



42A11SE0052 2.7563 MATHESON

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KIDD CREEK MINES LTD.
GEOPHYSICAL REPORT
ON
AIRBORNE MAGNETIC
AND
ELECTROMAGNETIC SURVEYS
MATHESON 13

N.T.S: 42-A-10

PROJECT #82

DECEMBER, 1984

RECEIVED

DEC 13 1984

MINING LANDS SECTION

D. LONDRY

SUMMARY AND RECOMMENDATIONS

An airborne electromagnetic survey detected an east-west striking graphite conductor at a volcanic-sediment contact on the Matheson 13 property. The magnetic results show a regional gradient which increases from north to south.

An Induced Polarization survey is being completed on the property to outline any disseminated sulphides which may be associated with gold mineralization.



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TABLE OF CONTENTS

	page
SUMMARY AND RECOMMENDATIONS	i
INTRODUCTION	1
PREVIOUS WORK	1
SURVEY DESCRIPTION	2
RESULTS	2
REFERENCES	6

LIST OF FIGURES

page

1. AIRBORNE MAGNETIC AND ELECTROMAGNETIC RESULTS 5

LIST OF TABLES

page

1. AIRBORNE EM ANOMALIES 4

INTRODUCTION

During August 1982, Aerodat Limited carried out an airborne magnetic and electromagnetic survey over part of Matheson and Cody Township. This survey covered four contiguous claims held by Kidd Creek Mines Ltd. in the N1/2 of Lot 8, Concession I, Matheson Township, Porcupine Mining District. The north boundary of the property is located along Highway 101, 25 kilometres east of the City of Timmins. The claims are numbered as follows:

P 585548 - P 585551 inclusive.

PREVIOUS WORK

In 1981, Texasgulf Canada Ltd. cut north-south grid lines on the property and carried out magnetic and horizontal loop EM surveys. Results from the EM survey outlined a conductor which strikes east-west about 200 metres north of the south boundary. This conductor had been tested with a diamond drill hole by Inco Metals Limited in 1967. The hole indicated the source of the EM anomaly to be graphite at the contact between volcanics to the north and sediments to the south.

SURVEY DESCRIPTION

The survey was conducted by Aerodat Ltd. using a helicopter borne system. An Astar 350-D helicopter was used. The magnetometer was a GEOMETRICS G-803 Proton Precession type with a 1/2 gamma sensitivity. The EM was run with an AERODAT/GEONICS AEM system consisting of 2 vertical coaxial coil pairs operating at 940 Hz and 4550 Hz and one coplanar pair operating at 960 Hz.

Mean flying height of the helicopter was 70 metres; the magnetometer bird was at 54 metres and the EM bird at 38 metres. Line spacing was approximately 200 metres. The position of the helicopter was constantly recorded using a miniranger radar positioning system.

RESULTS

The magnetic and electromagnetic results are shown in Figure 1 at a scale of 1:15840.

A conductor was outlined striking east west through the middle of the two southern claims. This is the same conductor which was detected by the ground horizontal loop survey carried out by Texasgulf(Gasteiger, 1981) and tested by Inco Metals Limited. A summary of the interpretation of

the anomalies is given in Table 1. The anomalies just to the north of the property coincide with the highway and are due to a cultural source.

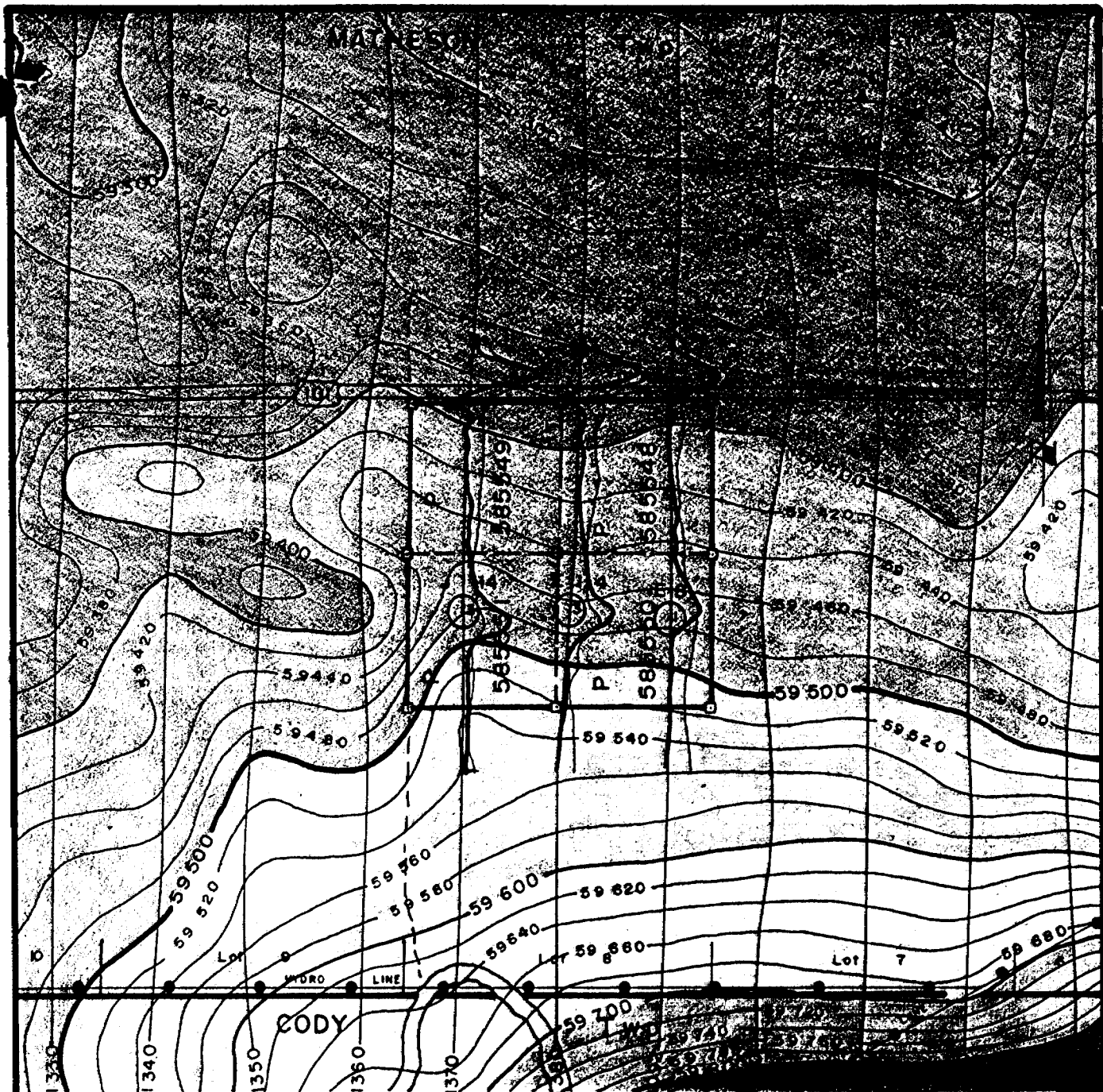
The volcanics to the north and sediments to the south can not be differentiated in the magnetic results. The property is located within a regional magnetic gradient which increases to the south. The source of the magnetic high anomaly to the south of the property in Cody Township is an east-west striking ultramafic unit.

The conductor does not have a coincident magnetic anomaly on the property, however to the west there is a linear magnetic low on strike.

Douglas Londry
D. LONDRE

TABLE 1: Interpretation of airborne EM anomalies on Matheson 13.

FLIGHT	LINE	ANOMALY	CATEGORY	FREQUENCY 940		CONDUCTOR		BIRD
				INPASE (ppm)	QUAD (ppm)	CTP (MHOS)	DEPTH (MTRS)	HEIGHT (MTRS)
2	1370	J	3	14.3	7.2	14.5	31	25
2	1380	E	3	13.6	8.2	11.1	33	22
2	1092	E	1	7.8	9.4	3.5	26	25



LEGEND

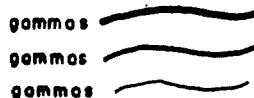
Conductivity thickness in mhos

- ⑨ > 500
- ⑧ 250 - 500
- ⑦ 125 - 250
- ⑥ 60 - 125
- ⑤ 30 - 60
- ④ 15 - 30
- ③ 8 - 15
- ② 4 - 8
- ① 2 - 4
- < 2

Magnetic Contours

- 500 or 1000 gammas
- 100 gammas
- 20 gammas
- > 59,900 gammas
- 59,800 - 59,900
- 59,700 - 59,800
- 59,600 - 59,700
- 59,500 - 59,600
- 59,400 - 59,500
- 59,300 - 59,400
- < 59,300 gammas

NORTH - SOUTH FLYING



Magnetic Depression



EM Anomaly E, in-phase amplitude
14 ppm. Conductivity thickness
range 3 (see code)

FIGURE 1

KIDD CREEK MINES LTD.		
Exploration Division		Timmins, ONTARIO
MATHESON 13 MATHESON Twp.		
AIRBORNE ELECTROMAGNETIC & MAGNETIC		
SCALE: 1 : 15,840	Data: AERODAT	
Drawn: DEL	Project N°: 82	Date: 06/12/84

Douglas Landry

REFERENCES

Gasteiger, W. A., 1981, Texasgulf Canada Ltd., Report on Geophysical Work, Matheson Township, Timmins Assessment File T-2483 .

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) Magnetic

Instrument(s) Geometrics G803

(specify for each type of survey)

Accuracy + .5 gammas

(specify for each type of survey)

Aircraft used Astar 350-D Helicopter

Sensor altitude 38 metres

Navigation and flight path recovery method Motorola Mini-Ranger (MRS III)

Radar Positioning System

Aircraft altitude 70 metres Line Spacing 200 metres

Miles flown over total area 660 km Over claims only 2.4 km

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 _____

Mining Lands Section

File No 2.7563

Control Sheet

TYPE OF SURVEY GEOPHYSICAL
 GEOLOGICAL
 GEOCHEMICAL
 EXPENDITURE

MINING LANDS COMMENTS:

LD

Dong
Signature of Assessor

14/12/84
Date

Kidd Creek Mines Ltd.

Box 1140
571 Moneta Avenue,
Timmins, Ontario P4N 7H9
(705) 267-1188

Exploration Division

December 12, 1984

Mr. Fred Matthews
Director, Land Management Branch
Whitney Block, Room 6450
Queen's Park
TORONTO, Ontario
M7A 1W3

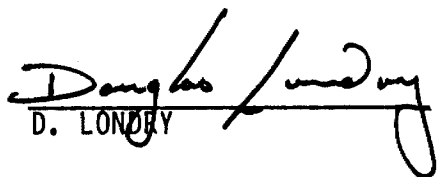
Dear Sir:

Re: MATHESON TOWNSHIP

Enclosed please find duplicate copies of a report and maps covering claims in Matheson Township. The claims aforementioned are P-585548, P-585549, P-585550 and P-585551.

Your prompt attention to this matter would be greatly appreciated.

Yours very truly,


D. LONDY

DL/pp
Encls.

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DEC 13 1984
MINING LANDS SECTION

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