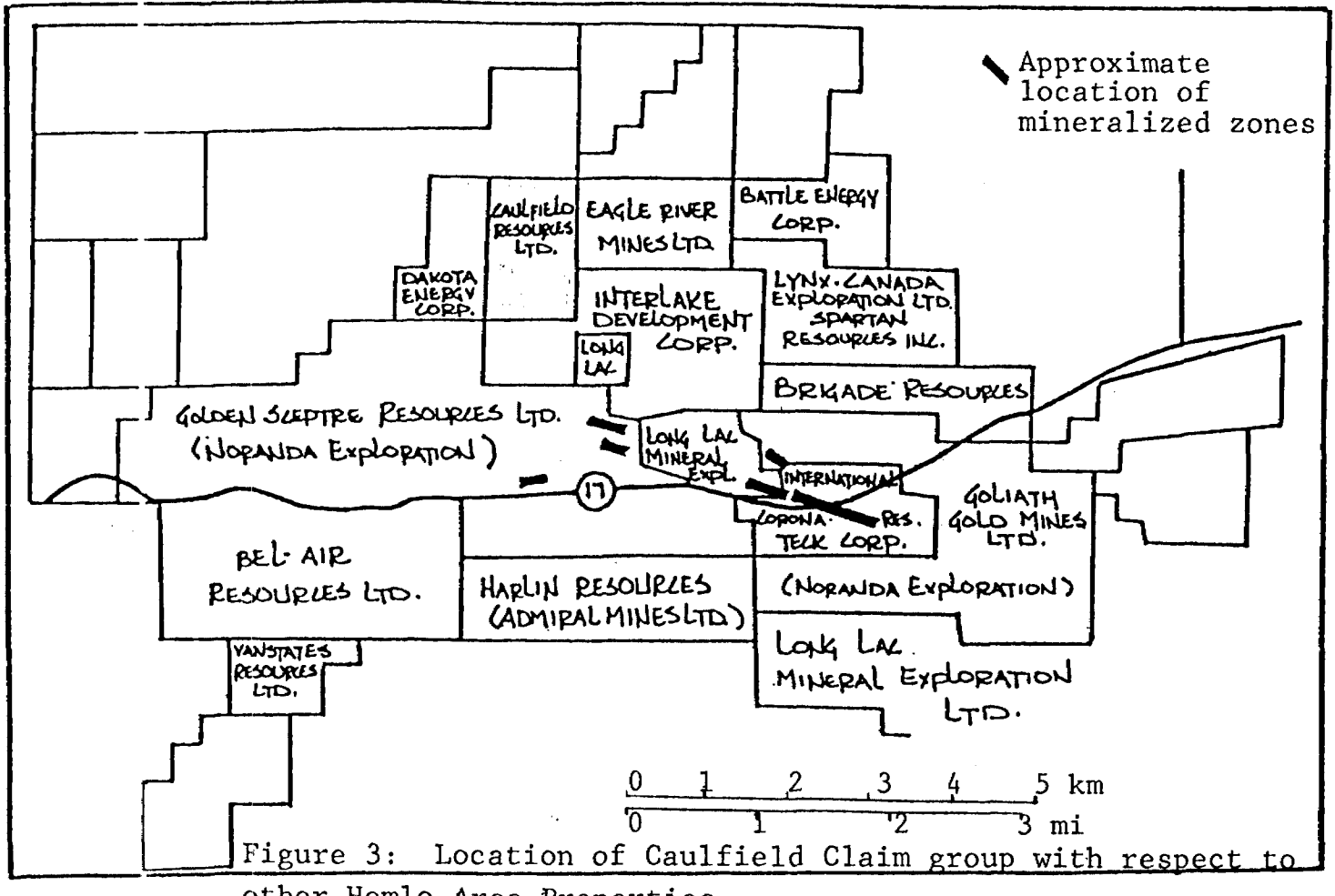

Figure 3: Location of Caulfield Claim group with respect to other Hemlo Area Properties

DAVID R. BELL GEOLOGICAL SERVICES INC.
VULCAN-CAULFIELD
LOCATION MAP
DISTRICT OF THUNDER BAY, ONTARIO

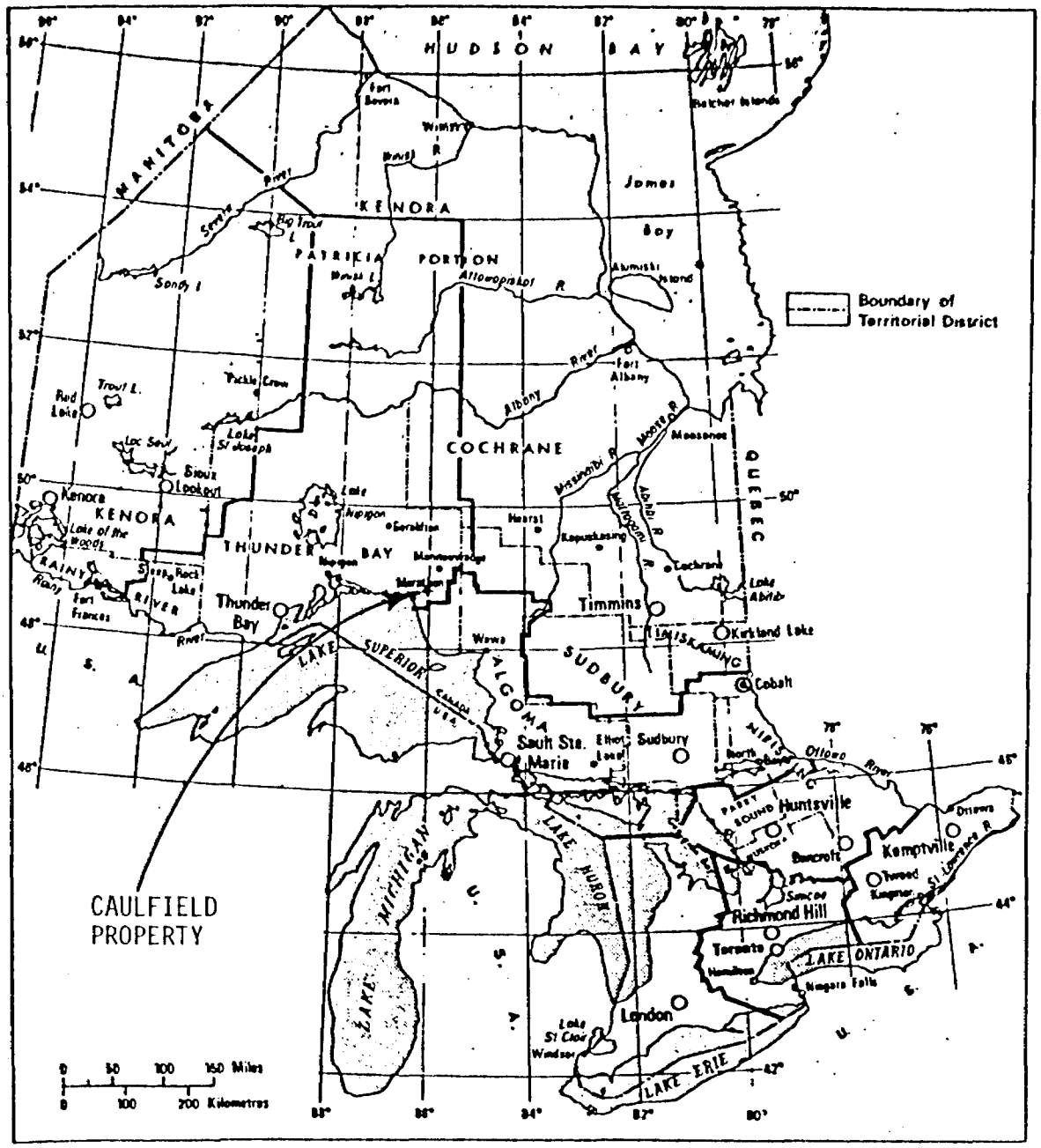

Figure 1: Approximate location of Caulfield Claim group

David R. Bell Geological Services Inc.
VULCAN-CAULFIELD
Location Map
District of Thunder Bay, Ontario

Topography

Two small ridges trending in a north-easterly direction, run through the south-central portion of the property. To the north this ridge system slopes gently downwards to the Black River and Cedar Creek. To the south this ridge system slopes gently towards several small creeks which eventually drain into the Black River.

Claim Status

At the present time the aforementioned 15 claims are unpatented and in good standing.

III HISTORY OF EXPLORATION

During March of 1982, a baseline (bearing 70°) and a series of grid lines (bearing 160°) were established using a 400 foot line spacing. Line 0 + 00 was placed so as to coincide with the number 4 post of claim TB393038. A tieline was cut 3,200 feet north of and paralleling the baseline, to insure total grid coverage of the property.

After completion of the cut grid, magnetometer and VLF-EM surveys were conducted over the entire property. The magnetometer survey was performed using a Geometrics G-816 proton magnetometer, while a Geonics EM-16 VLF unit was used for the VLF-EM survey. A station spacing of 100 feet was used for both surveys.

During November and December of 1982 a soil geochemistry survey was conducted over the southern half of the claim group. This survey consisted of 683 samples, collected over the existing grid lines using a 50 foot sample spacing. All samples were analyzed for gold and silver, while only 155 samples were assayed for molybdenum.

Secondary magnetometer and VLF-EM surveys were also conducted during the later portion of 1982. These surveys were run over the southern three claims (TB393038, TB393047 and TB393048) using a 50 foot station spacing. A GEM-8 Proton Precession Magnetometer was used for the magnetic survey, while a Crone Radem unit was utilized for the electromagnetic survey.

Rayan Exploration initiated an Induced Polarization survey over the central and southern portion of the claim group, during December of 1982. The survey was continued during January of 1983 but was stopped due to difficulties in obtaining electrode contact. A Phoenix I.P.T.I.1 transmitter and a Crone I.P.4 receiver were used to conduct the IP survey.

A diamond drilling program was carried out, from June 21 to July 20, 1983, to test several IP anomalies. The program consisted of 7 holes totaling 4,107 feet.

IV GEOLOGY

Regional Geology

The Hemlo area, in which the Caulfield property is located, was mapped by T.L. Muir during 1978. The results of Muirs' work was published in 1982 by the Ontario Geological Survey, as Report 217 and accompanying Map 2452.

In general the area is underlain by predominantly granitic rocks which separate two east-west trending metavolcanic-metasedimentary sequences. The southern most of these units, known as the Playter Harbour Sequence is composed mainly of metamorphased mafic flows (Muir, 1982). While the northern most or Heron Bay Sequence is made up of metamorphased intermediate to felsic pyroclastic rocks, with intercalated mafic metavolcanic tuffs and flows. The rocks of both the Playter Harbour and Heron Bay sequences have strikes in a generally east-west direction, while dipping steeply to the north.

The granitic rocks which make up the greatest bulk of the Precambrian basement, have intruded the supracrustal rocks causing low to medium grade metamorphism. Four separate intrusions have been recognized by Muir. The Pukaskwa Gneissic Complex, occupying a large portion of the southern and eastern parts of the map area, is composed of mainly trondhjemitites and granodiorites. The Heron Bay Pluton lying in the west-central portion of the map area is made up of predominantly grandiorites (hornblende and biotite bearing). To the northwest, the Gowan Lake Pluton consists of hornblende-biotite-quartz monzonites, while to the north-east there are hornblende-biotite granodiorites (similar to the Heron Bay Pluton) known as the Cedar Lake Pluton, The Heron Bay and Playter Harbour Sequences are separated by the Pukaskwa Gneissic Complex and the Heron Bay Pluton.

Property Geology

The Caulfield property is underlain by three main supracrustal rock types, they are metasediments, intermediate to felsic metavolcanics and mafic metavolcanics. The remaining rock types consist of, later intrusive dyke rocks.

Intermediate to Felsic Metavolcanics

The intermediate to felsic metavolcanics are by far the most abundant rock type seen on the property, underlying almost the entire north half as well as the southern third of the claim group. As seen in outcrop these metavolcanics are entirely tuffaceous, ranging from ash tuffs to lithic tuffs.

The ash tuffs show an aphanitic texture, while structurally they range from massive to well foliated. The lithic tuffs are very similar to the ash tuffs, except for the presence of felsic fragments (less than 4mm in size).

In part these lithic tuffs may be classed as crystal tuffs, owing to the fact that some of the felsic fragments are most likely feldspar crystals. These lithic tuffs are seen to range from massive to well foliated in structural configuration.

Mafic Metavolcanics

The second most prominent rock type observed on the Caulfield property are the mafic metavolcanics. They occur as isolated pods within the intermediate to felsic tuffs and in two subparallel zones. The largest and by far greatest concentration, is a zone running through the middle of the claim block. The average width of this zone is approximately 600 feet, with a maximum width of 800', and due to apparent interfingering with the intermediate to felsic tuffs (L12E and L24E), a minimum width of 200 feet. The second zone located in the south-central portion of the property, attains a maximum apparent width of 400 feet before disappearing between L12E and L16E.

These mafic metavolcanics were seen as variations of either tuffs or flows. Ash tuffs, with aphanitic texture, were the most predominant of the tuffs. While minor crystal tuffs were differentiated due to the presence of feldspar crystals. The mafic flows were broken down into four different catagories, using rock structure and the presence of non-metallic minerals. These catagories were:

1) Medium to coarse grained massive flows
2) Garnetiferous massive flows
3) Dark green foliated flows
4) Dark green amphibolitized foliated flows

Metasediments

During the mapping program thinly-laminated argillites were observed, as apparent pods in the intermediate to felsic tuffs, as well as linear zones attaining a maximum width of 200 feet. These zones are located in three areas, L4E to L12E at 4 + 00N, L8E to L16E and 11 + 00N and L44E at 10 + 00N. Graphite is present within the argillites, but in varying amounts, ranging from slightly to highly graphitic.

Intermediate to Felsic Intrusive Rocks

Feldspar Porphyry

The feldspar porphyrys occur as later intrusions (or dykes) into the intermediate to felsic tuffs. In an exposure on L28E at 32 + 00N one of these porphyrys was seen to intruded an intermediate to felsic crystal tuff, showing a 1 cm wide chill margin at the contact. The feldspar porphyries have a dark grey to black cryptocrystalline matrix with feldspar (plagioclase) phenocrysts. The phenocrysts attain a maximum size of 0.2".

Mafic Intrusives

Equigranular and porphyritic diabase dykes were observed during the mapping program. The equigranular diabase dyke was fine to medium grained, with pyroxenes and amphiboles as the mafic component and plagioclase as the felsic component. The porphyritic diabase was similar to the equigranular type except for the presence of plagioclase phenocrysts. The diabase dyke located or L32E at 33 + 00N is highly magnetic and correlates with a magnetic high (same location) delineated during the 1982 magnetometer survey. While the diabase on L20E at 7 + 00S did not give rise to a magnetic expression during the previous survey.

Structural Geology

The main structural feature noted during the mapping program was foliation planes. These foliations gave strikes ranging from 067° to 084°, with dips of 74° to 84° to the north. Secondary structural features include minor bedding and contact features and various degrees of shearing. The shearing was for the most part parallel to the local foliation, and may represent a further development of that same foliation.

Stratigraphy

A possible top determination was observed as a grain size fining in a crystal tuff (L28E at 32 + 00N). The fining was to the north, suggesting a north facing sequence. This correlates to what was seen in the drill core in holes 427-83-5 and 427-83-6.

Mineralization

Sulphides, in the form of pyrite, were the only metallic minerals found during the mapping program. This mineralization was observed in all rock types, except the feldspar porphyry and the porphyritic diabase. In the intermediate to felsic tuffs and the mafic metavolcanics the pyrite was seen as fine grained disseminations of generally trace to 1% and locally 2-5% in volume. While in the argillites the pyrite was observed in thin (average (.2 inch) discontinuous bands between the laminations (or in bedding planes), with average concentrations of 1-2%. In the equigranular diabase fine to medium grained, cubic, disseminated pyrite also averaged 1 to 2% in volume.

A total of 12 grab samples were sent for assay (see appendix 1), with the highest gold value returned being 10 ppb. This sample was taken from a sheared felsic tuff with minor hematite staining, located on L32E at 36 + 00N. These grab samples were also analyzed for nickel, with the highest returned value being 124 ppm from an argillite located on L44E at 9 + 60N.

As well as the above 12 samples, 13 other grab samples were sent for whole rock and trace element analysis, percent CO_2, Au, Ag, Ba. These results have not been received at the present time.

V CONCLUSIONS

From the mapping program, it can be concluded that the local geology consists of a cyclic volcano-sedimentary sequence. This sequence consists of meta-sediments, mafic metavolcanics, and intermediate to felsic metavolcanics. These rocks generally strike at 070° while dipping steeply to the north. From outcrop and drill information it is suggested that tops face north. Also it should be noted that the intermediate to felsic tuffs may in part be of a sedimentary nature as opposed to entirely volcanic. Mineralization of an economic nature has not been located to-date.

VI RECOMMENDATIONS

While the southern half of the claim group has been covered by VLF-EM, magnetometer, geochemistry and induced polarization surveys, along with diamond drilling. The northern half has undergone only minimal exploration (VLF-EM and magnetometer surveys.)

During the VLF-EM survey several conductive zones were delineated in the north portion of the property. One, a moderate strength conductor, runs from L20E to the eastern boundary of the property at approximately 30 + 00N, while a strong conductive zone runs across the entire width of the property at 25 + 00N. Also four weaker conductors were located to the north of the aforementioned zones. Due to the presence of the conductive zones a soil geochemistry survey is suggested to complete the property coverage and, especially to cover the VLF-EM conductors. This survey would consist of approximately 600 samples, collected at 50 foot spacings on the existing grid. A 50 foot sample spacing was selected due to the apparent lack of bedrock exposure in the north-western portion of the property.

As follow-up to and dependent upon the results of the geochemistry survey, detailed prospecting over anomalous zones, and an Induced Polarization Survey may be warranted. The IP survey should be tied into the 1982 survey, providing total coverage of the unsurveyed portion of the claim block, and to delineate the VLF-EM conductive zones.

Respectfully submitted,

Stephen Conquer

Timmins, Ontario
October 4, 1983

By: Stephen Conquer
Per: David R. Bell Geological Services Inc.

CERTIFICATE OF QUALIFICATIONS

I, Stephen W. Conquer hereby certify:

1. that I am a geologist employed by David R. Bell Geological Services Inc., Suite 4, 251 Third Ave., Timmins, Ontario.

2. that I am a graduate of the University of Waterloo, holding a Bachelor of Science degree (1979).

3. that I have been practising my profession as a geologist since 1979.

4. that I do not have nor do I expect to receive either directly or indirectly, any interest in this property or the securities of Vulcan Resources Limited or Caulfield Resources Ltd.

Timmins, Ontario
October 3, 1983

By: Stephen W. Conquer B.Sc
Per: David R. Bell Geological Services Inc

REFERENCES

Nelson, L.J. 1983 — Unpublished Progress Report, Ground Geophysics (Proton Mag, Radem and IP surveys) on the Hemlo Area, District of Thunder Bay, Ontario; property of Caulfield Resources Ltd. (company report), Vancouver, B.C., 14p, 2 plans

1983 — Unpublished Progress Report, Soil Geochemistry Survey on the Hemlo Area, District of Thunder Bay, Ontario, property of Caulfield Resources Ltd., (company report), Vancouver, B.C., 5p, 3 plans

Muir, T.L. 1982 — Geology of the Hemlo Area, District of Thunder Bay; Ontario Geological Report 217, 65p. Accompanied by Map 2452 (coloured), Scale 1:31,680 or 1 inch to ½ mile

Sutherland, D.B. 1983 — Report of Induced Polarization Survey on the Hemlo Area, District of Thunder Bay, Ontario; Caulfield Resources Ltd. Option for Vulcan Resources Ltd. (company report), Vancouver, B.C., 9p, 3 maps

1982 — VLF-EM survey map, Caulfield Resources Limited.

1982 — Magnetometer survey map, Caulfield Resources Ltd.

Appendix 1

Grab Samples - Locations, description, assay results

Sample Number	Location	Description	Au ppb	Ni ppm
427-000-305	BL/39+00E	Felsic lithic tuff, with disseminated pyrite	3	22
427-000-308	L20E/10+00S	Coarse grained equigranular diabase, with disseminated pyrite	4	32
427-000-310	L44E/9+60N	Argillite, with disseminated pyrite	4	124
427-000-316	L12E/17+00N	Foliated mafic crystal tuff	5	28
427-000-317	L16E/11+00N	Sheared silicified intermediate tuff	8	22
427-000-318	L20E/14+00N	Sheared silicified, felsic tuff with minor quartz veins	8	30
427-000-320	L32E/36+00N	Sheared felsic tuff, with hematite staining	10	44
427-000-321	L32E/37+00N	Sheared felsic tuff	5	26
427-000-322	L32E/41+00N	Recrystallized (altered) felsic tuff	7	58
427-000-323	L36E/33+00N	Sheared intermediate to mafic tuff containing pyrite, silicified	7	76
427-000-324	L36E/34+90N	Foliated, silicified, intermediate tuff containing pyrite and carbonate	8	56
427-000-325	L36E/34+91N	Foliated, silicified intermediate to mafic tuff, with pyrite	3	48

Sample 427-000-308 was also analyzed for

1) Cu -26 ppm 2) Pb -50 ppm 3) Zn -98 ppm

Samples 427-000-301 to 427-000-304 incl., 427-000-306, 427-000-307, 427-000-309, 427-000-311 to 427-000-315 incl. and 427-000-319, were sent for whole rock, trace element percent CO_2, Au, Ag, Ba analysis. The results are pending.

Ontario Ministry of Natural Resources

Report of Work (Geophysical, Geological, Geochemical and Expenditures)

#271 File 3931.2

Oct 17

Instructions: - Please type or print.

42C12NW0114 2.5873 MOLSON LAKE 900

Land Management Act

The I

Type of Survey(s)

Geological

Claim Holder(s)

Caulfield Resources Ltd.

Molson Lake Area

Prospector's Licence No.

T-1239

Address

c/o David R. Bell Geological Services Inc.
P.O. Box 1250, Timmins, Ontario

Survey Company

David R. Bell Geological Services Inc.

Date of Survey (from & to)

Day	Mo.	Yr.	Day	Mo.	Yr.
12	07	83	19	07	83

Total Miles of line Cut

12 miles

Name and Address of Author (of Geo-Technical report)

Steve Conquer

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical - Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	40
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	

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AUG 31 1983
MINING LANDS SECTION

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.
TB	393034	
	393035	
	393036	
	393037	
	393038	
	393043	
	393044	
	393045	
	393046	
	393047	
	393048	
	393049	
	393050	
	393051	
	393052	

Prefix	Mining Claim Number	Expend. Days Cr.

Total number of mining claims covered by this report of work: 15

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures [$] ÷ [15] = [ ] Total Days Credits

Instructions

Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
600	Aug. 19/83	Audrey M. Hayes
	Date Approved as Recorded	Branch Director
	Dec. 15/83	

Date: Aug 16, 1983

Recorded Holder or Agent (Signature)

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying

R.A. Markov, David R. Bell Geological Services
P.O. Box 1250, Timmins, Ontario

Date Certified: Aug 16, 1983

Certified by (Signature)

Ministry of Natural Resources
Ontario

Geotechnical Report Approval

File 2.5873

Nov. 10/83

Mining Lands Comments

☐ To: Geophysics

Comments

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☑ To: Geology - Expenditures Mr. Kustra.

Comments

☑ Approved ☐ Wish to see again with corrections | Date Dec 13/83 | Signature Kustra

☐ To: Geochemistry

Comments

L.D.

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1593 (81/10)

271

2.5873

1983 10 13

Mrs. Audrey Hayes
Mining Recorder
Ministry of Natural Resources
P.O. Box 5000
Thunder Bay, Ontario
P7C 5G6

Dear Madam:

We have received reports and maps for a Geological survey submitted under Special Provisions (credit for Performance and Coverage) on mining claims TB 393034 et al in the Area of Molson Lake.

This material will be examined and assessed and a statement of assessment work credits will be issued.

Yours very truly,

E.F. Anderson
Director
Land Management Branch

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-1380

R. Pichette:mc

cc: Caulfield Resources Ltd
c/o David R. Bell Geological Services Inc
P.O. Box 1250
Timmins, Ontario

DAVID R. BELL GEOLOGICAL SERVICES INC.

251 THIRD AVE., SUITE 6
BOX 1250
TIMMINS, ONTARIO
P4N 7J5
(705) 264-4286

RECEIVED
Land Management Branch
CIRCULATE ☐
COMMENTS PLEASE ☐
BY
OCT 6 1983
G. SHARMAN
RETURN TO R.6450

October 5, 1983

Lands Administration Branch
Mining Lands Section
Ministry of Natural Resources
Room 1617, Whitney Block
Queen's Park
Toronto, Ontario
M7A 1W3

Attention: Mr. Fred Mathews

Dear Sir:

Re: Vulcan-Caulfield Joint Venture, Geological Report on Claims TB393034-TB393038 incl., and TB393043-TB393052 incl., (Molson Lake Area)

I have enclosed two (2) copies of the above report as per Ministry of Natural Resources requirements for assessment credits. Please acknowledge receipt of said reports.

Respectfully submitted,

Stephen Conquer
Per: David R. Bell
Geological Services Inc.

SC/kg

Encl.

OCT 6 1983

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geological

Township or Area Molson Lake Area

Claim Holder(s) Caulfield Resources Ltd.

Survey Company David R. Bell Geological Services Inc.

Author of Report Stephen Conquer

Address of Author 251 Third Ave., Suite 4, Timmins, Ont.

Covering Dates of Survey July 12/83 - July 19/83 (linecutting to office)

Total Miles of Line Cut 12 miles

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
--Electromagnetic	
--Magnetometer	
--Radiometric	
--Other	
Geological	40
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: Oct 3/83 SIGNATURE: Stephen Conquer
Author of Report or Agent

Res. Geol. _____ Qualifications His file

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
TB	393034
TB	393035
TB	393036
TB	393037
TB	393038
TB	393043
TB	393044
TB	393045
TB	393046
TB	393047
TB	393048
TB	393049
TB	393050
TB	393051
TB	393052

If space insufficient, attach list

RECEIVED
[illegible] 1983

TOTAL CLAIMS 15

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

_____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION RESISTIVITY

Instrument _____

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken_____

Total Number of Samples_____

Type of Sample_____
(Nature of Material)

Average Sample Weight_____

Method of Collection_____

Soil Horizon Sampled_____

Horizon Development_____

Sample Depth_____

Terrain_____

Drainage Development_____

Estimated Range of Overburden Thickness_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis_____

General_____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others_____

Field Analysis (_____ tests)

Extraction Method_____

Analytical Method_____

Reagents Used_____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method_____

Analytical Method_____

Reagents Used_____

Commercial Laboratory (_____ tests)

Name of Laboratory_____

Extraction Method_____

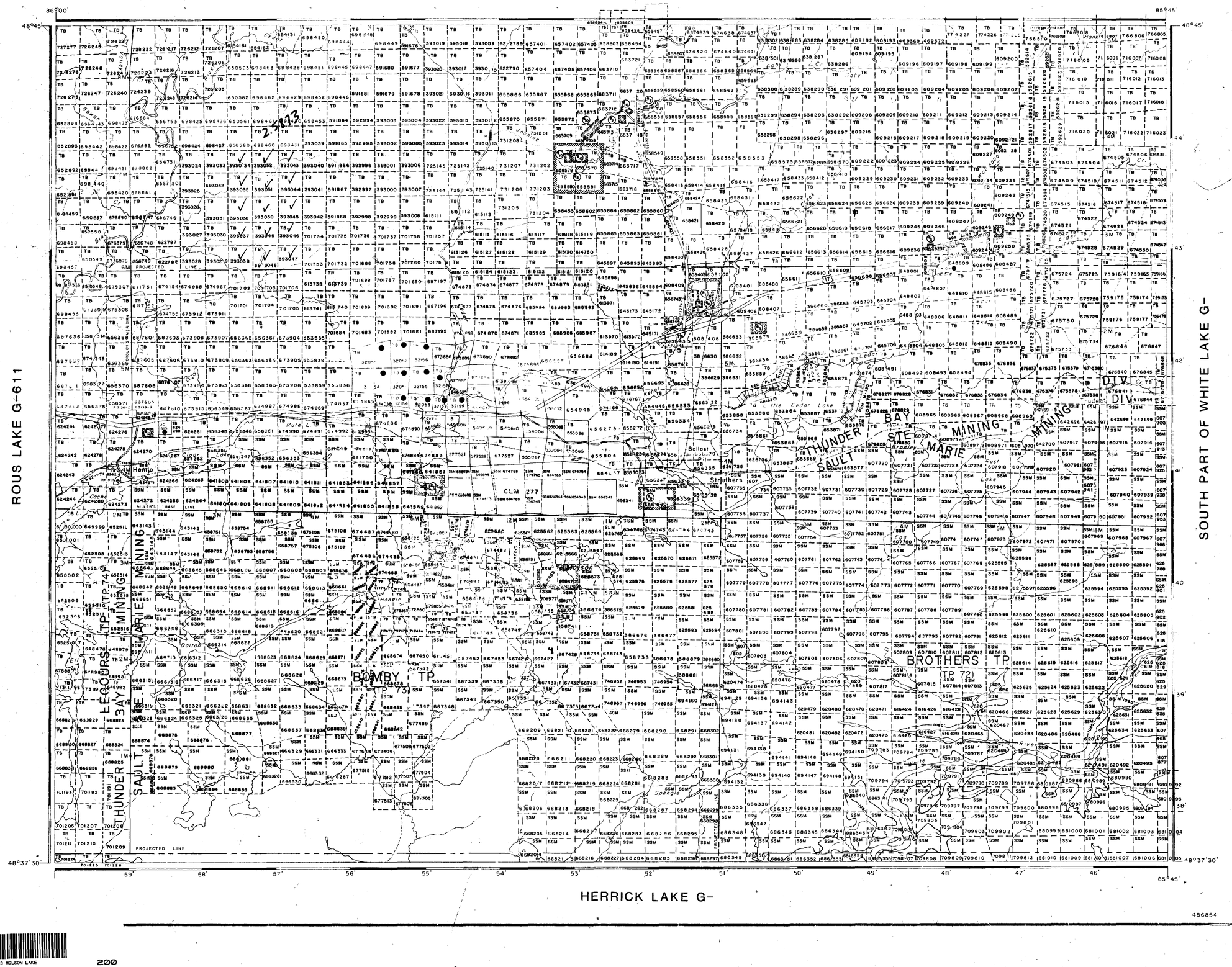
Analytical Method_____

Reagents Used_____

General_____

		(col					2.5873
TB	393039	✓					
	35	✓					
	36	✓					
	37	✓					
	38	✓					
	393043	✓					
	44	✓					
	45	✓					
	46	✓					
	47	✓					
	48	✓					
	49	✓					
	50	✓					
	51	✓					
	52	✓					

WABIKOBA LAKE G-620



SAND and GRAVEL

- (A) M.T.C. PIT 340
- (B) M.T.C. PIT 341
- (C) M.T.C. PIT 343
- (D) M.T.C. PIT 344
- (E) M.T.C. PIT 346
- (F) M.T.C. PIT 342
- (G) M.T.C. PIT 514
- (H) M.T.C. PIT 1342
- (I) M.T.C. PIT 347
- (N) GRAVEL FILE 145647

Areas withdrawn from staking under Section 43 of the Mining Act. (R.S.O. 1970)

Order No.	File	Date	Disposition
(K) W.30/81	145647	13/4/81	S.R.O.
(M) W.11/82	163606	20/4/82	S.R.O.
(N) W.30/83	131830	26/10/83	S.R.& M.R.

FLOODING RIGHTS TO CONTOUR ELEVATION 1080' RESERVED TO ONTARIO HYDRO FILE 113986

LEGEND

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

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	◑
" MINING RIGHTS ONLY	◐
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	▣
" MINING RIGHTS ONLY	▤
LICENCE OF OCCUPATION	▼
ORDER IN COUNCIL	OC
RESERVATION	⊕
CANCELLED	⊗
SAND & GRAVEL	(A)

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 8, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63 SUBSEC. 1

SCALE 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

METRES 0 500 1000 2000

1 KM = 12 KM

AREA

MOLSON LAKE

M.N.R. ADMINISTRATIVE DISTRICT

TERRACE BAY/WAWA

MINING DIVISION

SAULT STE. MARIE / THUNDER BAY

LAND TITLES / REGISTRY DIVISION

THUNDER BAY

DEC 6 1983

Ministry of Natural Resources TORONTO

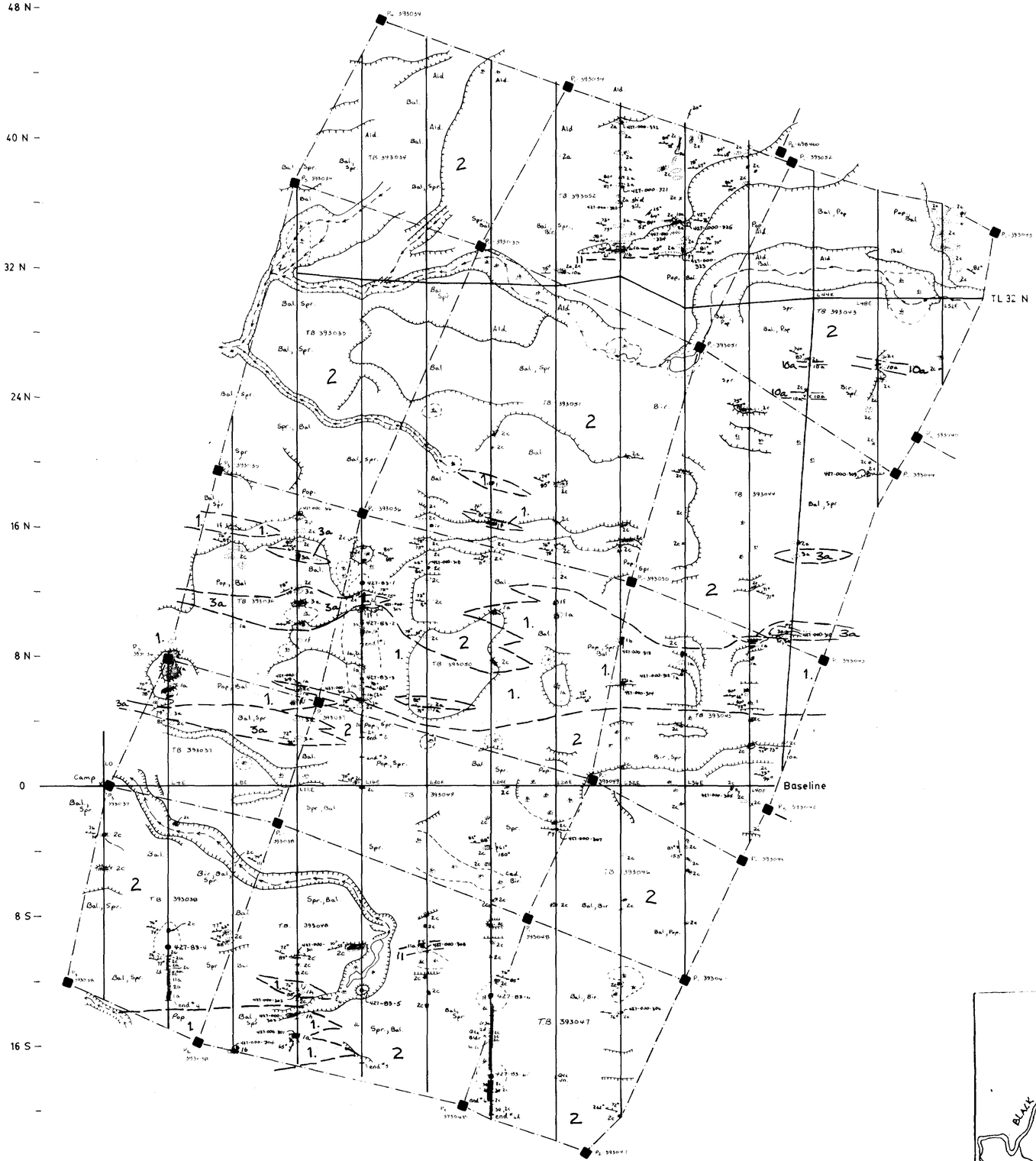
Ministry of Natural Resources — Land Management Branch

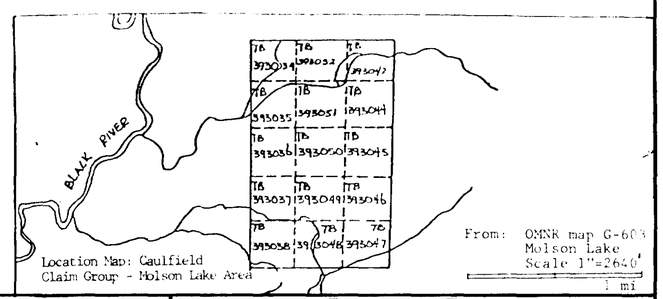
Ontario

Date: FEBRUARY 1982

Number: G-603

486854





LEGEND

PRECAMBRIAN
PROTEROZOIC

MAFIC INTRUSIVE ROCKS

- fi 11 — 11a Equigranular Dibase
- 11b Porphyritic (plagioclase) Diabase

ARCHEAN

INTERMEDIATE TO FELSIC INTRUSIVE ROCKS

- 16 10 — 10a Feldspar Porphyry

METASEDIMENTS

- 3 3e — 3a Thinly-Laminated Argillite
- 3e Massive to Poorly Bedded Wacke

METAVOLCANICS
INTERMEDIATE TO FELSIC

- 2 2a — 2 Unsubdivided
- 2a Foliated Flows, Tuffs
- 2c Ash, Lithic, Lapilli Tuffs
- 2d Agglomerate

MAFIC

- 1. — 1 Unsubdivided
- 1a Dark Green Foliated Flows
- 1b Dark Green Amphibolitized Foliated Flows
- 1f Tuff, Crystal Tuff, Lithic Tuff
- 1h Medium to Coarse Grained Massive Flow
- 1j Garnet Bearing Massive Flow

SYMBOLS

- Outcrop exposure (large, small)
- Foliation
- Bedding
- Jointing
- Contact (known, assumed)
- Sample location & number
- Drill hole location & number with vertical projection of geology
- Claim post & number
- Claim line
- Clearing
- Creek
- Pond
- Swamp
- Elevation contour
  hash marks - down slope

TREE TYPES

- Ald. - Alder
- Bal. - Balsam
- Bir. - Birch
- Pop. - Poplar
- Spr. - Spruce

ABBREVIATIONS

- Qtz. - Quartz
- Vn. - Vein
- Bldr. - Boulder
- Sh'd. - Sheared
- Sil. - Silicified
- Py. - Pyrite

0 200 400 800 1200
FEET

Stephen Conquer

DAVID R. BELL
GEOLOGICAL SERVICES INC.

Map 427-83-1 NTS 42C/12

Caulfield Resources Ltd.

Caulfield - Vulcan Joint Venture

GEOLOGY

HEMLO AREA

DISTRICT OF THUNDER BAY

Scale: 1" = 400' Date: July, 83