

42A06NW0041 2 15861 BRISTOL

GEOPHYSICAL REPORT FOR TECK EXPLORATION LTD. ON THE BRISTOL/OGDEN PROPERTY BRISTOL AND OGDEN TOWNSHIPS PORCUPINE MINING DIVISION NORTHEASTERN, ONTARIO

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42A06NW0041 2.15861 BRISTOL

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#### INTRODUCTION

The services of Exsics Exploration Limited were retained by Teck Exploration Limited to cut a detailed metric grid across a block of claims located in Bristol and Ogden Townships of the Porcupine Mining Division in Timmins, Ontario.

The purpose of the program was to provide detail control for a planned Induced Polarization Survey and Total Field Magnetic Survey which would be completed on the property.

The initial linecutting phase of the program was completed by Mid November 1994.

Exsics Exploration Limited Services were further retained to complete a detailed, Total Field Magnetic survey over approximately one third of the cut grid which had not been covered in past programs. The claims covered by the magnetic survey have been outlined on Figure 3 of the report.

#### PROPERTY LOCATION AND ACCESS

The Teck property is located in the east central and southeast central section of Bristol Township which is located approximately ll kilometers southwest of the City of Timmins. Figures 1 and 2.

Access to the property is ideal. Highway 101 west crosses the entire claim group in a southwest direction providing easy access to the northern half of the group. A series of ingress secondary gravel roads provide 2 wheel and 4 wheel drive access to the northwest section, south central and southeast sections of the grid. Figure 2.

#### CLAIM GROUP

The claim numbers which make up the Teck property in Bristol and Ogden Township have been outlined on Figure 3 which has been completed from MNDM Plan Map G-3998 Bristol and G-3979 Ogden claim Maps, Scale 1:20000.

#### LINECUTTING PROGRAM

The linecutting program was initiated from a central point on the existing north-south grid. The new LlOOME/BL was turned off from existing line 2900MW/BL, with transit and cut to the east and west limits of the property. Line 0+00 was also cut with transit control and cut to the north and south limits of the property. Tie lines 1000MN and 1000MS were also turned off of L0+00 with transit and cut to the east and west limits of the property.

Crosslines were then turned off of the baseline at 100 meter intervals and cut and chained at 25 meter intervals to the north and south limits of the property. In all, a total of 230.35 Km of grid lines were established over the property.







#### GEOPHYSICAL PROGRAM

This program consisted of a Total Field Magnetic survey being completed over the west and north central section of the cut grid. The program was completed using the EDA OMNI IV system. Specificiations for this system can be found under Appendix A of this report. In all, a total of 80.35 Km of surveys were completed.

The following parameters were kept constant throughout the survey.

Field Unit:	-EDA OMNI IV
Base Station:	-EDA OMNI Plus
<b>Base Station Recording Interval:</b>	-30 seconds
Base Station Location:	-L700MW/0+40MS
Reference Field:	-58,390 gammas
Datum Subtract:	-57,500 gammas
Unit Accuracy:	-+/- 0.5 gamma
Contour interval:	-10 gamma
Line spacing:	-100 meters
Field Record Interval:	-12.5 meters

The collected data was merged with the base station data and corrected. The corrected data then had a base level of 57,500 gammas removed for ease in plotting. This data was then plotted onto a base map at a scale of 1:5000 and contoured at 10 gamma interval wherever possible.

A copy of the magnetic contour map is included in the back pocket of this report.

A base map showing structural trends interpreted from the magnetics in also incuded in the back pocket of this report.

#### PERSONNEL

The field crew driectly responsible for collecting the magnetic data were as follows:

John C. Grant.	Timmins,	Ontario
Pat Atkinson	Timmins,	Ontario

The data compilation and plotting was completed by P. Gauthier. The interpretation was completed by J.C. Grant.

The linecutting program began in September 1994 with all magnetic surveys being completed and plotted by December 3, 1994.

#### SURVEY RESULTS

The magnetic survey was successful in locating and outlining the structural characteristics of the property. The most predominant features outlined on the grid was a series of quartz diabase dikes generally striking north-south to northwest-southeast across the property. These dikes appear to pinch and swell as well as cross each other in several incidents on the property. The increase in magnetic signature, usually as isolated bullseyes or elongated thumb prints along the strike of these dike suggest a thinning in the overburden layering.

Two fault structures appear to strike into the property. The first suspected zone strikes east to southeast from Line 3600MW/1700MN to 3400MW to 3100MW at 1400MN and 1200MN. It generally relates to a moderate magnetic low. It also appears to disrupt the strike of the diabase dikes as bulging in the dike is evident as the fault crosses it. A second fault zone may be evident on lines 0+00 and 100MW at 1500 MS. This, again, is represented by a moderate magnetic low.

The magnetic survey appears to have outlined the grid limits of a drill indicated Quartz-Feldspar Porphyry. The unit has a magnetic signature of 850-900 gammas. This porphyry outline has been interpreted on the compilation map included in the back pocket of this report.

The remainder of the property appears to be comprised of sediments which have flowed in and around the porphyry. The western and northern portion of the grid has been mapped as pillowed to massive volcanics which again appears to have been intruded by various thicknesses of sediments. Refer to Department of Mines Geology Map #1957-7 Bristol Township, scale 1"=1000 ft.

#### CONCLUSIONS AND RECOMMENDATIONS

The magnetic survey was successful in locating the expected structural geology of the grid. The main area of interest would be the suspected Quartz-Feldspar Porphyry intrusive unit. At this writing, an Induced Polarization survey is in progress across the property.

The magnetic results should be correlated to all IP results to aid in the location of a follow-up diamond drill program.

Respectfully Submitted,

John C. Grant. CET, FGAC



#### CERTIFICATE

I, John C. Grant, hereby certify that:

1) I am a graduate geophysicist (1975) of the three year program in Geological Technology at Cambrian College of Applied Arts and Technology, Sudbury, Campus. I have worked subsequentely as an Exploration Geophysicist for Teck Exploration Limited (5 years), North Bay office, and as Exploration Manager and Geophysicist for Exsics Exploration Limited from 1980 to present.

2) I am a Member of the Certified Engineering Technologist Association since 1984.

3) I am a member of the Geological Association of Canada.

4) I have been actively engaged in my profession for the last seventeen (17) years, including all aspects of exploration studies, surveys and interpretations.

5) I have no specfic or special interest in the described property. I have been retained as a Consulting Geophysicist. for property appraisal.

John Charles Grant, CET,



APPENDIX A





# **Major Benefits**

- Six Dipoles Simultaneously Measured
- Ten Windows Available
- Choice of Arithmetic or Logarithmic Window Width

:

- Programmable Arithmetic Window Width
- High Input Voltage
- Weighs Only 8.5 kg.
- User Friendly

Specifications		
Dipoles	H Officiant Atomas and a second	
Input Voltage (Vp) Range	Standard — 8 volt maximum for each study	
L	- maximum sum of 12 volts from the	
	second to the sixth dipole.	
L	- attenuation of up to 40 volts on the	
Input Voltage Protection	first dipole.	
Vp Resolution		
Chargeability Resolution		
	0.1 millivolt/volt for Vp greater than 10 millivolts.	
	0.6% typical; maximum 2% for Vp greater than	
Automatic SP Compensation	10 millivoits over temperature range.	
	1 millivolt/second.	
Sample Rate	10 megohm. 10 milliseconde	
Automatic Stacking	1 to 999 cycles	
Synchronization	Minimum primary voltage level of 40 microvolts.	
	100 dB	
Grounding Resistance Check	0.1 to 128 kilo-ohms.	
	Any time domain waveform transmitter with a pulse	
Programmable Development	stability of 100 ppm.	
	Geometric parameters, time parameter, intensity of	
Dicplay	length, window width and delay time (mode 2)	
	. Two-line, 40-character alphanumeric liquid crystal	
Nomon ( Conseile	temperature conditions.	
RS-232C Serial VO Interface	1800 sets of readings.	
	bits; odd, even, no narity	
	Six - 1.5V "D" cell alkaline batteries with auto power	
Operating Environmental Range	save reature; 20 hours of operation at $20^{\circ}$ C.	
Veight and Dimensions	weatherproof.	
Standard System Complement	. 8.5 kg. (with batteries), 300 x 200 x 240 mm.	EDA Instruments Inc.
- Jisplayed Paramotom	transfer cable and operations manual	Toronto, Ontario
	. Primary voltage, partial and total decimalized	Telex: 06 23222 EDA TOR
~	total chargeabilities (in fixed modes), standard	Cable: EDAINSTRMTS TORONTO Telephone: (416) 425 7800
	deviation of primary voltage and total chargeability,	Hax: (416) 425 8135
Available Ontions	measured and contact resistance.	In USA EDA Instruments Inc
	. Stainless steel transmitting electrodes, copper sulphate receiving electrodes elliptic electrodes	9200 E. Mineral Avenue Suite 370
	leads, multi dipole wire cable, wire spools and software	Englewood, Colorado, U.S.A. 80112
	programs.	Fax: (303) 790 2902

PRINTED IN CANADA



# **Report of Work Conducted** After Recording Claim



**Mining Act** 

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury. Ontario, P3E 6A5, telephone (705) 670-7264.

# Instructions: - Please type or print and submit in duplicate.

- Refer to the Mining Act and Regulations for re Recorder.
  - A separate copy of this form must be comple-
  - Technical reports and maps must accompany
  - A sketch, showing the claims the work is assi



900

Recorded Holder(s) Teck Corporation		Client No. 200408
Address R.R. #5, 19 Legault Street,	North Bay, Ontario P1B 824	Telephone No. 705-474-5500
Mining Division Porcupine	Township/Area Bristol and Ogden Townships	G3998 + G3979
Dates Work From: September 199 Performed	4 To: December	1994

# Vork Performed (Check One Work Group Only)

Туре
Line Cutting and Ground Total Field Magnetic Survey
RECEIVED
Miterina California NCA 3

Total Assessment Work Claimed on the Attached Statement of Costs

The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification. Note:

# sons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

	Address
Exsics Exploration Ltd.	P.O. Box 1880, Timmins, Ontario P4N 7X1
(John Granc)	
	·

### (attach a schedule if necessary)

## Certification of Beneficial Interest \* See Note No. 1 on reverse side

	Date	Recorded Holder or Agent (Signature)
I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest	Dec 16, 94	
by the current recorded holder.		

## **Certification of Work Report**

I certify that I have a persona its completion and annexed r	al knowledge of the facts set forth report is true.	in this Work report, having performed the work or witnessed same ouring and/or aner
Name and Address of Ferson Co	ertifying	
J. Janzen, K.K.	#J, 17 Legault Stree	
Telepone No. 705-474-5500	Date Dec 16, 94	Certified By (Signature)
For Office Use Only Total Value Cr. Recorded 27, 387.	Date Recorded Deemed Approval Date 99 eg. 1995 Date Notice for Amendments Sent	Mining Recorder Perg letted dorect Date Approved Dete Approved Dete Mapproved DEC 19 1994 MINIC (J) /A PORCUPINE MINISTON

241 (03/91)

															6	<b>Ç</b> 0	15	8	6	Work Report Number for Applying
Total Number												P1190941	P1189890	P1189889	P1189885	P1189884	P1189883	P1189882	P1189881	Claim Number (see Note 2)
L												6	2	ω	N	ω	10	P	σ	Unite Number
Total Value Work	\$27,387.00											2,191.00	1,315.00	5,368.00	1,780.00	1,753.00	9,585.00	739.00	4,656.00	Assessment Work Done on this Claim
Total Value	\$27,387.00								ŌĒ	IVE 1 IC	5	WIT 4,800.00	1,315.00	-4,524-00	1,600.00	11, 12, 12, 10	8,000.00	800.00	4,656.00	Applied to this to this Claim
Total Assigned	W/1 32,670.00						6				<u> </u>	0.00	0.00	-/2111 844-00-	180.00	61:00	·//// 1,585.00	0.00	0.00	Assigned from this Claim
Total Reserve												0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- Future Date
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# Note 2: If work has been performed on patented or leased land, please complete the following:

Note 2: If work has been performed on patentice of the	· · · · · · · · · · · · · · · · · · ·	
I certify that the recorded holder had a beneficial interest in the patented	Signature	Dec. 16/94
or leased land at the time the work was performed.		<u> </u>



**Ninistry** of Northern Development and Mines

Ministère du Développement du Nord et des mines

## **Statement of Costs** for Assessment Credit

### État des coûts aux fins du crédit d'évaluation

Mining Act/Loi\_sur les mines

# Transaction No./Nº de transaction W9460.00279

# 2.15861

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and or the mining ACL. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

## 1. Direct Costs/Coûts directs

Туре	Des	cription	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oe			
	Field Sup Supervisio	ervision n sur le terrain		
Contractor's and Consultant's	Type Line cu	itting	20,196	
Fees Droits de	Ground	7,191		
et de l'expert- conseil				27,387
Supplies Used Fournitures	Туре			-
		<b>F</b>		-
		1. 1. 1.		- <del>h</del>
		FFE ;		
Equipment Rental	Туре			; 
Location de matériel				
		Total I	Direct Cost	8 27,387
		Total des c	oûts direct	•

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

#### **Filing Discounts**

- 1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
- 2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

**Total Assessment Claimed** Total Value of Assessment Credit × 0.50 =

# **Certification Verifying Statement of Costs**

I hereby certify:

that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

Project Geologist | am authorized that as \_\_\_\_\_\_(Recorded Holder, Agent, Position in Company)

to make this certification

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4<sup>9</sup> étage, Sudbury (Onterio) P2E 645, téléphone (705) 670-7284 (Ontario) P3E 6A5, téléphone (705) 670-7264.

## 2. Indirect Costs/Coûts indirects

- \*\* Note: When claiming Rehabilitation work Indirect costs are not
  - allowable as assessment work. Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Туре	Descriptio	n	Amount Montant	Totals Total global
Transportation Transport	Туре			
-				
Food and Lodging Nourriture et hébergement				
Mobilization and Demobilization Mobilisation et démobilisation				
Sub Total of Indirect Costs Total partiel des coûts indirects				
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)				s)
Total Value of Assessment Credit (Total of Direct and Allowable indirect costs) Valuer totale du crédit d'évaluation (Total des colts directs		27,387		

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

### Remises pour dépôt

- 1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
- 2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Evaluation totale de Valeur totale du crédit d'évaluation . × 0,50 = . A 12. DEC 19 1994 Attestation de l'état des coûts J'atteste par la présente : que les montants indiqués sont le plus pressibilité dépenses ont été engagées pour effectuer les traveux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de je suis autor : diuisire enrecistré, représentant, poste occupé dans la compagnie)	je suis autorisé entant, poste occupé dans la compagnie)	Et qu'à titre de
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a faire cette attestation.

Nate Sionature Dec 16, 94 1,-

Noța : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

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EXSICS EXPLORATION LIMITED CONTRACTING & CONSULTING GEOPHYSICS



Tel. (705) 267-4151 Fax (705) 264-5790

P.O. Box 1880 Timmins. Omario P4N 7X1

# 2.158 6 1

Teck Explorations Ltd. 19 Legault Street RR#5 North Bay, Ontario P18 824

# ATTENTION: Maurice Houle

Dear Maurice:

Mag Survey Days for Bristol Property.

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Nov 7, 1994		1 man day
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Lineoutting Contract for Bristol

Commencement Date:	Aug	29,	1994
	Nov	25,	1994
COMPLECTOR PROF.			

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# TECK EXPLORATION LTD

R.R. #5, 19 Legault Street, North Bay, Ontario PIB 8Z4

> Telephone # 705-474-5500 Fax # 705-474-4053

TELECOPIER MESSAGE

2.15861

JAN 10195 DATE:

CELIA ( MINIG RECORDER) TO:

maurice Y. HOULE FROM:

CLAIM ASSESSMENT REPORT (MAG-GEOPHYSICS) DATES OF WORK SUBJECT:

NO. OF PAGES (including this page): NORTH BAY OPERATOR

THE WORK L'ATES YOU REQUESTED FOR GRAND GEOPHYSICS, LINGUITTING ON OUR BRISTOL PROPERTY FILING 13 AS Follows:

> EXSICS EXPLORATION LTD COLOUTED AUG 29 194 The work From Me DEC 2/1994 TO

SEE ATTACHED WORK SUMMARY ; MEXT PROE

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Form-02



Ministry of Northern Development and Mines Ministère du Développement du Nord et des Mines Geoscience Approvals Office 933 Ramsey Lake Road 6th Floor Sudbury, Ontario P3E 6B5

**Telephone:** (705) 670-5853 **Fax:** (705) 670-5863

Our File: 2.15861 Transaction #: W9460.00279

February 17, 1995

Mining Recorder Ministry of Northern Development and Mines 60 Wilson Avenue 1st Floor Timmins, Ontario P4N 2S7

Dear Mr. White:

#### Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS P1189881 et al. IN BRISTOL & OGDEN TOWNSHIPS

Assessment work credits have been approved as outlined on the report of work form. The credits have been approved under Section 14 (Geophysical) of the Mining Act Regulations.

The approval date is February 16, 1995.

If you have any questions regarding this correspondence, please contact Steven Beneteau at (705) 670-5858.

ORIGINAL SIGNED BY:

Ron Carling!

Ron C. Gashinski Senior Manager, Mining Lands Section Mining and Land Management Branch Mines and Minerals Division

SBB/jl Enclosure:



cc: Resident Geologist Timmins,Ontario

Assessment Files Library Sudbury, Ontario

MAP SYMBOLOGY

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Aerial Cableway

Boundary

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interprovincial

District, Toursh

Indian Reserve

Approximate

Lot, Concession

Park Boundar;

Road, Railroad

Cliff, Pit, Pile

Building

Chimney

Contours

Interpolated

Approximate

Depression

Horizonte

Vertical

Culvert

Double line river

Funce, Hedge,

Feature Outline

Construction features,

Flooded Land 🛛 🖉 🗤 🐝

Marsh or Swamp 📲 🚇

DATED 92-AUG-OI

THE INFORMATION THAT APPEARS ON THIS MAP

HAS BEEN COMPILED

FROM VARIOUS SOURCES,

AND ACCURACY IS NOT

GUARANTEED. THOSE

ING CLAIMS SHOULD CON-

SULT WITH THE MINING

RECORDER, MINISTRY OF

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DITIONAL INFORMATION

ON THE STATUS OF THE

20 17 4500 53600

20 17 4500 53500

والمكلف أيتنز

LANDS SHOWN HEREON

NORTHERN DEVELOP

WISHING TO STAKE MIN-

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Mine Head Frame 🛛 🤕

Falls

etc.)

LOCK

Mast

Outcrop

Control Points

Approximate

Bridge







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42A06NW0041 2.15861 BRISTOL

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EXSICS EXPLORATION LTD. P.O. Box 1880, P4N-7X1 Suite 13, Hollinger Bldg, Timmins Ont. Telephone: 705-267-4151		
CLIENT: TECK EXPLORATION LTD.		
PROPERTY: BRISTOL TWP. PROPERTY		
TITLE: BRISTOL & OGDEN TWPS.		
GEOLOGICAL COMPILATION		
Date: DEC. 1994	Scale: 1:5000	NTS:
Drawn: P.G.	Interp: J.C. Grant	Job No. E-76

