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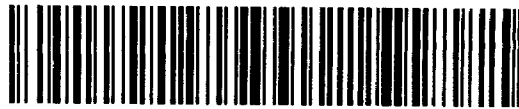
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REPORT  
on  
1988 DIAMOND DRILL PROGRAM  
RINALDI GRAPHITE PROPERTY  
Cardiff Township, Ontario

Toronto, Ontario  
December 30, 1988

Robert L.V. Ekstrom  
B.A.Sc., P.Eng.

OM88-9-I-276



31E01SE9437 63.5447 CARDIFF

010C

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	1
PROPERTY, LOCATION AND ACCESS	2
PROPERTY LOCATION MAP	4
CLAIM LOCATION MAP	5
ENVIRONMENT	6
HISTORY	7
GEOLOGY AND MINERALIZATION	8
1988 DRILL PROGRAM	8
DDH LOCATION MAP	9
RESULTS OF 1988 PROGRAM	10
DDH SECTION	11
CONCLUSIONS	12
RECOMMENDATIONS	13
CERTIFICATE	14
APPENDIX - Work Permit	
- Drill report	
- Diamond Drill Hole Logs	
- Application For Assessment Work Credit	
- OMEP Designation Certificate	
- OMEP Application For Grant	
- Receipted invoice copies for drilling and consulting	

SUMMARY

A Program of diamond drilling was carried out on the graphite property owned by Reno V. Rinaldi (in trust) during November of 1988. The property consists of two unpatented mining claims on crown land in the north part of Cardiff Township, Southern Ont. Mining Division. The claims are four miles northeast of Wilberforce, 20 miles west of Bancroft, and 130 miles northeast of Toronto. The claims, showings and drill holes are accessible by road.

The property was explored and mined from 1912 to 1915 by the New York Graphite Company which merged with the National Graphite Company during that time. Drill programs were carried out in 1951 and 1981 by the Black Donald division of Frobisher Limited and A.T. Griffis respectively. A total of 4270 feet of drilling was done in 23 holes in 1951 and 970 feet in six holes in 1981. Reserves calculated from the 1951 drilling were 1,400,000 tons at 4.1% C (carbon) or 800,000 tons at 5.0% C. No tonnage estimate was made from the 1981 drilling.

The 1988 drilling included two holes for a total of 400 feet drilled close to the thickest section interpreted from the Frobisher drilling. Hole 88-1 intersected acid and mafic paragneiss with a 67-foot interval of well mineralized graphitic material which correlates very closely in location and estimated grade with the 1951 results. The main graphite zone in hole 88-2 was 51 feet wide. A six-inch band of very high grade graphite (80-90%) was intersected at a correlating horizon in both holes. The graphite observed was recrystallized flake from one to ten millimetres in diameter.

It is recommended that metallurgical testing and market studies be carried out. A brief preliminary investigation will have to be made to define budget requirements. Metallurgical tests of the 1988 core samples should include grinding, recovery, grade, and product types, quality, and quantity. Market studies will indicate optimum products for metallurgical tests and give product values for deposit evaluation.

PROPERTY, LOCATION AND ACCESS

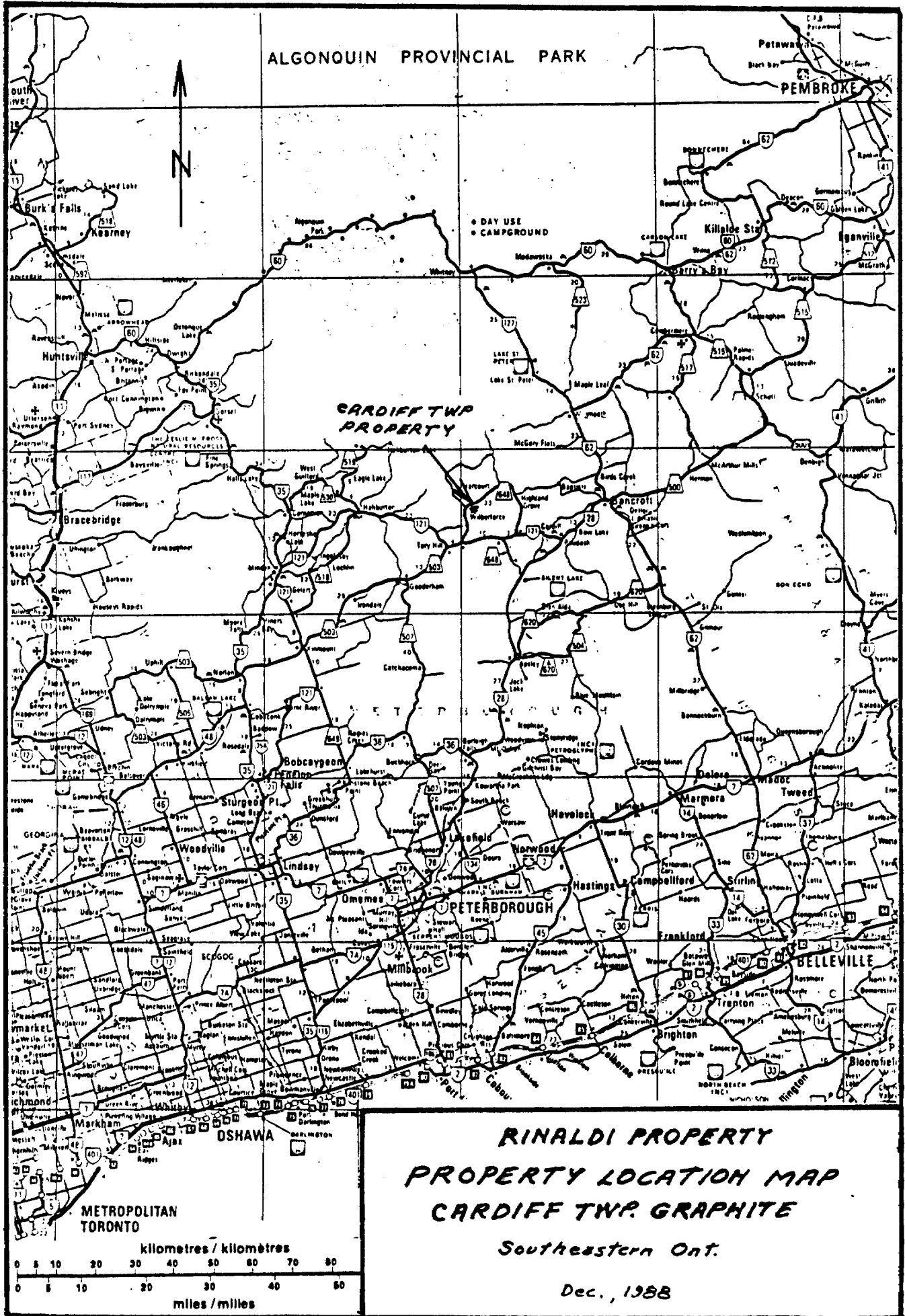
The property consists of two adjoining, unpatented mining claims on Crown land in Cardiff Township, Southern Ontario Mining Division. The claims were recorded on Dec. 15, 1986 and transferred to Reno V. Rinaldi (in trust) on Sept. 13, 1988. During the drilling the claims were held on an extension valid until April 28, 1989. The 400 feet of diamond drilling carried out in the present program will allow the application of 200 days assessment work to be applied to each claim and keep the claims in good standing until Dec. 15, 1991. Sufficient work has been done to apply for a lease if a land survey of the claim boundaries is not required.

The claim group lies in the north part of Cardiff Twp., 800-1600 feet south of Highway 648, immediately southeast of Cardiff Lake, four miles northeast of Wilberforce, 20 miles west of Bancroft and 130 miles northeast of Toronto. (Property Location Map and Claim Location Map follow).

The claims are more accurately described as follows:

<u>Claim No.</u>	<u>Part</u>	<u>Lot</u>	<u>Conc.</u>
EO 898194	Central Pt.	10	XXII
EO 966534	" "	11	"

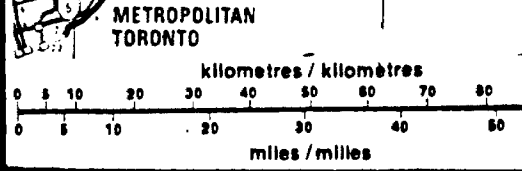
The property and showings are accessible by gravel road from highway 648. The drill holes are accessible by tractor road. The Mumford road (gravel), which passes just south of the claims, accesses the Cardiff Twp. garbage dump in the south part of Lot 11, Concession XXII.



**RINALDI PROPERTY  
PROPERTY LOCATION MAP  
CARDIFF TWP. GRAPHITE**

*Southeastern Ont.*

Dec., 1988





## ENVIRONMENT

The claims lie on a ridge top and north-facing side-hill. Relief on the claims is 50 to 100 feet but Cardiff Lake is some 250 feet below the highest point on the claims. Most of the drained areas are forested with hardwood (predominantly maple) with minor sections of balsam, hemlock and cedar. Cutting has removed most of the commercial timber.

One main stream was noted and used in the current drill program which lies some 400 feet west of the holes. The stream was dry in August and September 1988, during and shortly after the abnormal dry spell. The swamps to the north of the claims (east of Cardiff Lake) were also abnormally dry at that time. Some small flowing springs were noted in the pits at the old workings.

Winters may occasionally be cold and snowy but during the recent few years winters have been mild with little snow.



## HISTORY

The New York Graphite Company began work on the Cardiff Township deposit in 1912 at which time test pits were sunk and diamond drilling carried out. The company erected a mill and produced until 1915 when the company merged with National Graphite Company. Mining was discontinued in Cardiff Township but the mill operated on ore shipped from Monteagle Township.

In 1951, the Black Donald division of Frobisher Limited did 4,270 feet of diamond drilling in 23 holes. A zone of graphite bearing material was indicated to average 60 feet thick, 1,300 feet long and estimated to contain 1,440,000 tons at 4.1% C (carbon). A higher grade section of 800,000 tons at 5.0% carbon was included in the larger tonnage.

The property was restaked in 1980 and optioned by Dr. A. T. Griffis in 1981 and 961 feet of diamond drilling in six holes were done. Tonnage estimates were not reported by Dr. Griffis in his report (Nov. 1981). Sample rejects have not been located. Core specimens were filed with the drill core library in Bancroft.

A limited grid of a base line and short cross lines was cut and surveyed to control the 1981 drilling and the remapping of the geology near the old workings. Control elevations were run on the lines and drill collars and the grid was tied to survey stations on the lot boundary.

## GEOLOGY AND MINERALIZATION

The graphite occurs as crystalline flake graphite in altered limestone (marble) and paragneiss of the Grenville Province. The deposit is in a zone of paragneiss dipping flatly to the south. The 1951 drilling indicated an average thickness of 60 feet grading 4.1% C along a strike length of 1300 feet and extending some 250 feet down dip from the surface pits. Tonnage was estimated at 1,440,000 tons. Drilling in 1981 indicated an average thickness of thirty feet of 4.0% C material with somewhat lower grade in the hanging and foot wall of the zones.

### 1988 DRILL PROGRAM

A program of drilling was planned to recover samples for metallurgical test work and to check previous drilling results. An application was made for an OMEP grant on November 4, 1988 and preliminary work commenced on November 7, 1988.

Two holes (88-1 and 88-2) were drilled to 204 feet and 196 feet respectively from November 21 to 28, 1988. The holes were drilled close to the Frobisher N1-N14-N15 section (see DDH Location Map and DDH section) and close to hole 26 of the 1981 program.

**PRECAMBRIAN**

**PLUTONIC ROCKS**

**GRANITIC ROCKS**

- 8L Pink and white leucogranite; granite gneiss.
- 8b Biotite granite; biotite granite gneiss.
- 8h Hornblende granite; hornblende granite gneiss.
- 8H Hybrid granite gneiss, (inter-banded granite gneiss and amphibolite); granitized gneiss.
- 8P Granite pegmatite; pegmatitic granite.

**SYENITIC ROCKS**

- 7L Pink and white leucosyenite; syenite gneiss; albitite.
- 7b Biotite syenite; biotite syenite gneiss.
- 7h Hornblende syenite; hornblende syenite gneiss.
- 7H Hybrid syenite gneiss, (inter-banded syenite gneiss and amphibolite); syenitized gneiss.
- 7P Syenite pegmatite.
- 7k Corundum syenite; corundum syenite gneiss.

**NEPHELINE GNEISS**

- 6L Leuco nepheline gneiss; nepheline-plagioclase gneiss.
- 6b Nepheline-biotite gneiss.
- 6h Nepheline-hornblende gneiss.
- 6k Nepheline-corundum gneiss.
- 6S Nepheline skarn.
- 6P Nepheline pegmatite.

**INTRUSIVE CONTACT**

**OLDER BASIC INTRUSIVE AND META-INTRUSIVE ROCKS**

- 4Di Diorite.
- 4Gb Gabbro.
- 4Hb Hornblendite.
- 4Mg Metagabbro; hornblende-plagioclase gneiss.
- 4Am Amphibolite; hornblende schist.
- 4Px Pyroxenite.

**INTRUSIVE CONTACT**

**METASEDIMENTS**

**MARBLE**

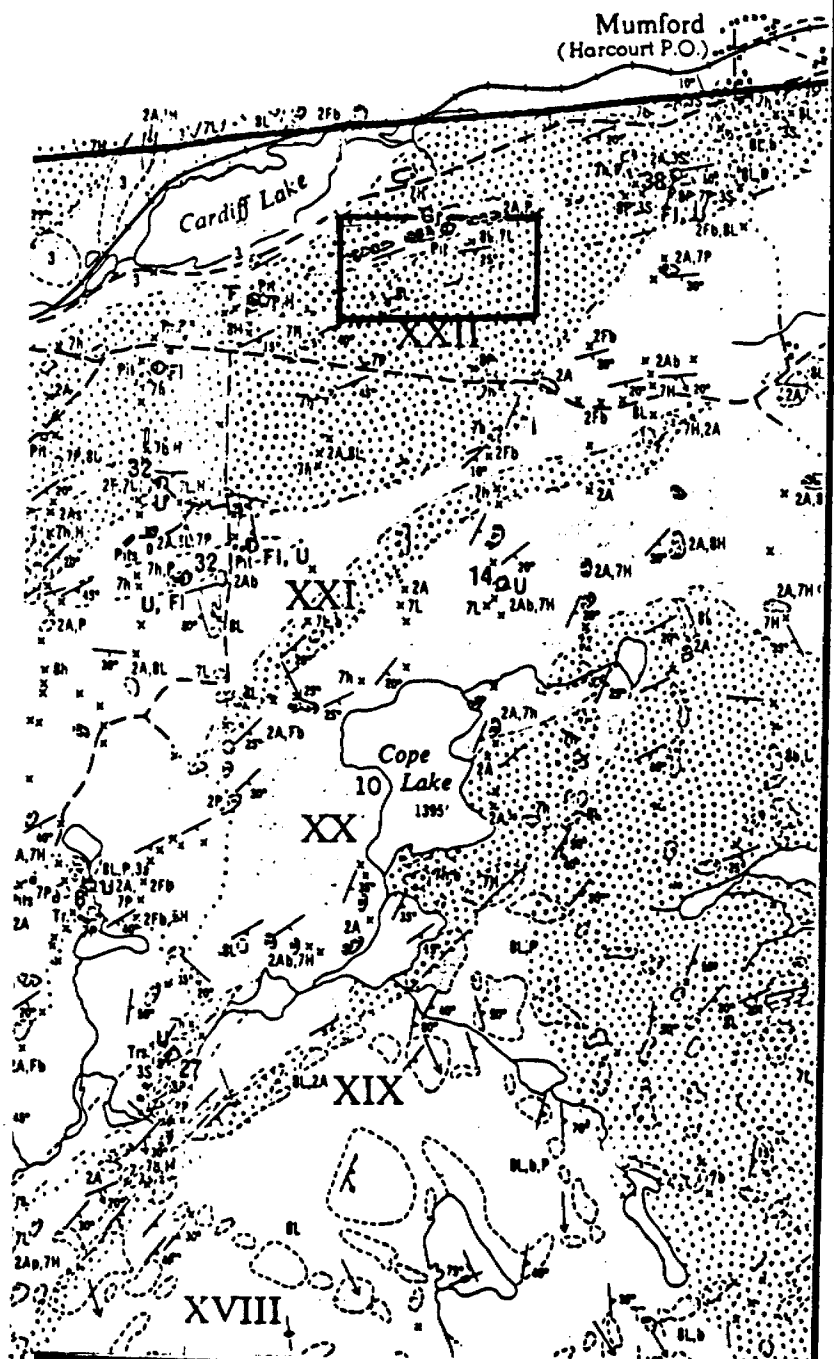
- 3 Crystalline limestone; dolomite; marble.
- 3a Interbedded marble and paragneiss or amphibolite.
- 3b Silicified marble; marble with accessory silicates.
- 3Q Sandy limestone or marble.
- 3R Argillaceous limestone or marble; impure shaly or silty limestone.
- 3S Lime silicate rock; metamorphic pyroxenite; skarn; diopside or tremolite rock.
- 3Bx Marble tectonic breccia.

**PARAGNEISS-AMPHIBOLITE GROUP\*\***

- 2A Para-amphibolite; hornblende-plagioclase gneiss and schist; 2Ab, biotite amphibolite; 2Abs, biotite-scapolite amphibolite; 2Ag, garnet amphibolite; 2Ap, pyroxene granulite; 2As, scapolite amphibolite.
- 2F Feldspathic paragneiss and schist; quartzo-feldspathic paragneiss and schist; 2Fb, biotite feldspathic and quartzo-feldspathic gneiss and schist; 2Fa, feather amphibolite; 2Fag, garnet feather amphibolite.
- 2P Paragneiss; biotite-quartz-plagioclase gneiss and schist; 2Pg, garnet paragneiss; 2Pgs, garnet-sillimanite paragneiss; 2Ps, sillimanite paragneiss; 2Pn, hornblende paragneiss.
- 2Q Quartzite, sandstone; 2Qb, biotite quartzite; 2Qh, hornblende quartzite.

Stippled areas of granitic and syenitic rocks include many sedimentary bands, and relict sedimentary material.

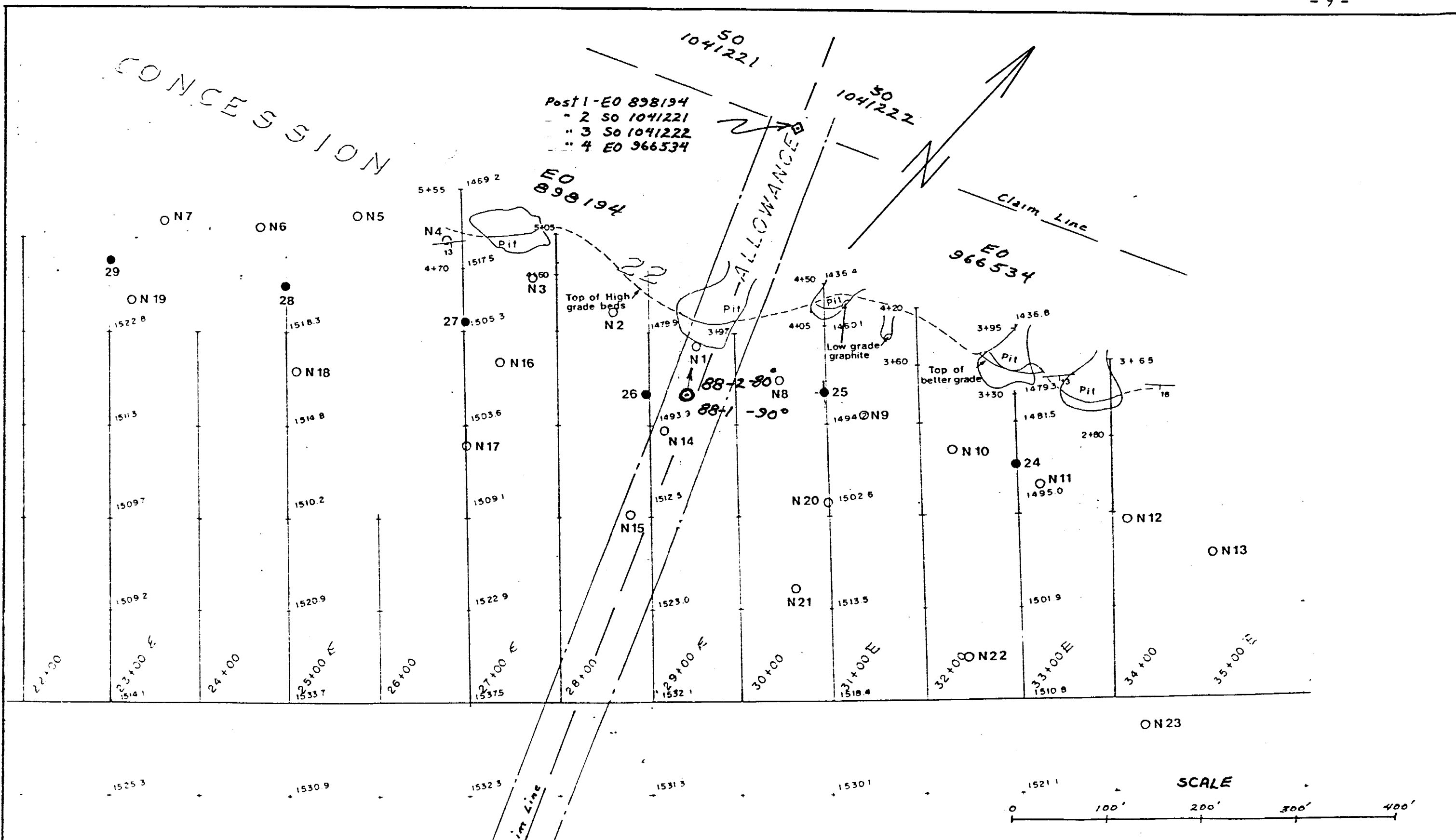
From ODM Map 1357-1



**RINALDI PROPERTY**  
**GEOLOGY**  
**CARDIFF TWP. GRAPHITE**  
 Scale: 1 inch = 1/2 mile  
 Dec., 1988

CONCESSION

- Post 1 - EO 898194
- " 2 So 1041221
- " 3 So 1041222
- " 4 EO 966534



- N15 1951 DRILL HOLE COLLAR
- 26 1981 " " "
- 88-1 1988 " " " , DIP
- 1493.3 ELEVATIONS ASL ON GRID SURVEYED 1981

From A.T. Griffis, 1981

**RINALDI PROPERTY**  
**DDH LOCATION MAP**  
**CARDIFF TWP. PROPERTY**  
**DEC., 1988**

RESULTS OF 1988 PROGRAM

Hole 88-1, drilled at  $-90^{\circ}$  (vertical), intersected acid and basic paragneiss with varying amounts of flake graphite, sulphides (pyrite and pyrrhotite) and carbonate (calcite). Seams of semi massive graphite were observed and a six inch section estimated at 90% graphite was intersected. The main zone of graphite mineralization, some 67 feet wide, has excellent correlation with the section drawn on the 1951 drill holes. Most of the graphite is medium fine to coarse medium grained (1 mm-10 mm) recrystallized flake graphite.

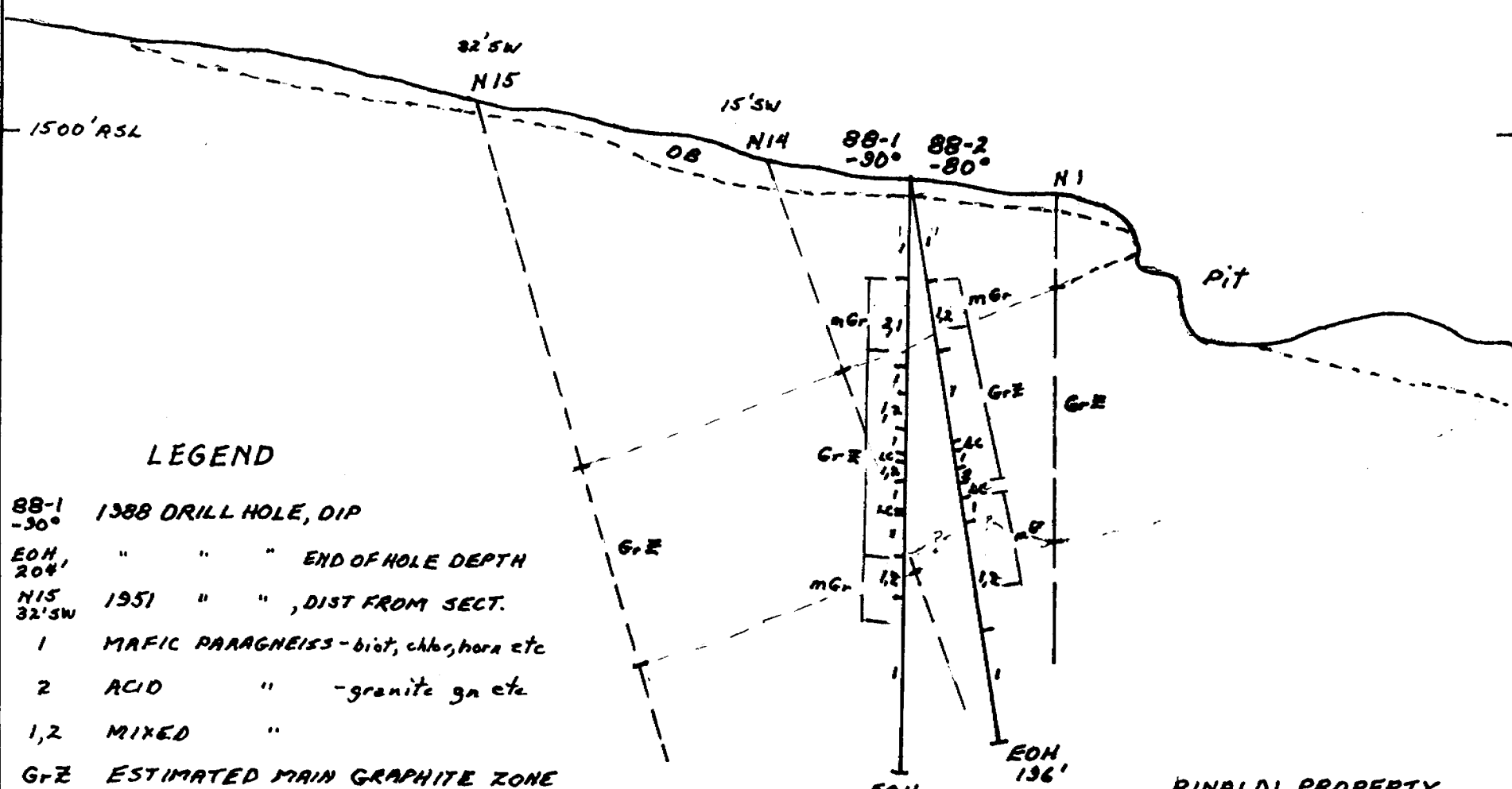
Hole 88-2, drilled at  $-80^{\circ}$  on a line with 1951 hole N1 (azimuth  $330^{\circ}$ ), intersected a similar section of rocks and mineralization. More lost core was experienced in this hole, possibly because the hole is slightly closer to the scarp face or a fault was encountered. Very open ground (sand seam) was intersected close to the lost core.

The width of the main graphite zone was fifty-one feet in this hole.

A six inch seam of 80% graphite was observed which probably correlates with the high grade band observed in 88-1. Graphite textures were similar to the first hole.

S 30° E

N 30° W



**LEGEND**

- 88-1 1988 DRILL HOLE, DIP
- 30°
- EOH 204' " " " END OF HOLE DEPTH
- N15 1951 " " " , DIST FROM SECT.
- 32'SW
- 1 MAFIC PARAGNEISS - biot, chlor, horn etc
- 2 ACID " - granite gn etc
- 1,2 MIXED "
- GrZ ESTIMATED MAIN GRAPHITE ZONE
- mGr MINOR GRAPHITE - EST.
- LC LOST CORE
- OB OVER BURDEN

RINALDI PROPERTY  
 CARDIFF TWP GRAPHITE  
 DDH SECTION FACING S60°W  
 Scale: 1" = 50' Dec, 1988

## CONCLUSIONS

The drill holes confirmed in general the location of the main graphite horizon as indicated by earlier drilling. Although core recovery in hole 88-2 was not as complete as in the first hole, a representative sample was recovered which can be used for metallurgical testing.

The 51'-width of the better grade graphite material interpreted in hole 88-2 may be caused by faulting of the zone or lost core at the more friable graphite seams.

The most important results of the 1988 drill program are the recognition of fairly coarse flake graphite and the existence of very high grade correlatable seams. Neither of these have been stressed in previous reports.

Natural graphite prices vary a great deal depending on character (amorphous, flake or fibre) and grain size. Metallurgical testing must be done to determine what products can be recovered and a market study made in order to define the value of the deposit.

RECOMMENDATIONS

It is recommended that investigation of the property be continued. Metallurgical testing of the core from the 1988 drilling and market studies should be done. A preliminary study will have to be made to develop a budget for the work.

The market study will define the most valuable likely products to be separated in the metallurgical work and give an initial value to the reserve tonnage when the products from the deposit are known. The metallurgical test work should be sufficiently comprehensive to indicate grindability factors, recovery and product quantities, purity and quality.

Respectfully submitted



Robert L. V. Ekstrom  
B.A.Sc.          P. Eng.

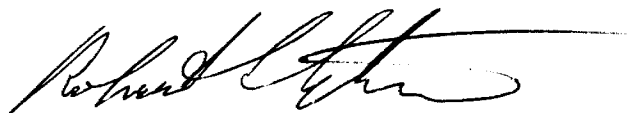
Toronto, Ontario  
December 30, 1988.



CERTIFICATE

I, Robert L. V. Ekstrom, do hereby certify that:

- (1) I am president of the private mineral exploration service firm, Canadian Oresearch Inc. of Toronto, Ontario.
- (2) I reside at 1 Rolph Road, Toronto, Ontario.
- (3) I am a graduate of the University of Toronto with a B.A.Sc. degree in Applied Geology, 1956.
- (4) I am a registered member of the Association of Professional Engineers of Ontario.
- (5) I have worked in my profession in mining and exploration in Geology since 1956, and have had experience with precious, base-metal and iron deposits in Canada, the USA and the United Kingdom.
- (6) I do not own, directly or indirectly, nor do I expect to receive any interest, directly or indirectly, in the property described in this report or any adjacent or related property or in any company to be formed.
- (7) The accompanying report is based on personal supervision of the diamond drill program, intimate knowledge of the core through logging, studies of government reports, published and unpublished reports, and data filed at the MNA assessment files.



Robert L. V. Ekstrom  
B.A.Sc. P. Eng.  
December 30, 1988.

APPENDIX



Ontario

Under the Forest Fires Prevention Act and the regulations, and subject to the limitations thereof and subject also to the terms and conditions herein, this permit is issued to:

Name of Permittee Paul Thompson

Post Office Address Box 1171, Lakefield, Ontario K0L 2H0

To conduct an operation from the 21 day of November, 1988 to and including the 31 day of December, 1988, on the following work permit area:

Part Lot 10 and 11, Concession XXII, Cardiff Twp.

For the purpose of Mining (Claim EO 898194)

Subject to the following conditions

1. The Permittee shall keep this permit or a true copy thereof on the work permit area.
2. The person in charge of the operation conducted under this permit shall produce and show this permit or the true copy kept on the work permit area to any officer whenever requested by the officer.
3. Other conditions:

If conditions are such that wildfires could occur during the period covered by this permit, fire fighting equipment shall be maintained in good condition on the operation as per Appendix "B", Schedule 1, Item 2 of the attachment.

Please ensure that the extracts from the Forest Fires Prevention Act in the attachment are reviewed.

The operation must be carried out in such a manner that a serious fire hazard is not created.

All applicable municipal and provincial safety requirements should be adhered to

Place of Issue Bancroft, Ontario	Date of Issue November 24, 1988	Signature of Issuing Officer 
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A. Ireland-Smith, District Manager

Important

Separate authority must be obtained before cutting any timber and before doing any burning.

This permit does not authorize the permittee to carry on operations on privately held land, as such authority can be given only by the owner of the land.

# Resource Development

P.O. Box 1171

Lakeland, Ontario, K0L 2H0

(705) 652-8841

## DRILL REPORT

IAX diamond drilling claim # EQ-898J94 and # 966534.

- Nov. 21/88 Arrived in Wilberforce and dropped off drill at the bottom of the hill. Checked drill site.
- Nov. 22/88 Moved drill to the top of the hill and set-up.
- Nov. 23/88 Started drilling vertical hole 88-1. Casing to 7 feet, hole to 54 feet. Water hole went dry.
- Nov. 24/88 Hole to 116 feet. Moved pump and hose line to new water supply.
- Nov. 25/88 Hole 88-1 complete at 204 feet. Pulled casing and changed angle to 80 degrees.
- Nov. 26/88 Started drilling 88-2. Casing to 7 feet, hole to 90 feet.
- Nov. 27/88 Hole to 166 feet. Ground some core around 110 feet and hit gravel or soft seam in same area, have to drill through caving in this area every run.
- Nov. 28/88 Hole to 196 feet 88-2 complete. Removed casing, broke down and loaded drill and cleaned drill site.

Total footage was 400 feet of IAX diamond drilling.

*Paul Thompson*

**DIAMOND DRILL HOLE SUMMARY**

COMPANY: Rinaldi  
 PROPERTY: Cardiff Graphite

Page 1

Hole No: 88-1  
 Claim No: EO 898194  
 Coords: 323 N 2945 E  
 Bearing: —  
 Depth: 204'  
 Started: Nov 21, 1988  
 Drilled By: Resource Development  
 Core Recovery: 96.5%

Location: Cardiff Top  
 Elev: ~ 1485  
 Angle: -30°  
 Core Size: 1 AX  
 Completed: Nov. 25, 1988  
 Logged By: Robert Ekstrom

Survey: \_\_\_\_\_  
 Azimuth: \_\_\_\_\_ Dip: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

FROM	TO	DESCRIPTION	Core Rec'd	INTERSECTION			Sample ANALYSIS	
				FROM	TO	LENGTH	Sample No	
C.C	7.0	Casing	—					
7.0	36.0	Mixed banded gneisses Grey-green to black-green fg biotite - hornblende - chlorite and mottled mfg calcite - horn - biot gn Banding 65-75° Minor fine diss pyrite	29.0					
36.0	38.45	Fg - Fmg biot - horn gn. Minor pink quartz - feldspar sections. Bands and diss graphite (3-4 mm flakes) 1-5% " Pyrite as above Bds 65-75°. Minor calcite	2.45	36.0	38.45	2.45	A973	
38.45	44.0	Fmg grey granite gn. 1-3% diss graphite flakes. Some chlor - biot - horn gn bands. Bds 65-75° Py as above	5.55	38.45	44.0	5.55	974	
44.0	54.0	Fg - Fmg pink & grey banded granite gn 46.0-47.1 horn - biot - chlor gn Variable graphite - 1-5% diss flakes. Py as above	8.7	44.0	54.0	10.0	975	
54.0	58.53	Fmg pink granite gneiss, minor biot-chlor gn sections with most of graph. 0.5-2% graphite. Py as above	4.53	54.0	58.53	4.53	976	

*Robert Ekstrom*

**DIAMOND DRILL HOLE SUMMARY**

COMPANY: Rinaldi  
 PROPERTY: Cardiff Graphite

Hole No: 88-1  
 Claim No: \_\_\_\_\_  
 Coords: \_\_\_\_\_  
 Bearing: \_\_\_\_\_  
 Depth: \_\_\_\_\_  
 Started: \_\_\_\_\_  
 Drilled By: \_\_\_\_\_  
 Core Recovery: \_\_\_\_\_

Location: \_\_\_\_\_  
 Elev: \_\_\_\_\_  
 Angle: \_\_\_\_\_  
 Core Size: \_\_\_\_\_  
 Completed: \_\_\_\_\_  
 Logged By: \_\_\_\_\_

Survey: \_\_\_\_\_  
 Depth: \_\_\_\_\_  
 Azimuth: \_\_\_\_\_  
 Dip: \_\_\_\_\_

FROM	TO	DESCRIPTION	Core Recd	INTERSECTION			Sample No.	ANALYSIS		
				FROM	TO	LENGTH				
58.53	61.87	Mfg biot-chlor-horn-talc-graph gn. Bdg 65-75°. Mfg granite gn with coarse pyrite bleb from 60.4-61.4. 1-5% graph	3.34	58.53	61.87	3.34	977			
61.87	66.40	As above. Bands semi-massive graphite 5-10% graph, streaks & blebs py Mfg pink to grey migmatite from 65.7-66.4 Minor calcite Bdg 65-75°	4.53	61.87	66.40	4.53	978			
66.4	73.5	Mfg biot-chlor-horn-graph gn. Bands massive graph - 10-15% graph overall. 71.0-71.75 - 90% graph Diss to coarse blebs pyrite 72.4-72.9 - 10% py. Bdg 65-75°	7.1	66.4	73.5	7.1	979			
73.5	80.82	Mixed biot-chlor-horn gn and bands pink and grey granite gn Mfg. Bdg 65-75° Diss fine graph 0.5-2%. Minor py	7.25	73.50	80.82	7.32	980			
80.82	88.25	Mixed fg-mg grey & pink granites gn and fg-mfg biot-chlor-horn gn. 2cm band SM graphite at 87.6. Coarse blebs py at 88.0-88.25. 1.5% graph Bdg 70°	7.35	80.82	88.25	7.43	981			
88.25	94.7	Fg-mfg banded biot-horn-chlor gn. Bdg 70-80° 1-3% diss graph flakes	6.13	88.25	94.70	6.45	982			

### DIAMOND DRILL HOLE SUMMARY

COMPANY: Rinoldi  
 PROPERTY: Cardiff Graphite

Hole No: 88-1  
 Claim No: \_\_\_\_\_ Location: \_\_\_\_\_  
 Coords: \_\_\_\_\_ Elev: \_\_\_\_\_  
 Bearing: \_\_\_\_\_ Angle: \_\_\_\_\_  
 Depth: \_\_\_\_\_ Core Size: \_\_\_\_\_  
 Started: \_\_\_\_\_ Completed: \_\_\_\_\_  
 Drilled By: \_\_\_\_\_  
 Core Recovery: \_\_\_\_\_ Logged By: \_\_\_\_\_

Depth: \_\_\_\_\_ Survey: \_\_\_\_\_  
 Azimuth: \_\_\_\_\_ Dip: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
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 \_\_\_\_\_

FROM	TO	DESCRIPTION	Core Recd	INTERSECTION			Sample No	ANALYSIS		
				FROM	TO	LENGTH				
94.7	97.5	Lost Core	—							
97.5	105.5	Mixed mafic and granite gn. Diss graph 1-5% minor py. Bdg 65-75°	8.0	97.5	105.5	8.0	983			
105.5	111.0	Fg-Fmg mafic gneiss. 5-10% graphite diss flakes and sm bands. Bdg 65-80° 102.5-103.0 - 80% graph & 10% pyrite Zero ohms along core on both graphite & pyrite.	5.3	105.5	111.0	5.5	984			
111.0	113.9	Banded biot-horn gn. 75° bdg. Minor narrow bands coarse graph. - 1-3% overall 6" cg pink feldspar vein, 40° at 111.6	2.9	111.0	113.9	2.9	985			
113.9	115.2	Lost Core	—							
115.2	126.0	Fg finely banded green horn-biot gn Minor fg graphite 1-2% Minor py Bdg 70-80°	10.6	115.2	126.0	10.8	986			
126.0	130.4	Fg bdd horn & biot gn. More heavy biot bands More cg graphite - 2-5% 2-3% diss py. Minor calcite. Bdg 75°	4.4	126.0	130.4	4.4	987			
130.4	133.6	Pink granite gn Fg to cg bands. 75°	3.2	130.4	133.6	3.2	988			

**DIAMOND DRILL HOLE SUMMARY**

COMPANY: Rinaldi  
 PROPERTY: Cardiff Graphite

Page 4

Hole No: 88-1  
 Claim No: \_\_\_\_\_ Location: \_\_\_\_\_  
 Coords: \_\_\_\_\_ Elev: \_\_\_\_\_  
 Bearing: \_\_\_\_\_ Angle: \_\_\_\_\_  
 Depth: \_\_\_\_\_ Core Size: \_\_\_\_\_  
 Started: \_\_\_\_\_ Completed: \_\_\_\_\_  
 Drilled By: \_\_\_\_\_  
 Core Recovery: \_\_\_\_\_ Logged By: \_\_\_\_\_

Survey: \_\_\_\_\_  
 Depth: \_\_\_\_\_ Azimuth: \_\_\_\_\_ Dip: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

FROM	TO	DESCRIPTION	Core Recd	INTERSECTION			Sample No	ANALYSIS		
				FROM	TO	LENGTH				
133.6	143.8	fg grey-green finely banded mace acid gn Bdy 75°. Minor narrow bands with coarser biot and graph. 1-2% graphite	9.7	133.6	143.8	10.2	A989			
143.8	153.5	Mixed fg grey & grey-green finely banded gn with some coarser calcite and/or augite bands. Bdy 60-80° 1% diss py. 0.5-1% fg graphite Some very coarse biot bands.	9.7	143.8	153.5	9.7	990			
153.5	163.0	As above. Minor diss graphite & pyrite	9.5	153.5	163.0	9.5	991			
163.0	186.0	Mixed fg & ag gn. Some very ag augite Bdy contorted or destroyed by recrystallization in some sections Bdy 60-80. Minor diss py.	23.0							
186.0	193.0	As above except sulphides mostly pyrrhotite.	7.0							
193.0	204.0	Dark green to black fg biot-horn gn. Finely banded 75°. Diss pyrrhotite 196.7-197.3 ag green augite and sm pyrrhotite 203.5-204.0 very pink granite	11.0							
		Total core recovered	190.25							
	204.0	End of Hole								



**DIAMOND DRILL HOLE SUMMARY**

COMPANY: Rinaldi  
 PROPERTY: Cardiff Graphite

Page 1

Hole No: 88-2  
 Claim No: EO 898194 Location: Cardiff Twp  
 Coords: 323N 2945E Elev: ~ 1485  
 Bearing: AZ 330° Angle: -80°  
 Depth: 196' Core Size: 1AX  
 Started: Nov 26, 1988 Completed: Nov 28, 1988  
 Drilled By: Resource Development  
 Core Recovery: 87.5% Logged By: Robert Ekstrom

Survey: \_\_\_\_\_  
 Depth: \_\_\_\_\_ Azimuth: \_\_\_\_\_ Dip: \_\_\_\_\_  
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FROM	TO	DESCRIPTION	Core Recl	INTERSECTION			Sample No	ANALYSIS		
				FROM	TO	LENGTH				
0.0	7.0	Casing	—							
7.0	37.15	Mixed banded horn-chlor-biot gn with some bands with feldsp + quartz and calcite - augite - horn - biot gn. Bdg 75-80°. Minor narrow feldspar veins at 55-60°. Very minor graphite. Some coarse flakes in coarse vein material. Sections with diss po	29.9							
37.15	40.63	Mixed gn as above plus pink to grey fg - mg granite gn bands. Bdg 75-80°. Bands with up to 5% graphite. 1-2% graphite overall. Minor py	3.48	37.15	40.63	3.48	A 956			
40.63	45.15	As above - granite gn more predominant. Several 1-2 cm graphite bands 5-10%. Avg 1-3% graphite. Minor diss po. Bdg 75-80°	4.51	40.63	45.15	4.52	957			
45.15	49.80	Mfg chlor-biot-horn gn. Bdg 75-80°. Minor bands grey to pink mg granite gn (recrystallized). Minor graphitic sections less than 1% graphite. Scattered sections diss py, po. Minor calcite bands	4.60	45.15	54.55	9.40	958			
49.80	54.55	Banded pink granite gn. Minor biot-chlor-horn gn bands. 75-80° < 1% graphite flakes to 4mm	4.53							

*Robert Ekstrom*

### DIAMOND DRILL HOLE SUMMARY

COMPANY: Rinzaldi  
 PROPERTY: Cavdiff Graphite

Hole No: 88-2  
 Claim No: \_\_\_\_\_ Location: \_\_\_\_\_  
 Coords: \_\_\_\_\_ Elev: \_\_\_\_\_  
 Bearing: \_\_\_\_\_ Angle: \_\_\_\_\_  
 Depth: \_\_\_\_\_ Core Size: \_\_\_\_\_  
 Started: \_\_\_\_\_ Completed: \_\_\_\_\_  
 Drilled By: \_\_\_\_\_  
 Core Recovery: \_\_\_\_\_ Logged By: \_\_\_\_\_

Survey: \_\_\_\_\_  
 Depth: \_\_\_\_\_ Azimuth: \_\_\_\_\_ Dip: \_\_\_\_\_  
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FROM	TO	DESCRIPTION	Core Rec'd	INTERSECTION			Sample No	ANALYSIS		
				FROM	TO	LENGTH				
54.55	57.40	Pink & grey granitized gn with biot-chlor-horn sections. Scattered recrystallized graphite 54.55-55.6 - 10-20% graphite. Diss py	2.85	54.55	57.40	2.85	959			
57.40	60.25	Grey granite gn with biot-chlor-graphite bands 3 cm band 70% graphite at 57.70 1-2% graphite 2-3% diss py, po	2.85	57.40	60.25	2.85	960			
60.25	64.15	Fg chlor-biot gn to 62.4 followed by mixed gneissies. Bands of up to 70% graph. Average 3-5% Bdg 75-80°. Diss py to 61.8 after which almost all sulphide is pyrite.	3.90	60.25	64.15	3.90	961			
64.15	70.00	Fg chlor-biot-horn gn. Bdg 75-80° Bands of very strong graphite. Streaks, trains and diss py. Cg graphite flakes to 1 cm 68.5-69.0 - 80% graph 68.4-70.0 - 10% py in coarse sm streaks. Py & graphite conductive Avg est 8-12% graphite.	5.85	64.15	70.00	5.85	962			
70.00	75.00	Fmg chlor-biot-horn gn. Some granite gm sections. 72.3-72.9 - Cg pink granite migmatite Graphite diss flakes + streaks 1-5% Diss py	5.00	70.00	75.00	5.00	963			

**DIAMOND DRILL HOLE SUMMARY**

COMPANY: Rinaldi  
 PROPERTY: Cudiff Graphite

Hole No: 88-2  
 Claim No: \_\_\_\_\_ Location: \_\_\_\_\_  
 Coords: \_\_\_\_\_ Elev: \_\_\_\_\_  
 Bearing: \_\_\_\_\_ Angle: \_\_\_\_\_  
 Depth: \_\_\_\_\_ Core Size: \_\_\_\_\_  
 Started: \_\_\_\_\_ Completed: \_\_\_\_\_  
 Drilled By: \_\_\_\_\_  
 Core Recovery: \_\_\_\_\_ Logged By: \_\_\_\_\_

Survey: \_\_\_\_\_  
 Depth: \_\_\_\_\_ Azimuth: \_\_\_\_\_ Dip: \_\_\_\_\_  
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FROM	TO	DESCRIPTION	Core Recd	INTERSECTION			Sample No	ANALYSIS		
				FROM	TO	LENGTH				
75.00	82.10	As above. Very minor calcite-horn bands 1-5% graph. Diss py	7.10	75.00	82.10	7.10	A 964			
82.10	92.40	Fg banded biot-horn-chlor gn and minor chlor-horn gn. Dds 75-80° Est 1-3% graphite. Diss py 92.0-92.4 - section badly shattered calcite-hornblende	10.00	82.10	92.40	10.30	965			
92.40	95.70	Lost Core	—							
95.70	101.80	Mfg biot-chlor gn with bands fg dark grey acid gn. Variable diss. Flakes and streaks of graphite. Avg 0.5-2% Minor calcite sections 95.7-97.0 Minor diss py	5.4	95.70	101.80	6.10	966			
101.80	107.25	Fg-mg pink granite gn. Same cg py streaks in coarser sections 103.2-105.0 - biot-chlor gn with graph streaks Avg 1-2% graphite	5.0	101.80	107.25	5.45	967			
107.25	112.50	Lost Core	—							
112.50	113.20	Broken fragments mg pink gn and calcite-horn. Minor graphite	0.7	112.50	113.20	0.7	968			
113.2	116.0	Lost Core	—							

**DIAMOND DRILL HOLE SUMMARY**

COMPANY: Rinaldi  
 PROPERTY: Cardiff Graphite

Hole No: 88-2  
 Claim No: \_\_\_\_\_  
 Coords: \_\_\_\_\_  
 Bearing: \_\_\_\_\_  
 Depth: \_\_\_\_\_  
 Started: \_\_\_\_\_  
 Drilled By: \_\_\_\_\_  
 Core Recovery: \_\_\_\_\_

Location: \_\_\_\_\_  
 Elev: \_\_\_\_\_  
 Angle: \_\_\_\_\_  
 Core Size: \_\_\_\_\_  
 Completed: \_\_\_\_\_  
 Logged By: \_\_\_\_\_

Depth: \_\_\_\_\_  
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Survey: \_\_\_\_\_  
 Azimuth: \_\_\_\_\_ Dip: \_\_\_\_\_  
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FROM	TO	DESCRIPTION	Core Read	INTERSECTION			Sample No	ANALYSIS		
				FROM	TO	LENGTH				
116.00	121.00	Mfg chlor - talc - augite gn. Minor calcite bands. Open seam at 118.5. 6" 36° calcite vein at 115.7 - wall rock frags in calcite matrix. Less than 1% diss graph. flakes. Minor py	4.00	116.00	121.00	5.00	A 969			
121.00	130.70	Mixed bands as above with fine grained grey and pink granite gn. Bdg 75-80° Minor graphite. Cave at 121.0 from seam	8.10	121.00	130.70	9.70	970			
130.70	133.10	Fg chlor - calc. silicate gn. Altered section with coarse biot to 2 cm 130.3-130.8. Graphite 1-2% Minor py	2.35	130.70	133.10	2.40	971			
133.10	135.50	Fg - Cg pink migmatite Contact 70° Calcite breccia at upper contact.	2.40	133.10	135.50	2.40	972			
135.50	157.00	Fg grey-green calc. sil - biot gn. Bdg 75-80°. Minor coarser migma. Dis py. po. Some phlogopite	20.65	135.50	142.00	6.50	972 A			
157.00	187.35	Grey-green calc sil - phlog gn Bdg 75-80°. Many coarser augen felds. sections Minor po	28.70							
187.35	191.75	White msy calcite (marble?) Ctets 75-80°. Amber siderite grains to 3mm at ctds. Minor talc & muscovite.	4.40							
191.75	196.0	Fg - mfg calc sil - phlog gn Bdg 75-80°	3.90							
	196.0	End of hole	Total core recovered	170.17						