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MINING LANDS SECTION

REPORT  
ON A  
GRAPHITE OCCURRENCE  
CARDIFF TOWNSHIP, ONTARIO

November, 1981

A.T. Griffis

CARDIFF TOWNSHIP GRAPHITE

This is a report on a graphite occurrence in Cardiff Township, Provisional County of Haliburton, and more particularly deals with a property held under option on which drilling in 1951 indicated a considerable reserve of low-grade flake graphite.

GRAPHITE

This is a naturally occurring mineral that is metallic grey, lustrous, and normally occurs in thin hexagonal plates. It is one of the softest minerals with a hardness of 1 to 2 on Moh's scale.

Published information on graphite markets, uses, and prices, usually includes artificial graphite and cured carbon. In this report we are concerned only with natural graphite.

The information used here has been taken from three principal sources:

- Carbon and Graphite (1978), Roskill Information Services
- Graphite in 1979 (1980), Bureau of Mines, US Dept. of Interior
- Graphite (1980), Mineral Facts and Problems, US Dept. of Interior

USES

The principal uses of graphite and the relative market distribution in the United States are summarized below:

1. Carbon raising in steel production .....	27%
2. Refractories .....	27%
3. Foundry facings .....	16%
4. Lubricants .....	6%
5. Brakes and clutch linings .....	5%
6. Lead pencils .....	3%
7. Batteries .....	3%
8. Other uses .....	13%

**PART OF CARDIFF TWP**  
**SHOWING GRAPHITE CLAIM BLOCK**

Scale: 1" = 1/2 Mile

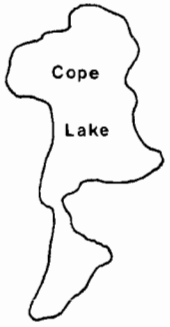
A.T. Griffis  
Oct. '81

**HARCOURT TWP**

**MONMOUTH TWP**

**CARDIFF TWP**

626185	648	
Cardiff Lake	552058	552059
	552081	552080
627297		
626187	626190	626191
626188		
626189		



## PRICES

The price paid for graphite is based on the coarseness of the product and its carbon content, with a very low content of abrasive impurities specified for use in lubricants or packings.

The reserves of graphite on a worldwide basis are large. However, no graphite is currently produced in the United States and there appears to be a developing shortage in high quality flake graphite.

Prices quoted in technical journals for various qualities of flake have been tabulated and these indicate that graphite products on the average have increased in value at a higher rate than the consumer index. Indeed, prices quoted in 1981 are very much higher than in 1980 and may be unrealistically high or may reflect the impact of a developing shortage.

Preliminary inquiries from consumers indicate that prices being paid in 1981 are in line with 1980 quotes. The logical market for Canadian production is in the United States and the following is an indication of prices for graphite from an Ontario source.

Product	Mesh Size	% Carbon	US \$/Short Ton	Cdn\$/Metric Ton
1	+ 48	97	1,000-1,200	1,300-1,600
2	-100	94	1,000	1,325
3	+48	82	850	1,125
4	-48+100	82	750	990
5	-100	85	550	725

## GRAPHITE SUPPLY AND DEMAND

World production of graphite in 1978 was 589,000 tons, the bulk of which was amorphous graphite of relatively low value. The principal producers were the USSR, the People's Republic of China, North Korea, India, and South Korea. However, the principal producers of flake graphite were Malagasy, West Germany, and Norway with much smaller production from Brazil. World total production of flake graphite in 1975 was estimated by Roskill at 48,671 tonnes.

German production is declining and no increase is forecast for Malagasy. Consequently, the demand for good grades of flake graphite is expected to be firm. This is reflected in published quotes for the better grades which increased an average of 95% from 1980 to 1981.

The principal importers of graphite are the United States and Japan with lesser tonnages to West Germany, Poland, and the United Kingdom. Total world demand for 'crystalline flake' in 1978 was 213,00 short tons with US imports totalling 55,000 short tons.

#### OUTLOOK

The market for graphite is relatively stable and the forecast is for long-term growth at a modest 2.8% per annum.

For a Canadian producer the outlook is favourable, particularly in the US market and more particularly for the better qualities of flake graphite.

#### CARDIFF GRAPHITE PROPERTY

The area is approximately 175 km ( 110 miles) north-northeast of Toronto, in the Township of Cardiff, County of Haliburton.

Five claims have been optioned, covering a graphite zone that was drilled in 1951 and on which more extensive work is planned. In addition, six claims have been staked to cover strike and dip extensions of the known zone.

The property held presently totals 550 acres and is shown in outline on an attached map. The claims held directly are: 626185, 626187, 626188, 626189, 626190, 626191 and those under option are 55058-9-60-61 and 627297.

#### THE PRINCIPAL GRAPHITE PROPERTY

This is the zone in the 11 claim block and has been drilled over a strike length of 1,300 feet and, in part, to 250 feet down dip.

A zone of graphite paragneiss was exposed in several large pits over a length of 700 feet and was mined on a small scale from 1912 to 1915.

In 1951, the Black Donald Division of Frobisher Limited drilled 23 holes that indicated a reserve of 1,440,000 tons grading 4.1% carbon or 800,000 tons grading 5% carbon.\* Testing of cores and a bulk sample indicated efficient and inexpensive recovery of graphite in marketable grades.

At surface the zone strikes N60<sup>0</sup>E and dips 10-23<sup>0</sup> to the southeast. The drilling indicates that at the easterly end the zone continues but is lower grade, and pitches to the south. It is open down dip to the south and along strike.

Six confirmatory holes were drilled in 1981 on 200-foot spacings. These holes did not confirm the earlier work and one interpretation indicates a thickness of 44' along 600 ft. of strike length averaging 4.2% C. Other interpretations indicate a larger potential but lower grade. The holes drilled were relatively shallow and it is possible that drilling at depth would yield higher results.

The drilling was supervised by H. P. Cybulski, P. Eng., and the cores were logged, split and analyzed by Lakefield Research of Canada Limited.

Specimens of core have been taken every 25' along the core by Lakefield and have been submitted to the Ontario Ministry of Natural Resources. The logging of the cores was, as noted above, carried out at Lakefield Research of Canada Limited by Karen Gochnauer, B. Sc. Copies of the core logs, with carbon analyses are appended to this report.

\* Ont. Dept. of Mines, Vol. 66, pt. 3, 1957, page 46

## LOCATION AND DEPTH OF DRILL HOLES

NOTE: All holes were vertical and HQ diameter.

HOLE NUMBER**	LOCATION		ELEVATION	DEPTH
	EAST	NORTH	FT. a.s.l.	FEET
24	3300	250	1417	157.5
25	3100	330	1418	170.6
26	2900	330	1459	170.6
27	2700	410	1467	157.5
28	2500	450	1468	157.5
29	2300	480	1425	157.5
			TOTAL:	971.2

\*\* 23 holes were drilled in 1951.

Plan of Survey is attached.

Core logs are appended.

## SUMMARY AND CONCLUSION

A sequence of graphite-bearing paragneisses is partially exposed in lots 10 & 11 concession XXII Cardiff Township, Provisional county of Haliburton. Drilling in 1951 confirmed that the beds dip at low angles to the southeast and carry disseminated graphite over thicknesses averaging 120 feet.

The earlier drilling indicated that the grade of the lower 60' of the zone averaged 4.1% C for a strike length of 1300 feet and to 250' down dip.

In 1981 the zone was surveyed and 6 vertical holes were drilled to check the earlier work. The core size was HQ diameter and excellent recovery was obtained. The cores were taken to Lakefield Research of Canada Ltd. at Lakefield, where they were logged. In order to obtain accurate sampling the cores were cut along their diameter by diamond saw and samples were taken from one half.

The analytical results indicate beyond any reasonable doubt that the earlier results were too high. It is concluded that the potential reserve of graphite bearing rocks grading 4% C or better is considerably lower than was originally indicated. Nevertheless, the deposit would have some economic interest if mineral reserves of graphite rocks could be proven elsewhere in the area.

Report by A. T. Griffis  
November 2, 1981



2. Composite Samples - Prepared at Lakefield

Hole 24	-	21.65 m	-	29.74 m
25	-	19.57 m	-	29.11 m
26	-	21.00 m	-	36.62 m
27	-	19.80 m	-	33.04 m
28	-	32.91 m	-	38.10 m
29	-	22.09 m	-	25.58 m

**LAKEFIELD RESEARCH OF CANADA LIMITED**  
**LAKEFIELD, ONTARIO**  
**CANADA**

**Certificate of Analysis**

Date: October 28, 1981

Received: \_\_\_\_\_

**From:** Dr. A.T. Griffis,  
 c/o Watts, Griffis and McOuat Ltd.,  
 Suite 911, 159 Bay Street,  
 Toronto, Ontario M5J 1J7

Our Reference No. 2502

Invoice No. \_\_\_\_\_

**Samples submitted to us show results as follows:**

<u>Sample No.</u>	<u>Au, g/t</u>	<u>Ag, g/t</u>
Comp. DDH 24	< 0.17	1.5
DDH 25	< 0.17	1.3
DDH 26	0.24	1.2
DDH 27	0.19	1.3
DDH 28	< 0.17	1.3
DDH 29	< 0.17	1.2

To: Dr. Griffis (2)

SIGNED \_\_\_\_\_

*D.M. Wyslouzil*  
 \_\_\_\_\_  
 D.M. Wyslouzil, P. Eng.,  
MANAGER

**LAKEFIELD RESEARCH OF CANADA LIMITED**  
 LAKEFIELD, ONTARIO  
 CANADA

**Certificate of Analysis**

Date: November 18, 1981

Received: \_\_\_\_\_

From: Dr. A.T. Griffis,  
 c/o Watts, Griffis and McOuat Ltd.,  
 Suite 911, 159 Bay Street,  
 Toronto, Ontario M5J 1J7

Our Reference No. 2502

Invoice No. \_\_\_\_\_

Samples submitted to us show results as follows:

	<u>Sample</u>	<u>% Graphite Carbon</u>
DDH-24	19.13 - 19.93	0.46
	19.93 - 20.82	0.37
	20.82 - 21.65	2.02
	21.65 - 23.10	5.17
	23.10 - 24.13	0.22
	24.13 - 25.06	2.51
	25.06 - 26.65	2.57
	26.65 - 27.90	2.31
	27.90 - 29.74	3.81
	29.74 - 30.94	1.11

To: Dr. Griffis (2)

SIGNED

*D.M. Wyslouzil*  
 D.M. Wyslouzil, P. Eng.,  
MANAGER

**LAKEFIELD RESEARCH OF CANADA LIMITED**  
**LAKEFIELD, ONTARIO**  
**CANADA**

**Certificate of Analysis**

Date: November 4, 1981

Received: \_\_\_\_\_

**From:** Dr. A.T. Griffis,  
 c/o Watts, Griffis and McOuat,  
 Suite 911, 159 Bay Street,  
 Toronto, Ontario M5J 1J7

Our Reference No. 2502

Invoice No. \_\_\_\_\_

**Samples submitted to us show results as follows:**

<u>Sample</u>	<u>% Graphite Carbon</u>	<u>Sample</u>	<u>% Graphite Carbon</u>
2325 (8022246) Head	16.6	DDH-25 29.11 - 29.92	0.75
No. 451145	<0.1	29.92 - 30.5	1.25
No. 451146	<0.1	30.75 - 31.54	1.44
DDH-24 Comp.	2.73	31.54 - 33.51	5.04
DDH-25 Comp.	3.41	33.51 - 35.10	0.64
DDH-26 Comp.	4.59	35.10 - 35.79	2.08
DDH-27 Comp.	4.95	35.79 - 37.58	2.51
DDH-28 Comp.	3.39	37.58 - 39.41	1.67
DDH-29 Comp.	4.00	DDH-26 10.21 - 12.60	1.22
DDH-24 12.97 - 14.02	1.20	12.60 - 14.71	0.48
14.02 - 15.00	0.46	14.71 - 17.12	4.93
15.00 - 15.88	0.37	17.12 - 17.74	0.51
15.88 - 17.00	2.34	17.74 - 19.24	2.39
17.00 - 18.00	0.80	19.24 - 21.00	0.85
18.00 - 19.13	1.99	21.00 - 22.50	2.53
30.95 - 31.54	1.60	22.50 - 23.65	4.38
31.54 - 32.47	0.77	23.65 - 24.90	11.8
32.47 - 34.10	2.11	24.90 - 27.08	10.3
34.10 - 35.00	1.32	27.08 - 28.77	3.59
DDH-25 16.64 - 17.70	1.86	28.77 - 30.06	3.48
17.70 - 18.83	3.76	30.06 - 32.29	2.44
18.83 - 19.57	1.08	32.29 - 33.15	0.70
19.57 - 21.38	5.10	33.15 - 34.62	2.73
21.38 - 21.90	2.46	34.62 - 35.32	10.4
21.90 - 24.84	1.74	35.32 - 36.62	3.95
24.84 - 25.41	3.83		
25.41 - 26.36	1.13		
26.36 - 26.85	1.30		
26.85 - 27.71	6.82		
27.71 - 29.11	8.15		

To: Dr. Griffis (2)

SIGNED \_\_\_\_\_

*D.M. Wyslouzil*  
 \_\_\_\_\_  
 MANAGER

D.M. Wyslouzil, P. Eng.,

**LAKEFIELD RESEARCH OF CANADA LIMITED**  
**LAKEFIELD, ONTARIO**  
**CANADA**

**Certificate of Analysis**

- 2 -

Date: November 4, 1981

Received: \_\_\_\_\_

From: Dr. A.T. Griffis,  
 c/o Watts, Griffis and McOuat,  
 Suite 911, 159 Bay Street,  
 Toronto, Ontario M5J 1J7

Our Reference No. 2502

Invoice No. \_\_\_\_\_

Samples submitted to us show results as follows:

<u>Sample</u>	<u>% Graphite Carbon</u>	<u>Sample</u>	<u>% Graphite Carbon</u>
DDH-27 8.84 - 9.47	0.43	DDH-28 30.00 - 30.85	2.69
10.47 - 12.53	1.09	30.85 - 31.46	1.35
12.53 - 15.00	2.20	31.46 - 32.91	0.76
15.00 - 17.59	1.91	32.91 - 34.01	5.70
17.59 - 18.43	1.58	34.01 - 35.30	2.46
18.43 - 19.80	2.48	35.30 - 36.06	1.30
19.80 - 21.00	3.72	36.06 - 37.03	1.83
21.00 - 23.08	9.72	37.03 - 38.10	4.19
23.08 - 24.92	3.55	38.10 - 39.00	0.70
24.92 - 26.00	2.84	39.00 - 40.57	0.71
26.00 - 27.18	1.63	42.00 - 42.94	0.42
27.18 - 28.85	4.01	42.94 - 45.05	0.44
28.85 - 29.48	1.33	45.02 - 48.00	0.65
29.48 - 32.10	3.22		
32.10 - 33.04	3.09	DDH-29 4.71 - 5.46	0.48
35.09 - 38.04	0.91	5.46 - 6.74	0.42
39.01 - 40.84	0.75	6.74 - 8.03	0.83
40.84 - 42.23	0.48	8.03 - 10.20	1.00
42.23 - 43.47	0.81	10.20 - 11.34	1.05
43.47 - 44.55	0.72	11.34 - 12.50	1.23
44.55 - 46.63	0.09	12.50 - 13.30	1.12
46.63 - 48.00	0.04	13.30 - 14.45	1.38
		14.45 - 15.18	0.31
DDH-28 11.36 - 12.55	0.58	15.18 - 16.28	1.79
18.32 - 19.66	2.13	16.28 - 17.86	1.08
19.66 - 21.00	1.12	17.86 - 18.80	1.78
21.00 - 22.35	1.52	18.80 - 19.59	1.21
23.42 - 24.67	2.55	19.59 - 20.25	2.77
24.67 - 26.27	0.44	20.25 - 21.20	0.92
26.27 - 27.74	3.00	21.20 - 22.09	0.98
27.74 - 29.45	2.75	22.09 - 22.67	4.78
29.45 - 30.00	2.60		

To: Dr. Griffis (2)

SIGNED \_\_\_\_\_

*D.M. Wyslouzil*  
 MANAGER

D.M. Wyslouzil, P. Eng.,

*Analysis and Assaying - Mineral Processing Research - Pilot Plant Investigations*

**LAKEFIELD RESEARCH OF CANADA LIMITED**  
**LAKEFIELD, ONTARIO**  
**CANADA**

**Certificate of Analysis**

- 3 -

Date: November 4, 1981

Received: \_\_\_\_\_

From: Dr. A.T. Griffis,  
 c/o Watts, Griffis and McQuat,  
 Suite 911, 159 Bay Street,  
 Toronto, Ontario M5J 1J7

Our Reference No. 2502

Invoice No. \_\_\_\_\_

Samples submitted to us show results as follows:

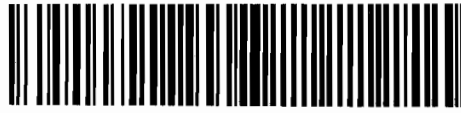
<u>Sample</u>	<u>% Graphite Carbon</u>	<u>Sample</u>	<u>% Graphite Carbon</u>
DDH-29 22.67 - 23.48	2.43	DDH-29 34.00 - 35.47	1.73
23.48 - 24.37	4.18	35.47 - 37.00	1.55
24.37 - 25.58	3.58	37.00 - 37.93	1.29
25.58 - 26.55	1.81	37.93 - 39.08	1.08
26.55 - 27.16	1.26	39.08 - 40.11	0.79
27.16 - 28.19	2.71	40.11 - 40.90	0.67
28.19 - 29.29	1.08	40.90 - 42.50	0.97
29.29 - 30.28	2.78	28	0.52
30.28 - 31.20	0.89	29	1.10
31.20 - 31.83	1.97		
31.83 - 32.45	0.69		
32.45 - 34.00	1.22		

To: Dr. Griffis (2)

SIGNED D.M. Wyslouzil  
MANAGER

D.M. Wyslouzil, P. Eng.,

*Analysis and Assaying - Mineral Processing Research - Pilot Plant Investigations*



31E07SW0002 2.4392 LIVINGSTONE

020

DRILL CORE LOGS CARDIFF TOWNSHIP GRAPHITE

For

A.T. GRIFFIS

LOGGING AND SAMPLING

By

KAREN GOCHNAUER, B.Sc.

LAKEFIELD RESEARCH OF CANADA LIMITED

OCTOBER 1981



# LAKEFIELD RESEARCH OF CANADA LIMITED

P.O. BOX 430, LAKEFIELD, ONTARIO, CANADA K0L 2H0

PHONE (705) 652-3341  
TELEX NO. 06 962842

October 20, 1981

Dr. A.T. Griffis  
c/o Watts, Griffis and McOuat Limited  
Suite 911 - 159 Bay Street  
Toronto, Ont.  
M5J 1J7

Dear Dr. Griffis:

Herewith the log sheets for the logging of the cores from diamond drill-holes numbers 24; 25; 26; 27; 28 and 29. The logging was done by Karen Gochnauer, a graduate in geology from Carleton University in Ottawa.

In addition she has selected a three inch piece of split diamond drill-core from every 25 feet of length of core for each drill hole. These samples have been packed and are ready for pick-up at your convenience.

With best wishes.

Yours sincerely,

LAKEFIELD RESEARCH OF CANADA LIMITED

*Bill Deane / SB*

R.W. Deane, P. Eng.

Chief Mineralogist

RWD:slb

Enc.



A B B R E V I A T I O N S

bi,	-	biotite
cc	-	calcite
cc-si	-	calc-silicate
diop	-	diopside
F	-	fluorite
fel	-	feldspar
gar	-	garnet
gdi	-	granodiorite
gn	-	gneiss
graph	-	graphite
hb,	-	hornblende
MI	-	mafic index
phlog	-	phlogopite
px	-	pyroxene
Q	-	quartz
serp	-	serpentine
sulph	-	sulphide

ROCK UNITS

Granite gneiss predominantly pink; foliated, coarse-grained; quartz 'ribbons' - foliated or sheared? ; sharp to gradational contacts with host rocks; few % mafics; large areas to local bands parallel to gneissosity  
a) white granite - minor,  $\pm$  garnets



Green Feldspathic Rock - predominantly green coloured feldspar, fine to coarse-grained, nearly massive, possibly anorthosite to anorthositic rocks, associated with diopside rocks? ,  $\pm$  garnets



Biotite gneiss; i) 10-25 % Biotite, ii) > 25 % biotite, + feldspar + Q, also with some diopside; well foliated to nearly massive, well banded to homogeneous, fine to medium grained granodioritic? ,  $\pm$  garnets

i with interbands (cm's to mm's) of diopsidic bands

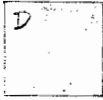
HB

ii some with hornblende bands, mafics, locally amphibolite

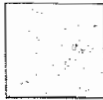


Diopside gneiss: A) 10-25 % mafics, B) 25-40 % mafics, C) 40-70 % mafics, D) > 70 % mafics-ultramafics; colour variations, i) light green, ii) dark green, colour possibly due to variable alteration, serpentinization  $\rightarrow$  dark green. Also subdivided into calcareous and non calcareous. Predominantly well banded - feldspathic and diopsidic bands. Some units with biotite bands, and biotite + diopside mafics. Local pink coarse-grained feldspathic bands and feldspar 'augen'. Often graphitic with graphite concentrations in

Rock Units - Continued



serpentinized bands, some serpentine bands displayed slickensides. Diopsidic rocks were also interbanded with calcareous bands (marble) and brecciated? in places with calcareous matrix. Some may contain hornblende ± garnets.



Calcareous unit; coarse-grained foliated to massive diopside - calcite rock (marble),  
i) 50 - 70 % calcite and ii) > 70 % calcite.

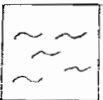


There was also some 'marble' with large mica (phlogopite ) clots. Fine-grained graphitic shears often occurred in the unit. The marble had i) a swirly texture, or ii) banded, or iii) breccia with diopsidic fragments and fine-grained graphitic matrix. Some of the fragmental unit had rounded feldspar quartz grains and diopsidic fragments - possibly a calcareous pebble conglomerate. Some of the rocks were 'calc-silicates' with diopside being greater than the calcite. Some of these calcareous mafic rocks were included in the diopside gneiss unit. There was often good interbanding of diopsidic gneiss and calcareous unit.

Modifiers



breccia , A minor subtype included a sulphide-breccia with abundant sulphide matrix + graphite.



Fine-grained graphitic shears.



Black 'gouge' - fine-grained graphite matrix with crystals of diopside and feldspar; sometimes as matrix in the breccia unit.

Rock Units - Continued



Calcareous conglomerate - pebble size rounded quartz, feldspar and diopsidic gneiss fragments.



Calcite in matrix; negligible to fairly abundant.



Interbands - various rock types.

S T R U C T U R E S

Most of the rocks were well foliated, banded and interbanded. Banding in the diopsidic unit included some cyclical compositional and size gradation banding. Contacts between the rock units were generally gradational or assimilated and parallel to the gneissosity. The rocks were generally well foliated; the units were locally massive. Folding was visible - particularly in the calcareous unit; there were also displacement folds. Displacement of bands and shearing was fairly common in the units. Some serpentine, graphite, sulphides and calcite enrichment appeared to be related to shearing or fracture-filling.

Breccias varied from a calcareous matrix to a sulphide and/or graphite rich matrix.

G R A P H I T E

Graphite occurred as fine to coarse-grained disseminations, and graphitic bands mm's to cm's wide. Graphite was generally more abundant in the green diopside gneiss and calcareous gneisses and less abundant in the biotite and granitic gneisses. The amount of graphite was also dependent on depth in the cores.

S U L P H I D E S

Sulphides occurred as disseminations, in bands, along fractures and as a matrix in a breccia; sometimes it occurred as matrix in graphitic bands.

HOLE NOS

DEPTH	24	25	26	27	28	29
0.00						
1.00			1100 120		0.52 Fel, F diopgar? 10 HB HB	
2.00	010 184			216 227 a	1.83 green Fel rock 205	200
3.00	304		278 294 306 313 334 340	291 oct F 300		254 290
4.00	3.60 green Fel rock, 382 Δ Δ Δ Δ Δ 407	391	380		3.26 Fel rock, gar	3.50 3.60
5.00	4.47 Δ Δ Δ serp. bi 4.70 5.07 5.30 5.53 5.70 5.90	4.63 4.80 3.91	4.86 F 5.14 5.24 Δ Δ 5.42 5.51 5.66 F 5.90 6.00 6.26 6.28 6.42	412 Fel rock + sulphide diop rock gar	HB	4.71m 0.498 C 4.93 5.22 5.43 5.46m 5.43 5.70 0.428 C 5.85
6.00	6.40 6.60 GAP 6.70	6.30 6.70 6.79 6.90 7.00	6.78 6.95	5.86 6.11 6.41 gar	gar	6.40 6.58 6.74m 7.00 0.838 C 7.30 7.47
7.00	7.50 7.70	7.42 7.50 7.68			6.89	
	MI 40-60%					

DEPTH	24	%C	25	%C	26	%C	27	%C	28	%C	29
	770										
8.00							8.00		8.00		8.03m
			8.93		8.20	△△△			gar		8.10
			8.44		8.34						8.33
			8.60		8.45				8.50		8.53
	8.71				8.68		8.63		8.62		8.65
9.00	8.90				gar		8.94m		8.71		8.86
	9.17		9.20		9.00						9.06
					9.34						1.00% C
			9.53		?		0.43% C		9.40		9.50
	9.68	? ? ?							9.62	gar	
10.00					9.90		9.90		→ p		
					10.00					gar	
			10.20	10.21m	10.13			gar			10.20m
			10.30						10.35		
	10.60						10.47m	10.48			10.58
	10.87								10.60		10.58
11.00					10.96				sketch? VEN		1.05% C
	graph								10.98		
	11.25	1st occurrence graphite?		1.22% C	11.28				11.05	F	
			11.47		11.56		1.09% C		11.20		11.34m
					11.70				11.67	F	11.35
12.00			11.92						11.95		1.28% C
	11.93				GAP				0.58% C		
	12.13										
	12.30										
	12.53				12.45		12.53	12.51			12.50m
13.00	12.97		12.90		12.95						1.12% C
			13.12		13.00						
			13.26		13.25						
1.2% C					13.39		2.20% C	13.38	△△		1.330m
					13.59			gar?			1.350
				0.18% C	13.69			△?			1.375
14.00	14.02								13.70		1.38% C
					14.04						
	0.46% C								13.96		
			14.43								
			14.53	14.71m	14.60				14.40		1.45m
			14.62		Q-Fel gn						1.498
			14.80						14.81	0.31% C	14.62
15.00	15.00				14.90		15.00m				14.73
			15.06		15.07						
			15.22		15.24						15.11m
0.37% C	Fel		15.40		15.40						1.79% C
			15.60						15.50		
			15.70						15.00		
									15.70		

DEPTH M	24	%C	25	%C	26	%C	27	%C	28	%C	29
16.00	15.73 15.80 15.88M		15.70				15.70		15.70		
	16.10		gray green Fel gm gar		15.95					1.79%	
	16.20									C	
	16.40	2.34%	Fel bands	4.93%	16.25	1.91%			16.17		16.27
17.00	16.55		16.60								16.60
	16.64M		16.70								
	17.05		16.93		16.90					1.08%	
	17.00M		17.08	17.12						C	
18.00	17.55	0.80%	17.40	0.51%	17.40						17.13
	17.62		17.46		17.47		17.45				17.21
	17.70M		17.64		17.59M						17.50
	17.76 Fel		17.74		17.15 sulph bi		17.70				
19.00	18.00		17.87	?	18.00	1.58%					
	18.25	1.99%		2.39%						1.78%	
	18.30M							18.32M		C	18.30
	18.45				18.67		18.57				18.41
20.00	18.87		18.83M				18.64				
	19.00		18.96		19.02	2.48%		2.13%			18.80M
	19.13M			19.24M						1.21%	19.15
	19.45 green fel	0.46%	19.39		19.29		19.46			C	
21.00	19.60		19.59M		19.46						19.59M
	19.80		19.60	0.85%			19.70	19.60M	19.67		19.67
	19.93M		19.84		19.84	19.80				2.71%	19.92
	20.00	0.31%					20.07 = HB	1.12%			
22.00	20.00		20.02		20.25	3.72%	20.24				20.25
	20.32	5.10%			Fel nk greenish		20.48				20.35
	20.53				20.60		WT		20.55	F	0.92%
	20.74		20.74		green Fe-G-Fel?		20.67		20.73		
23.00	20.84		20.84		20.84		21.00	21.00M			
	21.03		21.03	21.00M	21.03		21.00				21.10
	21.28		21.28		21.33						
	21.43		21.43		21.41						21.43
24.00	21.65	2.46%		2.53%	green fel rock			1.52%			21.52
	21.71				21.71	9.72%			21.73		0.98%
	21.90M		21.90		green fel rock						
	22.10	5.17%			21.95		22.09		21.97		22.09M
25.00	22.30		22.30		22.05		22.25		22.14		
	22.36		22.36	22.50M	22.30		graph	22.35M	22.36		4.78%
	22.67	1.74%	gray fel gran?		22.70						22.67M
	22.89		green fel rk?		22.89		diop or HB?	1.10%	22.73		22.70
26.00	23.10		23.07	4.38%	23.07		23.08M		23.06		2.43%
	23.20								23.22		
	23.41										23.15
	23.60							23.42M		23.48M	23.53



DEPTH	24	%C	25	%C	26	%C	27	%C	28	%C	29
			23.60		23.65						
24.00	23.80		23.83		23.83		23.85				
	24.10	1.74%	24.06		24.00		24.00				
					graph		24.27	2.55%			24.10
					24.40 sulph		24.50				24.37
			24.60		graph				24.67		24.70
25.00	24.84		24.84		24.90		24.92				25.00
	25.04		25.10		25.17		25.11				
	25.24	3.83%	25.27		25.37		25.27				
			25.53		25.57						
	25.70		25.70		graph						25.63
	25.87	1.13%			graph				25.77		25.80
26.00			26.10		26.00		26.05				
	26.30		26.20		26.39		26.30		26.27		
			26.36		26.50		26.34		26.30		
	26.50		26.50		graph		26.50		26.52		
	26.64	1.30%	26.70		graph sulph matrix		26.64				26.60
			26.85		26.70						
27.00			26.90		26.82		26.82				
			27.01		27.01		27.05		27.00		27.06
					27.11		27.18		27.21		27.25
									27.29		27.40
	27.49		27.43				27.42		27.43		
	27.63		27.58		27.62		27.53				
			27.72		27.72				27.74		27.68
28.00	27.90		27.85		graph		graph		27.78		
	28.05				27.96		27.97		27.97		28.00
	28.18		28.20		28.28		28.29				
			No core						28.50		
									28.70		
29.00			29.02		28.85		28.89				
			29.27		29.25		29.02				
			29.37		29.25				29.37		29.30
	29.50	0.75%			29.48		29.46		29.45		29.40
							chl-bi				W sepp
	29.71		29.72		29.72		W		29.60		
30.00			29.95		29.88		29.96				
	30.10		30.00		30.00		30.00		30.00		30.00
	30.28	1.25%	30.19				30.23				30.20
	30.36				30.40				2.69		30.28
			30.54		graph		30.45		9%		W sepp
			30.71		30.71		30.50				30.52
					folded						
31.00	30.94		30.92		30.92		30.90		30.85		30.67
	31.13	1.44%	31.19				sepp		1.35%		31.00
			31.30								31.05
	31.40		31.30		graph		31.20		31.22		31.20
			31.50		31.50				31.46		31.45





DEPTH	C	24	% C	25	% C	26	% C	27	% C	28	% C	28
				47.35		47.36						
				HB?		47.56 Δ Δ 0 0 Δ 47.73	0.092 C		0.65% C			
48.00		47.81 48.00 END				47.98 0 Δ Δ Δ 48.47		48.00 END		48.00		
				48.84	0.58% C	48.90						
49.00				49.20 green (cl)		49.17						
				49.41		49.33						
				gar?								
50.00				49.90								
				50.19 + HB								
				50.36								
				50.45 gar	50.44m	50.46 sulph						
				50.58		50.68 HB? 50.76						
51.00				50.89								
				60.00 END		51.20 51.40						
					0.71% C							
52.00						51.85						
						52.80 END						

K Gochmayer

LOCATION AND DEPTH OF DRILL HOLES

NOTE: All holes were vertical and HQ diameter.

HOLE NUMBER**	LOCATION		ELEVATION FT. a.s.l.	DEPTH FEET
	EAST	NORTH		
24	3300	250	1417	157.5
25	3100	330	1418	170.6
26	2900	330	1459	170.6
27	2700	410	1467	157.5
28	2500	450	1468	157.5
29	2300	480	1425	157.5
			TOTAL:	971.2

\*\* 23 holes were drilled in 1951.

Plan of Survey is attached.

Core logs are appended.



**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) Control (including Elevation)  
 Township or Area Cardiff  
 Claim Holder(s) A. T. Griffis  
Rino Rinaldi et al (optioned)  
 Survey Company K. R. Amer  
 Author of Report A. T. Griffis  
 Address of Author #2206, 2010 Islington Ave. WESTON M9P 3S8  
 Covering Dates of Survey August 1 - September 10, 1981  
 (linecutting to office)  
 Total Miles of Line Cut \_\_\_\_\_

MINING CLAIMS TRAVERSED	
List numerically	
(prefix)	(number)
EO	626187
	552061
	552060
	627297
TO BE APPLIED EQUALLY TO	
THE ABOVE CLAIMS AND TO THE	
FOLLOWING CLAIMS, BEING A	
PART OF THE SAME BLOCK:	
EO	552058
	552059
	626185
	626188
	626189
	626190
	626191
TOTAL CLAIMS <u>11</u>	

If space insufficient, attach list

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 _____	
Geochemical _____	

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

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
 (enter days per claim)

DATE: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_  
 Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications GS. 1179

Previous Surveys

File No.	Type	Date	Claim Holder



#81-61

The Mining Act

in the Expend. Days Cr. columns.  
- Do not use shaded areas below.

Type of Survey(s) <b>Control Survey and Diamond Drilling</b>	Township or Area <b>Cardiff</b>
Claim Holder(s) <b>A. T. Griffis and (optioned) R. Rinaldi et al</b>	Prospector's Licence No. <b>A 44602</b>
Survey Company <b>K. R. Amer Ltd. Box 539, Barry's Bay</b>	Survey Dates (linecutting to office) 01 Day   08 Mo.   81 Yr.   10 Day   09 Mo.   81 Yr.
Name and Address of Author (of Geo-Technical report) <b>A. T. Griffis, Suite 2206 2010 Islington Avenue WESTON, Ontario M9P 3S8</b>	Total Miles of line Cut <b>2.2</b>

Special Provisions Credits Requested

Instructions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	<b>23.8</b>
	Geochemical	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
E0	626187	49.23			
	552061	49.23			
	552060	49.23			
	627297	49.23			
	552058	49.23			
	552059	49.23			
	626185	49.23			
	626188	49.23			
	626189	49.23			
	626190	49.23			
	626191	49.23			

Plan Days

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

Airborne Credits

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

Expenditures (excludes power stripping)

Type of Work Performed  
**Sample Preparation & Analysis**

Performed on Claim(s)  
**See map & Core Logs**

Calculation of Expenditure Days Credits

Total Expenditures	49.2/claim	Total Days Credits
\$ 8122.50	÷ 15	= 541

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.

Report Completed

Date of Report  
**NOV 19 1981**

Recorded Holder or Agent (Signature)  
*A. T. Griffis*

Total number of mining claims covered by this report of work. **11**

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
<b>809.33</b>	<b>November 25/81</b>	<i>R.M. Charnesky</i>
	Date Approved as Recorded	Regional/Branch Director

RECEIVED

NOV 27 1981

MINING LANDS SECTION

MINING RECORDS OFFICE TORONTO

RECEIVED

25

NOV 19 1981

AM

7 8 9 10 11 12 1 2 3 4 5 6

*See file folder*

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  
**A. T. Griffis**

Apartment 2206, 2010 Islington Ave. WESTON

Date Certified  
**Nov 18/81**

Certified by (Signature)  
*A. T. Griffis*



**The Mining Act**

Name: <b>A. T. Griffis</b>	Postal Address of Recorded Holder: <b>Apartment 2206, 2010 Islington Avenue, WESTON, Ontario M9P 3S8</b>	Prospector's Licence No.: <b>A 44602</b>
----------------------------	--	--

**Summary of Work Performance and Distribution of Credits**

Total Work Days Cr. claimed	Mining Claim			Work Days Cr.	Mining Claim			Work Days Cr.	Mining Claim			Work Days Cr.
	Prefix	Number			Prefix	Number			Prefix	Number		
for Performance of the following work. (Check one only)  <input type="checkbox"/> Manual Work <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping <input checked="" type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey	EO	626187	87		626188	87						
		552061	87		626189	87						
		552060	87		626190	91						
		627297	87		626191	87						
		552058	87									
		552059	87									
		626185	87									

All the work was performed on Mining Claim(s):

**Required Information eg: type of equipment, Names, Addresses, etc. (See Table Below)**

<p>1. AKKER DRILL: H Q Core - Vertical Holes St. Lambert Drilling Company VALLEY FIELD, Quebec</p> <p style="text-align: center;">TOTAL: 961' in 6 holes    961 days credit 87 days per claim</p> <p>2. LAND SURVEY: K. R. Amer Ltd. Land Surveyors P. O. Box 539 BARRY'S BAY, Ontario KOJ 1B0</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Date of Report</td> <td style="width:50%;">Recorded Holder or Agent (Signature)</td> </tr> </table>	Date of Report	Recorded Holder or Agent (Signature)
Date of Report	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		
	Date Certified	Certified by (Signature)

**Table of Information/Attachments Required by the Mining Recorder**

Type of Work	Specific information per type	Other information (Common to 2 or more types)	Attachments
Manual Work	Nil	Names and addresses of men who performed manual work/operated equipment, together with dates and hours of employment.	Work Sketch: these are required to show the location and extent of work in relation to the nearest claim post.
Shaft Sinking, Drifting or other Lateral Work			
Compressed air, other power driven or mechanical equip.			
Power Stripping	Type of equipment and amount expended. <b>Note:</b> Proof of actual cost must be submitted within 30 days of recording.	Names and addresses of owner or operator together with dates when drilling/stripping done.	Work Sketch (as above) <b>in duplicate</b>
Diamond or other core drilling	Signed core log showing; footage, diameter of core, number and angles of holes.		
Land Survey	Name and address of Ontario land surveyor.	Nil	Nil



RV No. 41

Oct. 29 1981

Received from Mr. A. J. Chaffee

Three Thousand & Seventy Seven  $\frac{00}{100}$  Dollars

Payment of invoices 16447 & 16707

LAKEFIELD RESEARCH OF CANADA LIMITED

\$ 12,033  $\frac{00}{100}$

Brenda D. Patrick

5 BLUELINE

LAKEFIELD RESEARCH OF CANADA LIMITED

LAKEFIELD, ONTARIO  
CANADA K0L 2H0

P.O. BOX 480

PHONE (705) 652-3341

TELEX No.  
06 962842

May 29, 1980

Dr. A.T. Griffis  
Watts, Griffis and Mc uat Limited  
Suite 911 - 159 Bay Street  
Toronto, Ontario  
M5J 1J7

Dear Tom:

Graphite Testwork

We have prepared a cost estimate of the work required to treat your sample of graphite ore. The work would include crushing of the ore, stage grinding and screening, flotation and tabling to produce several size fractions of graphite flakes. The cost is broken down into the following stages:

1. Testwork: Crushing, grinding, screening, tabling, flotation	\$ 660
2. Analytical: 10 graphite carbon, 3 LOI	\$ 224
<b>Total</b>	<b>\$ 884</b>

COMPANY: <u>LOGIM</u>			
ATTENTION: <u>ATG</u>		READ:	
PROJECT:		FILE:	
JUN 2 1980			
REFERRED TO	CN	READ BY	ON
NOTES			

The cost could be reduced to \$ 650 total by treating only a 2 kg sample (minimum). We estimate the time to complete this work to be 2 weeks. With best regards.

Yours sincerely,  
LAKEFIELD RESEARCH OF CANADA LIMITED

*D.M. Wyslouzil*

D.M. Wyslouzil, P. Eng.

Manager

DMW:slb

*92-1571*

*Go ahead  
Aug 7/80  
ATG personal*

*R16  
T under panel?*

INVOICE



LAKEFIELD RESEARCH OF CANADA LIMITED

P.O. BOX 430, LAKEFIELD, ONTARIO, CANADA K0L 2H0  
(705) 652-3341 • TELEX 06-962842

June 29, 19 81

TO: A.T. Griffis,  
• Apt. 2206,  
• 2010 Islington Ave.,  
• WESTON, Ontario  
• M9P 3S8

No 16200

Terms: Net 30 days. 2% service charge per month on overdue accounts

Re: Certificate of Analysis dated June 29, 1981  
Your Sample Griffis BB-1  
Our Reference No. 8122937

1 C at \$ 16.00	\$ 16.00
1 Au at 9.50	9.50
1 Sample Prep. at \$ 2.00	2.00

\$ 29.50

RS

PLEASE PAY BY INVOICE. NO STATEMENT WILL BE SENT.

INVOICE



LAKEFIELD RESEARCH OF CANADA LIMITED

P.O. BOX 430, LAKEFIELD, ONTARIO, CANADA. K0L 2H0  
(705) 652-3341 • TELEX 06 962842

Nov. 10 19 81

TO:

- Dr. A.T. Griffis
- C/O Watts, Griffis and McOuat Ltd.
- Suite 911 - 159 Bay Street
- TORONTO, Ont. M5J 1J7

Nº 16800

Terms: Net 30 days. 2% service charge per month on overdue accounts

Our Project L.R. 2502 - October Charges

Re: Core splitting, logging, C analysis on sample submitted  
A.T. Griffis

TO RESEARCH CHARGES

8 hours at \$ 30.00

TO ANALYTICAL CHARGES:

6 Ag at \$ 9.50  
 6 Au at 9.50  
 8 C(G) at 23.00

57 00  
 57 00  
 184 00

240 00

298 00

\$ 538 00

*Handwritten:* Paid Nov 16 K 33

PLEASE PAY BY INVOICE. NO STATEMENT WILL BE SENT.

WATTS, GRIFFIS AND MCOUAT, LIMITED

CHEQUE

LTD.

TORONTO, ONTARIO

0013548

053-4455

AMOUNT

\$8.00

F 07200

DATE  
November 4, 1981

ber 14, 1981

A-11-865

WATTS, GRIFFIS AND MCOUAT, LIMITED

*Jack F. M. Couat*  
*11/14/81* (NEGOTIABLE)

PAY TO THE ORDER OF  
Bondar-Clegg & Company Ltd.  
764 Belfast Road,  
Ottawa, Ontario  
K1G 0Z5

⑆00012⑆010⑆ 95⑆02718⑆

DATE	REFERENCE	INVOICES	PAYMENTS	BALANCE
Oct. 14/81	F07200	\$8.00		

00

WATTS, GRIFFIS AND MCOUAT, LIMITED

CHEQUE

TORONTO, ONTARIO

0013548

*1*  
*1801*

*W*  
THIS IS A PROFESSIONAL SERVICE  
ACCOUNTS DUE WHEN RENDERED

INVOICE

SEP 11 1981

LAKEFIELD RESEARCH OF CANADA LIMITED

P.O. BOX 430, LAKEFIELD, ONTARIO, CANADA K0L 2H0  
(705) 652-3341 • TELEX 06 962842

Sept. 8 19 81

TO:  
• Mr. A.T. Griffis  
• c/o Watts, Griffis and McOuat  
• Suite 911-159 Bay St.  
• Toronto, Ontario M5J 1J7

INVOICE NO 16497

Terms: Net 30 days. 2% service charge per month on overdue accounts

Our Project L.R. 2502 - August Charges

Re: Core splitting, logging, C analyses on sample submitted  
by A.T. Griffis

TO RESEARCH CHARGES:

74½ hours at \$ 30.00

\$ 2,235 00

PLEASE PAY BY INVOICE. NO STATEMENT WILL BE SENT.

INVOICE



LAKEFIELD RESEARCH OF CANADA LIMITED

P.O. BOX 430, LAKEFIELD, ONTARIO, CANADA. K0L 2H0  
(705) 652-3341 • TELEX 06 962842

October 9 19 81

TO: Dr. A.T. Griffis  
• Watts, Griffis & McOuat Limited  
• Suite 911 - 159 Bay Street  
• TORONTO, Ontario M5J 1J7

NO 16707

Terms: Net 30 days. 2% service charge per month on overdue accounts

Our Project L.R. 2002 - September & October Charges

RE: Core splitting, logging, carbon analyses on samples submitted by Dr. A.T. Griffis.

TO CORE SPLITTING:

130 hours @ \$30.00

3,900 00

TO MINERALOGY:

56 1/2 hours @ \$30.00

1,695 00

TO SAMPLE PREPARATION:

47 hours @ \$30.00

1,410 00

TO ANALYTICAL CHARGES:

121 C (G) @ \$23.00

2,783 00

\$ 9,788 00

7216

12023

PLEASE PAY BY INVOICE. NO STATEMENT WILL BE SENT.

2.4392

1983 05 19

2.4392  
7561.1v2

Mrs. R.M. Charnesky  
Mining Recorder  
Ministry of Natural Resources  
Whitney Block, Room 2548  
99 Wellesley Street West  
Queen's Park  
Toronto, Ontario  
M7A 1W3

Dear Madam:

EO.

A.T. Griffis recorded 23.8 days Geological assessment work credits on each of Mining Claims 626187, 552060-61, 627297, 552058-59, 626185, 626188 to 91 inclusive.

The survey reports and maps were not submitted to the Minister within the time prescribed by Section 77 of the Mining Act.

You are hereby authorized to delete the work credits recorded on November 25, 1981 from each of the claim record sheets. Please inform the recorded holder accordingly.

Yours very truly,

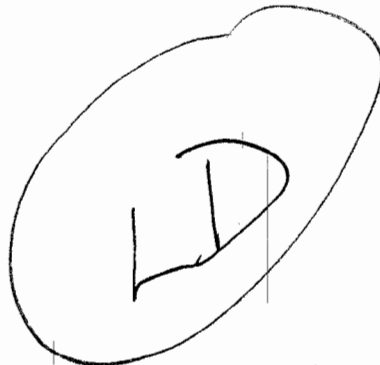
E.F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1380

A. Barr:sc

cc: Mrs. A.T. Griffis  
Suite 2206  
2010 Islington Ave  
Weston, Ontario  
M9P 3S8

cc: Reno Rinaldi  
Suite 812  
484 Church Street  
Toronto, Ontario  
M4Y 2C7







2.4392

1983 05 19

2.4392  
7561.1v2

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Mining Recorder  
Ministry of Natural Resources  
Whitney Block, Room 2548  
99 Wellesley Street West  
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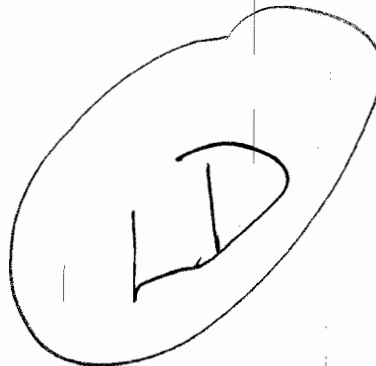
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M4Y 2C7



INVOICE



LAKEFIELD RESEARCH OF CANADA LIMITED

P.O. BOX 430, LAKEFIELD, ONTARIO, CANADA. K0L 2H0  
(705) 652-3341 • TELEX 06 962842

October 9 19 81

TO: Dr. A.T. Griffis  
• Watts, Griffis & McOuat Limited  
• Suite 911 - 159 Bay Street  
• TORONTO, Ontario M5J 1J7  
•

16707

Terms: Net 30 days. 2% service charge per month on overdue accounts

Our Project L.R. 2802 - September & October Charges

RE: Core splitting, logging, carbon analyses on samples submitted by Dr. A.T. Griffis.

TO CORE SPLITTING:

130 hours @ \$30.00

3,900 00

TO MINERALOGY:

56 1/2 hours @ \$30.00

1,695 00

TO SAMPLE PREPARATION:

47 hours @ \$30.00

1,410 00

TO ANALYTICAL CHARGES:

121 C (G) @ \$23.00

2,783 00

\$ 9,788 00

7225

12023

R7

PLEASE PAY BY INVOICE. NO STATEMENT WILL BE SENT.

1983 05 02

Mrs. A.T. Griffis  
Suite 2206  
2010 Islington Avenue  
Weston, Ontario  
M9P 3S8

*Arthur*  
*Send memo to recorder*  
*cancelling Test, credits*

Dear Madam:

RE: ~~Geological Survey~~ and assay report on Mining Claims  
626187 et al in the Township of Cardiff

Enclosed is a copy of our letter dated August 31, 1982 requesting proof of submission of the Geological part of the Survey.

Unless you can provide the required data by May 12, 1983, the Mining Recorder will be directed to cancel the Geological work credits recorded on November 25, 1981.

For further information please contact Mr. F.W. Matthews at 965-1380.

Yours very truly,

E.F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1380

cc: Mining Recorder  
Toronto

cc: Reno Rinaldi  
Toronto, Ontario

A. Barr:sc

*A Griffis called by*  
*telephone May 5/83 &*  
*states that there was*  
*no geological*  
*survey done!*  
*JFM*

1983 05 02

2.4392

Mrs. R.M. Charnesky  
Mining Recorder  
Ministry of Natural Resources  
Whitney Block, Room 2548  
99 Wellesley Street West  
Queen's Park  
Toronto, Ontario  
M7A 1W3

Dear Madam:

RE: Geological Survey and assay report on Mining Claims  
EO 626187 et al in the Township of Cardiff.

---

The ~~Geological Survey~~ and Assay Report assessment work credits  
as shown on the attached statement have been approved as of the  
above date.

Please inform the recorded holder of these mining claims and so  
indicate on your records.

Yours very truly,

E.F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1380

A. Barr:sc

cc: Mrs. A.T. Griffis  
Weston, Ontario  
cc: Reno Rinaldi  
Toronto, Ontario  
cc: Resident Geologist  
Richmond Hill, Ontario

Encls:

1983 05 02

Recorded Holder ESTATE OF DR. A.T. GRIFFIS & RENO RINALDI
Township or Area CARDIFF

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
<b>Geophysical</b> Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Section <del>88(18)</del> <sup>77(19)</sup> see across _____ days <b>Geological</b> _____ days <b>Geochemical</b> _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input type="checkbox"/> Ground <input checked="" type="checkbox"/> <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	\$8,122.50 spent on assaying of samples from Mining Claims E0 552060 and 61.  541 assessment work days are allowed which may be grouped in accordance with Section 76(6) of the Mining Act.  For Mining Recorder's Use.  The work assignment for each of the above listed two claims is 270.5 days per claim.

**Special credits under section 86 (15a) for the following mining claims**

--

**No credits have been allowed for the following mining claims**

<input type="checkbox"/> not sufficiently covered by the survey	<input type="checkbox"/> Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 86(18)-60:

1982 08 31

2.4392

A.T. Griffis & R. Rinaldi  
Suite 2206  
2010 Islington Avenue  
Weston, Ontario  
M9P 3S8

Dear Sir:

Enclosed is a copy of a report of work for Geological assessment work credits that was recorded by the recorder on November 25, 1981 on Mining Claims E0 552058 et al in the Township of Cardiff.

We have no record that you provided the full reports and maps to the Minister within the sixty day period provided by Section 77(19) of the Mining Act.

Unless you can provide evidence that the reports and maps were submitted as required by February 2, 1982 the mining recorder will be directed to cancel the work credits record on November 25, 1981.

Yours very truly

E.F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1380

J. Skura:sc

Encls:

*Sept 30/82*  
*Mr. Griffis has passed away and his son is now looking after these affairs.*  
*Joan*

Rene Rinaldi  
812-484 Church St.  
Toronto  
M4Y 2C7

801.  
72.86

Mrs. A. T. Griffis



Joan.

① This is not a geological report!

- it is an expenditure report for diamond drill assays

- it is satisfactory for expenditure credits and a statement of credits should be prepared allowing <sup>for</sup> 49.23 days per claim as requested

② Note on the report of work from that they asked for 23.8 days for a geological survey on each claim

- check & see if a geological report is indexed on another file

- if not write to A.T. Giffis and to R. Rinaldi and use form letter saying we have not received geological report & unless evidence is given in 10 days we will cancel.

Fred.

Missing hands:

a geological map would normally be requested but since the author passed away recently, it may be difficult to obtain a proper geological map.

Ukustra

Fred.

What do we do in a case like this

Athy

Mining Lands Comments

*No geological maps*

To: Geophysics

Comments

Approved  Wish to see again with corrections

Date July 2/82

Signature *CKestka*

To: Geology - Expenditures

*Mr Kustka*

Comments

Approved  Wish to see again with corrections

Date

Signature

To: Geochemistry

Comments

Approved  Wish to see again with corrections

Date

Signature

To: Mining Lands Section, Room 6462, Whitney Block.

(Tel: 5-1380)

1981 12 18

2.4392

Mrs. Charnesky  
Ministry of Natural Resources  
Room 1506  
Whitney Block, R  
Toronto, Ontario  
M7A 1X1

Dear Madam;

We have received reports and maps for a Geological survey submitted under Special Provisions and data for Assaying submitted under Section 77(19) of the Mining Act R.S.O. 1980 on mining claims EO 626187 et al in the Township of Cardiff.

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 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone 416/965-1380

J. Skura

cc: AT..Griffis  
Weston, Ontario

THIS AGREEMENT made as of the 30th day of  
June, 1981

B E T W E E N:

R.V. RINALDI, of the City  
of Toronto, in the Province  
of Ontario, Prospector (hereinafter  
called the "Optionor"),

OF THE FIRST PART

- and -

A. THOMAS GRIFFIS, of the City  
of Toronto, in the Province  
of Ontario, Geologist,  
(hereinafter called the "Optionee")

OF THE SECOND PART

W I T N E S S E T H:

1. The Optionor represents and warrants that he owns or controls, and can deliver with good title free and clear of encumbrances, the mining rights and privileges of pre-emption in and to five unpatented mining claims located in the Township Cardiff, County of Haliburton and Province of Ontario, officially designated as claims EO 552058 to EO 552061 inclusive located on the northerly two-thirds of Lots 10 and 11, Concession XXII and EO 627297 located on the central one-third of Lot 9, Concession XXII of such Township (hereinafter called the "Claims"). The Optionor represents and warrants that the Claims are beneficially owned by J.W. Gemmell of Toronto, J.McVittie of Bracebridge

and himself as to a one-third interest each, that the Claims are in good standing, and that he has the full and undisputed right to deal with the Claims.

2. In consideration of the payment of \$2,500 by the Optionee to the Optionor (receipt of which is hereby acknowledged), the Optionor hereby grants to the Optionee the sole and exclusive option to purchase the Claims for the consideration hereinafter described. The option hereby granted shall be in effect and in good standing until midnight, January 1, 1982.

3. During the option period above granted and during any extension thereof, the Optionee, his servants, agents, workmen, consultants and contractors shall have the right to go in and upon the Claims and to explore, develop and work them in such manner as he may deem advisable, and to take such samples of ore or other material for test purposes as he may reasonably require.

4. The Optionee shall have the right to extend the option until midnight, January 1, 1983 by making payment of a further \$12,500 to the Optionor on or before January 1, 1982.

5. The Optionee shall have the right to extend the option until midnight, January 1, 1984 by making payment of a further \$15,000 to the Optionor on or before January 1, 1983.

6. The Optionee shall have the right to finally and completely exercise his option by making payment of a further \$60,000 to the Optionor on or before the earlier of:

(a) January 1, 1984, and

(b) the achievement of production and by granting to the Optionor a royalty of \$1.00 per ton of crude ore from the Claims processed for the recovery of graphite, not including waste or low-grade ore stockpiled rather than processed (such royalty to commence with the startup of production) and an additional royalty of 1½% of the value at the Claims of the minerals won from the Claims, that is, after deduction of transportation and insurance during transportation if charged to the operator (such royalty to commence after three years of commercial production has been completed, or 300,000 tons of ore has been mined and processed, whichever occurs first). Such royalties shall be payable quarterly, within 30 days of the end of the quarter to which they relate.

7. The Optionee firmly agrees that during the time he holds the within option he will carry out in a good and workmanlike manner exploration work capable of being recorded for assessment credit, and that he will record all such work carried out on the Claims, and will carry out sufficient work so that the Claims shall be in good standing for a minimum period of 90 days following any expiry or surrender of this option.

8. The Optionee shall have the right to cause title to the Claims to be recorded in his name and to hold the Claims in such manner during the currency of this option. Upon the Claims being so recorded the Optionee shall execute and deliver to the Optionor a declaration of trust attesting to the fact that the property is held by the Optionee as trustee for the Optionor and himself under the terms of this agreement, and the Optionee shall deliver to J.W. Gemmell, Q.C. good and valid transfers of the Claims in blank, to be held by the said J.W.Gemmell,Q.C. during the option period, and delivered to the Optionor upon any termination of this option unless it is exercised in full as provided.

9. The Optionee shall, at reasonable intervals while exploration and/or mining operations by him upon the Claims are in progress, submit to the Optionor progress reports of mining operations completed on the Claims during the immediately preceding calendar year. The Optionor may, at his own risk and expense and only at reasonable times consented to by the Optionee enter upon and examine the mining operations, provided that the Optionor does not interfere therewith. All information received by the Optionor shall be kept confidential so long as the Optionee's rights continue under this Agreement and no part thereof may be published without his prior written consent.



10. The Optionee shall, during the option period, indemnify and save harmless the Optionor from and against all suits, claims, demands, losses and expenses which the Optionor may suffer by reason of any act or thing done or omitted to be done by the Optionee in relation to his exploration and/or mining operations on the Claims and shall cause to be paid all workmen and wage earners employed by him or his contractors on the Claims or part(s) thereof, and for all materials purchased in connection therewith, and will keep the Claims free from claims for liens with respect thereto, and, in the event of a lien being recorded, he will on this fact becoming known to him forthwith take proceedings to have such lien removed, and to have the same removed as soon as possible; provided the Optionee may dispute and contest any such suits, claims, demands, losses and expenses.

11. In case the Optionee shall abandon his rights and options hereunder with respect to the Claims, all buildings, plant, equipment, machinery, tools, appliances and supplies which may have been brought by him upon the Claims during the option period may be removed by the Optionee at any time not later than six (6) months after the termination of the rights and options of the Optionee with respect to the Claims. Any buildings, plant, equipment, machinery, tools, appliances and supplies left on the Claims during such six (6) month period shall be at the sole risk of the Optionee and if not removed after such period shall

become the property of the Optionor.

12. Any and all payments provided for herein shall be well and truly made if paid by cash or certified cheque in favour of the Optionor and deposited to his credit with the Royal Bank of Canada Toronto, Yonge and Wellington Branch Ontario on or before the Close of business on the day on which such payments may be due.

13. The parties hereto shall respectively, and without further consideration, from time to time, execute and deliver such further instruments and assurances as may be reasonably required to carry out the intent of this Agreement.

14. In the case of disputes or differences arising under this Agreement, which are not settled within a reasonable time and not exceeding three (3) months, the parties shall refer such disputes and differences to arbitration under The Arbitration Act of Ontario.

15. Any notice which may be required or desired to be given, whether under the terms of this agreement or otherwise, shall be sufficiently given if sent by registered mail to the parties hereto at the addresses following, that is to say:

The Optionor - Mr. R.V.Rinaldi  
Suite 812  
484 Church Street,  
Toronto, Ontario

The Optionee - Mr. A.T.Griffis  
Suite 911  
159 Bay Street  
Toronto, Ontario.

16. Time shall be of the essence hereof.

17. This agreement shall enure to the benefit of and be binding upon the parties hereto, their respective heirs, executors, administrators, successors and assigns.

SIGNED, SEALED AND DELIVERED )  
in the presence of: )

*John R. Till*

*John R. Till*

*R. V. Rinaldi*  
\_\_\_\_\_  
R. V. Rinaldi

*A. T. Griffis*  
\_\_\_\_\_  
A. T. Griffis