REPORT ON

GEOLOGICAL AND GEOPHYSICAL SURVEYS

OVER THE

RYERSON GRAPHITE PROJECT PROPERTY

RYERSON TOWNSHIP, DISTRICT OF PARRY SOUND

ONTARIO

N.T.S. REFERENCE 31E/12

Toronto, Ontario, Canada

December 9, 1982

M.W. Rennick, P.Eng.
Consulting Geologist

TABLE O

List of Figures

CONCLUSIONS

The Ryerson Graphite Project property covers part of a geological structure which hosts a major concentration of flake graphite in at least one and possibly several zones of sufficient magnitude to accommodate open pit mining methods, although neither the grade nor the absolute size of the deposit(s) has been established. In terms of economic potential, the mode of occurrence is near the top in order of world importance.

All-weather road access to supplies in local, established communities and to the Great Lakes shipping terminal at Parry Sound guarantees greatly reduced exploration and development costs as well as low-cost movement of products to world markets.

Geological and geophysical mapping, the results of which form the basis of this report, defined two areas for exploration considered to have high potential - Zone A toward the south end and Zone A1, one area of moderate potential - Zone A2, one area of low to moderately high potential - Zone B, and three areas of low potential - Zones C, D and E.

Systematic detailed exploration of the property is warranted at this time and sufficient funding should be provided to conduct such a programme. The programme should include diamond drilling of Zones A, A1 and B, to check zone widths, potential grades and structural implications. Also, it is absolutely necessary to have some of the best exposed material bulk sampled and tested to determine (a) possible percentage recoveries of graphite, (b) flake sizes, flake graphite to smoke, amorphous, and dust graphite ratios, and (c) the quality of the possible products, particularly the flake fractions.

SUMMARY

Ryerson Graphite Project's Ryerson Township property is located in a classic graphite host environment similar, in many respects, to the economically important sources of flake graphite in the Malagasay Republic (Madagascar) and Norway. All-weather road access to the property from established communities, including the Great Lakes shipping terminal at the Town of Parry Sound, guarantees greatly reduced exploration and development costs as well as low-cost movement of products to world markets.

Graphite occurs along a strike length in excess of 2,100 metres (6,900 feet). Indicated widths along part of the mineralized zone are sufficient to be amenable to open pit mining methods. Thus, in view of the current economics relating to the production of flake graphite, although no ore body is known to exist on the property at this time, it is the writer's opinion that the results of the work discussed in this report are sufficiently encouraging to justify further exploration by diamond drilling.

INTRODUCTION

Ryerson Graphite Project, under various agreements, holds the mineral rights and certain other rights of ingress and egress to a block of patented property in Ryerson Township, District of Parry Sound, Ontario. The property covers part of a recently discovered flake graphite occurrence.

On October 13, 1982, MSI, Management Services Inc. of 376 Woolwich Street, Guelph, Ontario N1H 3W7, on behalf of Ryerson Graphite Project, retained Geosphere Consultants Limited to carry out preliminary exploration of the property as previously recommended by the author. The scope of this report is to provide a general review of graphite and an assessment of the economic potential of the graphite occurrence in Ryerson Township based, primarily, on the results of the work completed to date. The purpose of this report is to provide recommendations for the next stage of investigation and exploration to appraise that potential.

In addition to the results of the recently completed work, this report is based on the following activities: a review of numerous published reports and papers on graphite, its uses, and modes of occurrence; time spent on the property while field work was in progress as well as several previous visits to the area; personal experience. None of the documents or agreements pertaining to ownership or the rights of the optionors for any of the lands discussed in this report were examined by the author.

GRAPHITE - A BRIEF REVIEW

(i) Uses

Natural graphite occurs in two forms: amorphous and flake (crystalline). Its uses are dependent upon its physical and chemical properties. It is unctuous, which accounts for its demand as a dry lubricant and which, combined with its high electrical conductivity, makes it useful for motor and generator brushes. It is soluble in molten iron and therefore is used to raise the carbon content in steel, its largest single use. Graphite is unequaled for many refractory uses, including crucibles, because of its high heat conductivity, its slow burning property, and its ability to retain good strength at high temperatures. It is probably best known, however, for its use in such products as pencils, batteries, paints, inks, and brake linings. Relatively recent, new technological advances in the fabrication of carbon fibre reinforced epoxies have created a new and rapidly expanding market for natural flake graphite. This new material is light weight, tough, durable and is replacing metal in a myriad of products. It is lighter in weight than the metal alloys used in aircraft construction and has several times the strength of cold rolled steel. It is used in an ever increasing variety of products including tennis racquets, golf club shafts, rifle barrels, high temperature heat shields for the U.S. Space Programme, and aircraft skin fabric.

(ii) Sources

Half of the total world production of graphite is in the amorphous form and comes from Mexico, Austria, and North and South Korea. It is available in large quantities and current world mine capacity can more than satisfy world demand. Consequently, prices for amorphous graphite have remained relatively stable and low.

Flake (crystalline) graphite is in shorter supply and prices have been rising steadily since the mid-1970's until, by December, 1981, the price for No. 1 flake reached $1,500.00 per ton (Northern Miner, December 10, 1981, Page 10). The main producers of flake graphite are Sri Lanka, Malagasy Republic (Madagascar), West Germany, Norway, Brazil, North Korea, and China (Pettifer, 1980). However, perceived social and political

instabilities in many of these countries are prompting consumers to seek new sources of supply. In this respect it should be noted that there are very strong traditional producer-consumer relationships because of the "low degree of interchangeability between graphite of different origins. Once a suitable grade for a particular application is found, the consumer tends to draw from that source, and that source only, if at all possible. This is due to the fact that, as far as practical considerations are concerned, there is an extremely wide variation in the properties of different graphites" Pettifer, 1980.

The terms "manufactured", "artificial", "electric-furnace", and "synthetic" are used to describe graphite produced from petroleum coke. However, manufactured graphite is not substitutable for natural graphite in many applications and cannot compete with natural graphite in most uses because of its greater cost.

(iii) Modes of Occurrence

Most, if not all, of the world's deposits of flake graphite "occur in rocks of Precambrian or early Paleozoic age" (Spence, 1920). This is the case in Ontario where all graphite occurs in rocks of the late Precambrian metasedimentary Grenville Supergroup. Six modes of occurrence have been developed and are listed below in order of world economic importance.

(1) Disseminated flakes in paragneiss (calcareous paragneiss, quartz-mica schists, feldspathic or micaceous quartzites) e.g.: Madagascar, Norway.

(2) Metamorphosed coal beds, carbonaceous shales, phyllites, slates. Occurs as amorphous graphite e.g.: Austria, Mexico, South Korea.

(3) Veins, fracture fillings, cavities, pockets, stockworks. Host rocks commonly gneiss, metasediments, at contact of pegmatites with marbles. Occurs as flake, lump and crystalline graphite; also as amorphous (Mexico) e.g.: Sri Lanka, U.S.A., Mexico.

(4) Contact Metasomatic (Hydrothermal). Occurs in silicated marble, lime silicate skarn, pockety skarn deposits. Occurs as flake, crystalline, fibrous or columnar e.g.: Black Donald (Ontario), Korea.

(5) Disseminated flakes in marble or cyrstalline limestone.

(6) Disseminated in pegmatites, syenites, and granites. Occurs as flake and lumps.

Ontario's paragneiss-hosted graphite deposits, in particular, have the potential of developing into large tonnage, medium-grade mining situations, supplying good quality flake graphite.

HISTORY OF GRAPHITE IN ONTARIO

Reports by Spence (1920) and Hewitt (1965) discussing graphite in Canada and Ontario, respectively, and the regional mineral occurrence reports by Thompson (1943) in North Hastings, Satterly (1944) on Lanark, Satterly (1945) on Renfrew, Vos and Storey (1981) in Pembroke-Renfrew, and Papertzian and Kingston (1982) on Eastern Ontario, provide the bulk of available data including details of geology, genesis, and mode of occurrence in Ontario.

First mining and milling of Canadian flake graphite ore commenced in Quebec in 1845, in the Township of Grenville. The earliest production in Ontario came from the Port Elmsley deposit in 1870. The famous Black Donald Mine at Calabogie commenced operation in 1896 and, until the depletion of reserves in 1954, produced 85,154 tons of graphite which represents 94% of Ontario's total production. Currently, Vesuvius Crucibles Inc. of Pittsburgh, Pa., U.S.A. is reported to be making determined efforts to delineate and prepare for production a Grenville Series hosted graphite deposit in Butt Township, Ontario and a second company is seriously investigating a deposit in the Maniwaki Area of Quebec.

Thus, past mining has demonstrated a capability for sustained production of high grade flake graphite from Grenville Series rocks in Eastern Canada, and prices and market conditions would appear to be most encouraging for a new Canadian entry into the market.

SELECTED SOURCES OF INFORMATION

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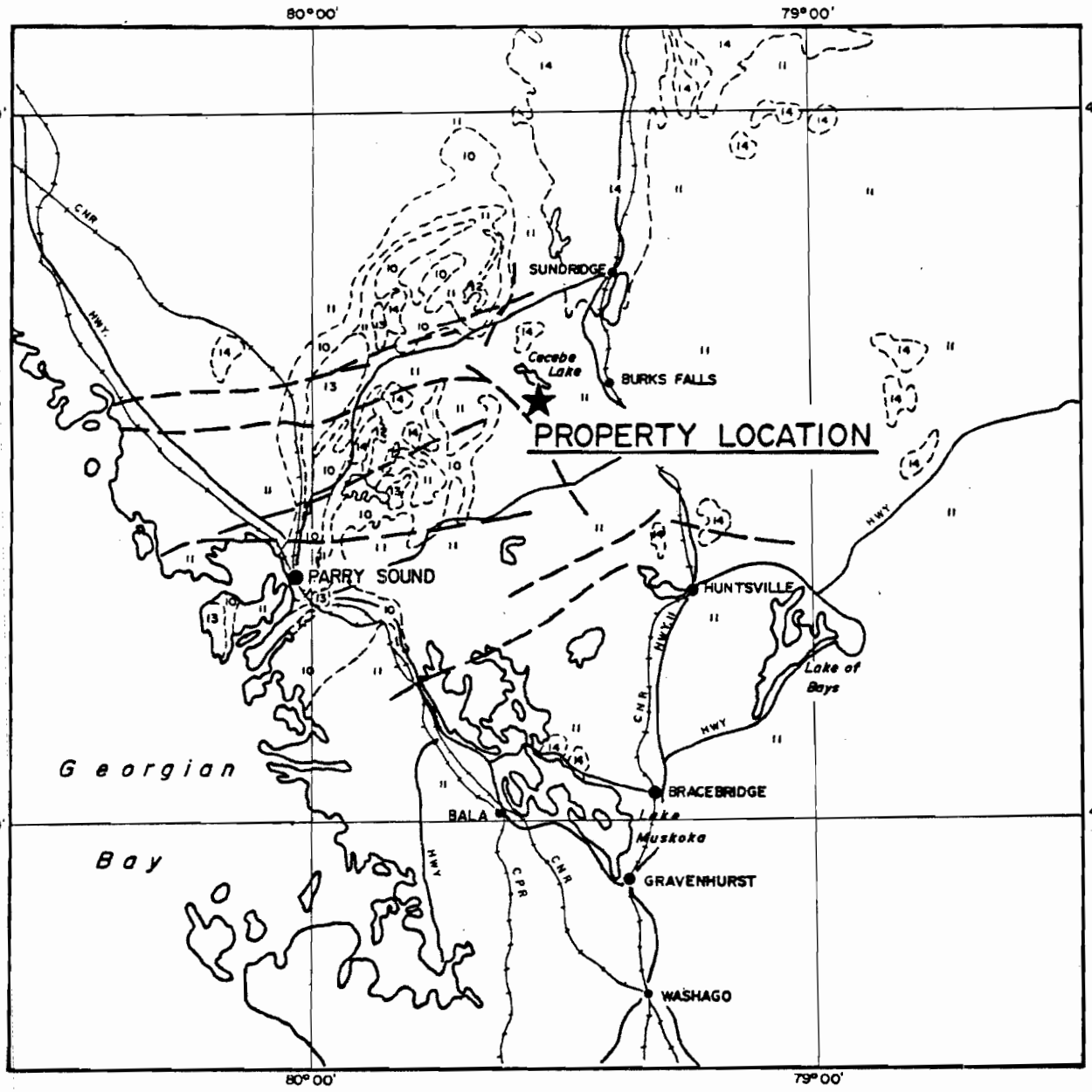
PROPERTY DESCRIPTION, LOCATION, ACCESSIBILITY

Ryerson Graphite Project's holdings are situated in the north-central part of Ryerson Township, District of Parry Sound, Eastern Ontario Mining Division, Province of Ontario. They cover approximately 575 acres comprising four complete lots, two half lots, and the largest portion of one other lot. The mineral and surface rights of all lots are held under patent, the lots are contiguous, and are described as follows: Lots 20, 22 and 23, Concession X; North Part, Lot 20, Concession IX; SW Part, Lot 20, Concession IX; Lot 21 Concession IX; North ½,Lots 22 and 23, Concession IX.

The property is located about 10 kilometers west from the Town of Burk's Falls via a secondary all-weather road which bisects it. Burk's Falls is situated on Provincial Highway No. 11, 90 kilometers south of the City of North Bay and 245 kilometers north of Metropolitan Toronto. The Great Lakes shipping terminal at Parry Sound, on the northeast shore of Georgian Bay, is 65 kilometers by all-weather road to the southwest.

Preliminary electric power requirements for any planned development could probably be met by tapping into a 550 volt transmission line which parallels the road through the property.

Adequate supplies of water are available from a large, natural, stream-fed pond located on Lots 23, Concessions IX and X. High ridges are covered with second growth hard maple, birch and poplar, and the lower ground supports a medium to heavy growth of spruce and balsam along with the usual varieties of alders and willows. Differences in elevation are about 45 metre (150 feet) throughout the subject area.



LEGEND

PRECAMBRIAN

14	Granodiorite, granite

GRENVILLE PROVINCE

13	Diorite, gabbro, peridotite
12	Carbonate Metasediments
11	Clastic Metasediments
10	Mafic to Felsic Metavolcanics
— —	Fault

NOTE: Geology from O.D.M Map 2197, Ontario Geological Map Southern Sheet, 1970

GENERAL GEOLOGY & LOCATION MAP

RYERSON GRAPHITE PROJECT

RYERSON TOWNSHIP PROPERTY

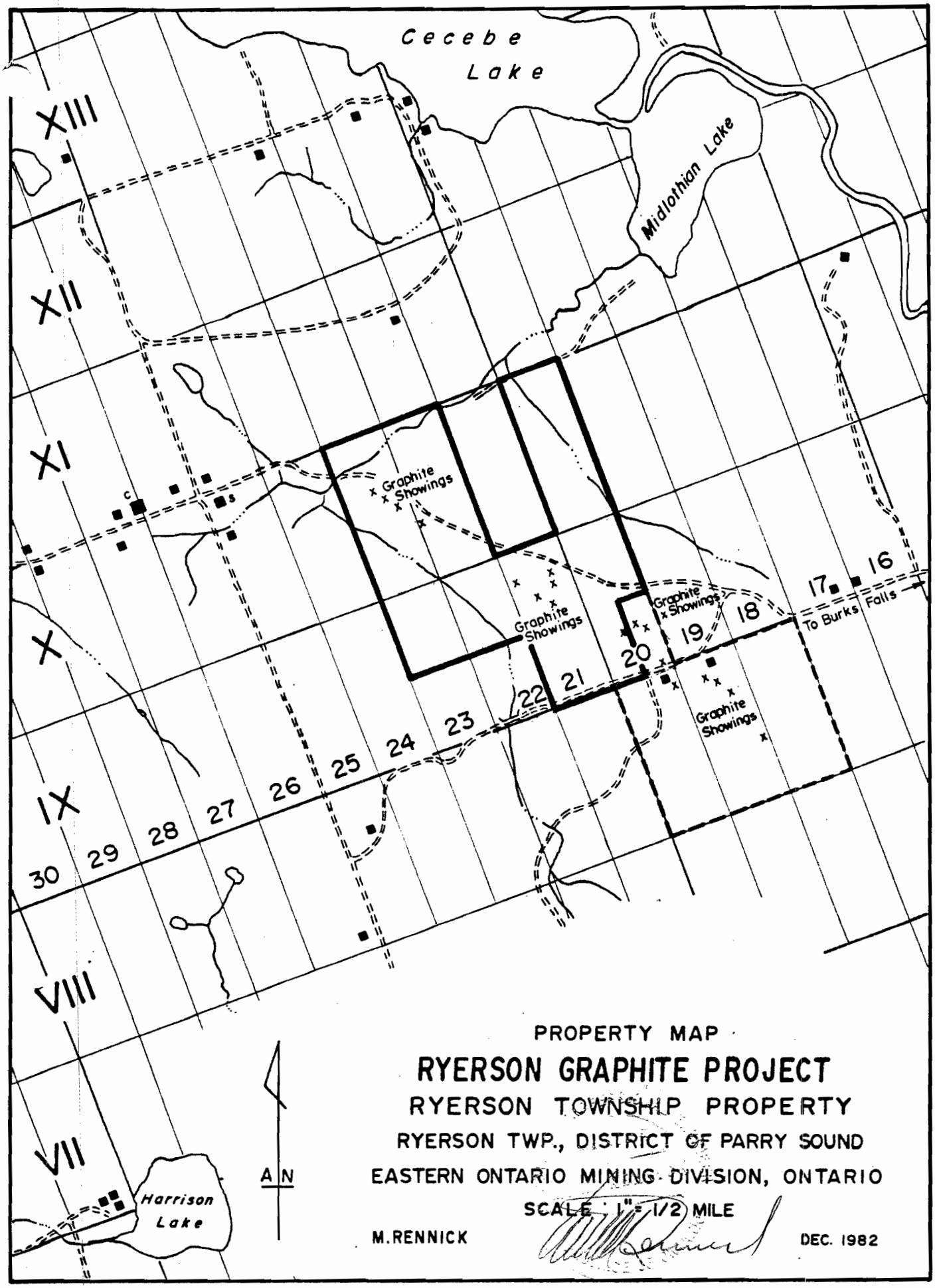
RYERSON TWP., DISTRICT OF PARRY SOUND

EASTERN ONTARIO MINING DIVISION, ONTARIO

SCALE: 1" = 16 MILES

M. RENNICK

DEC. 1982



PROPERTY MAP

RYERSON GRAPHITE PROJECT

RYERSON TOWNSHIP PROPERTY

RYERSON TWP., DISTRICT OF PARRY SOUND

EASTERN ONTARIO MINING DIVISION, ONTARIO

SCALE 1" = 1/2 MILE

M. RENNICK

DEC. 1982

PREVIOUS WORK

Graham M. Ackerley of Bracebridge, Ontario, discovered the graphite zone discussed in this report while prospecting in the region during the autumn of 1981. Since making the discovery, Mr. Ackerley has prospected the area in considerable detail and put in three small trenches along the mineralized zone. He also reports having had analysis run on a number of samples and beneficiating tests run on a small "bulk sample". Official results of this work are to be forwarded to Ryerson Graphite Project when he receives them.

Prior to commencing the exploration work discussed herein, the writer visited the area several times.

WORK UNDERTAKEN

All work, the results of which form the basis of this report, was conducted under the author's supervision.

A grid of lines 50 metres apart was cut, chained, and picketed at 30 metre intervals over the entire property. Because some of the lot lines are merely imaginary lines through the bush, some of the grid lines stopped short of the actual property boundary and others slightly overshot it. Through the central south part of the property, lines were established at 25 metre intervals to provide better control fordetailed work over the known zone of mineralization. The grid was controlled by a series of base-lines run on an azimuth of 300 degrees. All confirmed lot corners and prominent topographical features were mapped and tied into the grid.

Geological data were collected and field plotted by D.E. McBride, Ph.D., P.Eng., of 20 Forsythia Drive, Scarborough, Ontario. The final compilation and drafting of the data was done by E. Seagrave of 163 Horsely Hill Drive, Toronto, Ontario.

The V.L.F. electromagnetic survey was conducted using a Geonics Model EM-16 receiver tuned to the U.S.A. naval station N.A..A, transmitting from Cutler, Maine, at a frequency of 17.8 kHz. Readings were taken at maximum 30 metre intervals along all grid lines. Messrs. Wayne Hickey of Bracebridge, Ontario and Rodigue Beaulieu of Fort Coulonge, Quebec were employed to collect the V.L.F. survey data.

The magnetic survey data were collected by F. Hodgkinson, P.Eng., of 221 Audrey Avenue, Toronto, Ontario utilizing a proton precision magnetometer, McPhar Model GP-81, with a stated absolute accuracy of $\pm$ 1 gamma. Readings were taken at maximum 30 metre intervals along all lines. Normal periodic checks with established base stations were maintained during the survey to monitor diurnal variations and instrument drift. Any changes noted were applied as factors and a proper adjustment was made to each reading taken during that period of time. The base value

for the magnetic data was established at 56,000 gammas.

A horizontal loop electromagnetic survey was conducted by F. Hodgkinson over selected portions of the property utilizing the Apex Maxmin II instrument in the horizontal configuration, with a transmitter-receiver separation of 60 metres. Readings of the in-phase and out-of-phase components of the resultant field at 444 Hz and 1777 Hz were recorded at each station occupied. Stations were occupied at maximum 30 metre intervals along lines spaced 100 metres apart.

Upon completion of field work the geophysical data were digitized and computer processed by William Jamal and Associates Ltd., 6117 Yonge Street, Toronto, Ontario M2M 3W2. The plan presentations of all data, are at a scale of 1:2500.

Values for the contour presentation of the V.L.F. electromagnetic data were produced by subjecting the in-phase component to "Fraser filtering", to provide the base data for manual contouring at 10 unit intervals. In-phase and quadrature profiles of the V.L.F. data were computer plotted at a vertical scale of 1 cm = 40%. In-phase and out-of-phase profiles of both sets of Maxmin data were computer plotted at a vertical scale of 1 cm = 2%. No corrections were made for topographic variations.

Following plotting of the reduced magnetic values the data were contoured at 25 gamma intervals.

Ian G. Park, Consulting Geophysicist, of Ian G. Park Consultants Limited, 84 Simpson Avenue, Toronto, Ontario M4K 1A2, was retained to provide an interpretation of the various data.

Field work commenced on October 15 and was completed on November 11. Data compilation was completed on December 9, 1982.

GENERAL REMARKS

In total, 63.68 kilometres (39.8 miles) of lines were cut, chained and picketed over the property, including 4.64 kilometres (2.9 miles) of base-lines. All collected data appear to be in good order and of good quality. Because manual contouring was employed for both the magnetic and filtered V.L.F. data presentations, the usual bias consistent with machine contouring was eliminated.

The McPhar Model GP-81 proton precision magnetometer is a highly sophisticated instrument which measures the total value or intensity of the earth's magnetic field at a point. Because most rocks are magnetic to some degree, the systematic recording and processing of magnetic values from many points, in an area where the rocks are, for the most part, covered by overburden, provides a basis for extending exposed formations through covered areas and detecting hidden lithi-logical and structural features which can influence future exploration of a property.

The Geonics Model Em 16 V.L.F. electromagnetic receiver was developed to take advantage of a world-wide network of radio transmitters, established and maintained by the U.S.A. Navy, for communicating with submarines. These radio stations have vertical antennae which create concentric horizontal electromagnetic fields in their areas of influence. When these fields encounter electrically conductive bodies in the ground such as concentrations of sulphides, graphitic material and wet shear zones or water courses, a secondary field is created. The V.L.F. EM 16 receiver measures the vertical component of the secondary field as a percentage of the primary field and the phase difference between the primary and secondary fields. A transmitter station is selected to provide a field approximately at right angles to the strike of anticipated conductive zones or geological features to be investigated. Interpretation techniques have been highly developed and, in addition to searching out concentrations of economic mineralization, the system data are especially useful in defining structural features such as offsetting faults and shear zones.

The Maxmin II instrument is a highly sophisticated and discriminating electromagnetic survey unit which can be employed either in a vertical or horizontal mode. In this instance it was operated in the HL-horizontal - configuration. The ideal profile of these data over a conductive body forms a curve with positive shoulders as the conductor is approached, and a negative trough over the conductor. Both the in-phase and out-of-phase response show the same general curve over a conductor except in areas of deep overburden, in which instance phase rotation phenomena can alter the ideal type of response over a bedrock conductor source. The ratio between the in-phase and out-of-phase response over a conductor provides a qualitative indication of its conductivity, as do the responses at different frequencies. Conductivity thickness determinations (mhos) provide a quantatative method for comparing the degree or intensity of conductivity. In general, the ratio of in-phase to out-of-phase response increases as the conductivity of the causative source increases. A ratio of 1.0 or more is considered to be typical of the response generated by a massive sulphide body.

a section be drilled but substantially more drilling will be required along each zone.

All of which is respectfully submitted for your information and consideration.

Toronto, Ontario, Canada
December 9, 1982

Melville William Rennick, P.Eng.
Consulting Geologist

ESTIMATE OF RECOMMENDED PROGRAMME COSTS

Bulk Sampling, Benificiating, Grade And Quality Testing		$ 30,000.00
Diamond Drilling - Stage I		
3,000 feet @ $30.00/foot	$ 90,000.00	
Assaying	8,500.00	
Project Supervision Including Transportation, Subsistence and Miscellaneous Expenses	18,500.00	117,000.00
Sub-Total		$147,000.00
Plus Contingencies @ 20%		29,400.00
Total Estimated Stage I Costs		$176,400.00
Diamond Drilling - Stage II		
7,000 feet @ $30.00/foot	$210,000.00	
Assaying	14,000.00	
Project Supervision, Etc.	22,000.00	
Sub-Total	$246,000.00	
Plus Contingencies @ 20% approx.	49,000.00	295,000.00
Total Estimated Stage II Costs	295,000.00	
Total Estimated Exploration Costs		$471,400.00

Toronto, Ontario, Canada
December 9, 1982

Melville William Rennick, P.Eng.
Consulting Geologist

CERTIFICATE

I, Melville William Rennick, of the Borough of East York, in the Municipality of Metropolitan Toronto, do hereby declare:

1. That I am a consulting Geologist residing at 234 Donlea Drive, Toronto, Ontario M4G 2N2.

2. That I am a graduate of the Provincial Institute of Mining, Haileybury, Ontario, in 1955 and have been continuously engaged as a practicing geologist since that time, and I am a Registered Professional Engineer in the Province of Ontario.

3. That the foregoing report is based on several sources of information including published reports and articles relating to graphite as well as results of the work discussed therein.

4. That I planned, supervised and personally participated in the various components of the programme discussed in the report.

5. That I have no interest, direct or indirect, in Ryerson Graphite Project or any of its properties, nor do I expect to receive or acquire any such interest.

Toronto, Ontario, Canada
December 9, 1982

Melville William Rennick, P.Eng.
Consulting Geologist

SUMMARY REPORT FOR 1982 ON

RYERSON GRAPHITE PROJECT

DIAMOND DRILLING AND SAMPLING PROGRAMME

RYERSON TOWNSHIP, DISTRICT OF PARRY SOUND

ONTARIO

N.T.S. REFERENCE 31E/12

Toronto, Ontario, Canada
February 21, 1983

Melville William Rennick, P. Eng.
Consulting Geologist

TABLE OF

Appendices

INTRODUCTION

Graham M. Ackerley of Bracebridge, Ontario discovered a large, flake graphite-bearing zone of paragneiss while prospecting in Ryerson Township during the autumn of 1981. During the next several months he personally negotiated for the mineral rights of the lands covering the graphite occurrence. A privately financed syndicate, Ryerson Graphite Project, was formed in the last half of 1982 to acquire part of Ackerley's interest in the graphite occurrence and finance its exploration and development.

The results of a programme which included geological mapping and geophysical surveys over the property were discussed by the author in a separate report dated December 9, 1982. On February 4, 1983, MSI, Management Services Inc. of 376 Woolwich Street, Guelph, Ontario N1H 3W7, on behalf of Ryerson Graphite Project, commissioned the author to compile the results of a diamond drilling and bulk sampling programme carried out during the months of November and December, 1982. The purpose of this report is to present the results of the stated programme and to provide recommendations, based on the results, for further exploration of the property.

SUMMARY

The Ryerson Graphite Project property, located in Ryerson Township, covers a flake graphite-bearing zone of paragneisses along a strike length in excess of 6,900 feet. Indicated widths along part of the mineralized zone are sufficient to be amenable to open pit mining.

The 1982 diamond drilling and sampling programme included: shipment of two bulk samples from existing trenches for metallurgical testing and analyses; the preparation of one new pit to provide additional bulk sample material; diamond drilling seven holes totalling 2,842.5 feet, to cross section the mineralized zone(s) along approximately 1,000 feet of strike length, to provide detailed information on geological and mineral occurrence relationships as well as subsurface samples of the mineralized zone(s) for analysis.

Pending the receipt of results from both the metallurgical tests and core analyses, additional planned diamond drilling should be directed toward investigating the causative source of several geophysical anomalies on the property and testing the main zone of mineralization, at widely spaced intervals, beyond the section examined to date.

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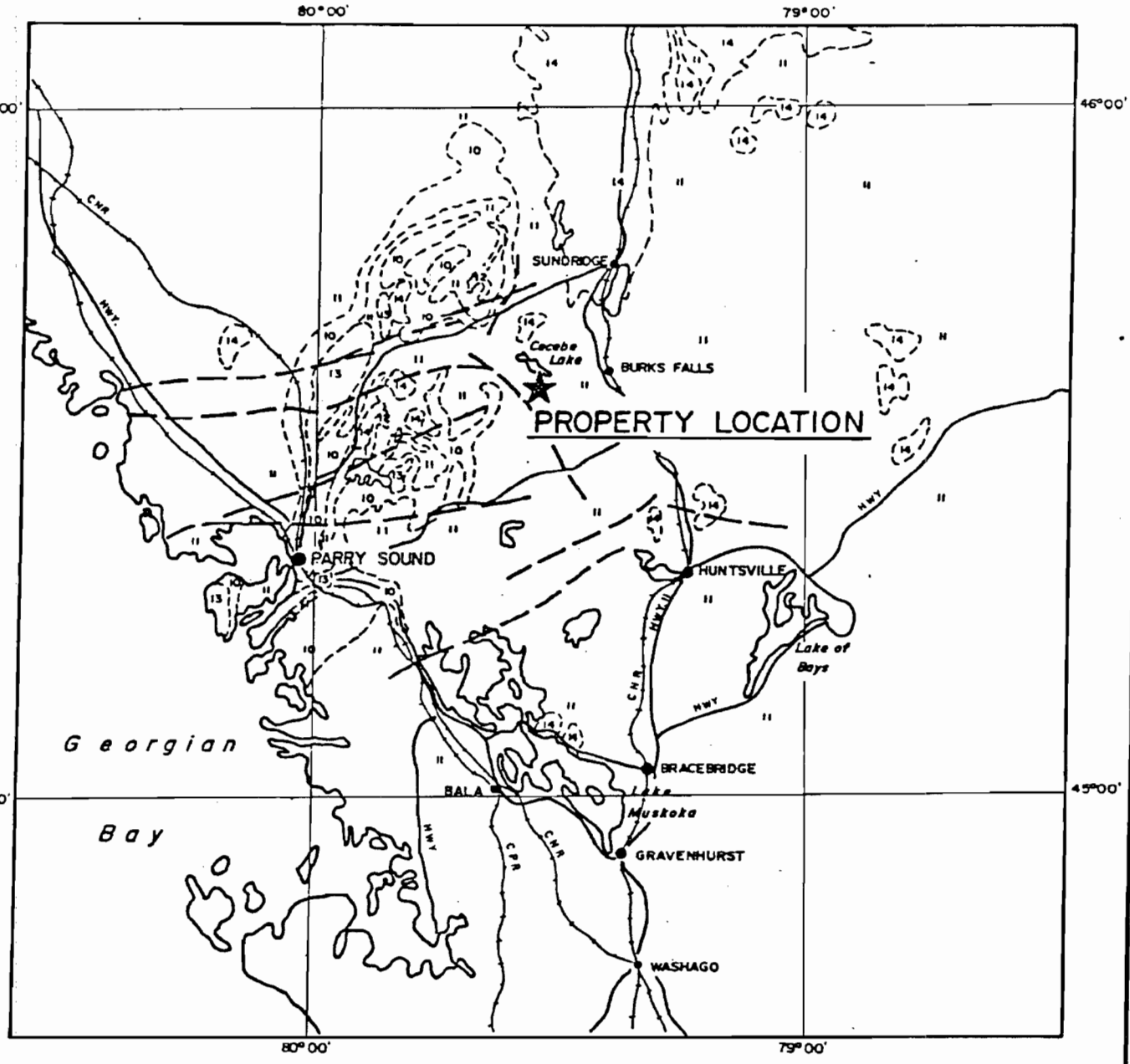

LEGEND

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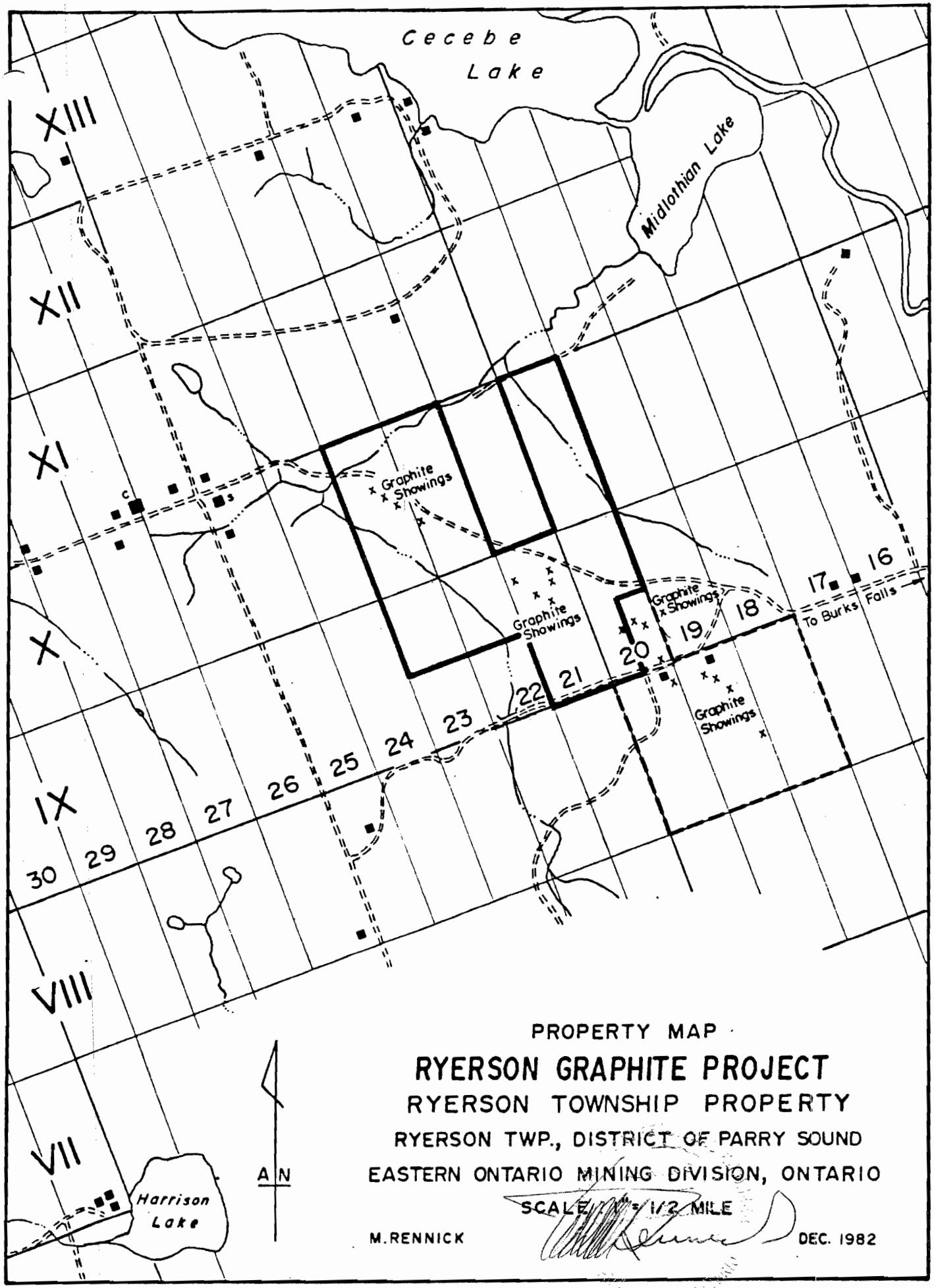

PROPERTY MAP

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RYERSON TOWNSHIP PROPERTY

RYERSON TWP., DISTRICT OF PARRY SOUND

EASTERN ONTARIO MINING DIVISION, ONTARIO

SCALE 1" = 1/2 MILE

M. RENNICK

DEC. 1982

GEOLOGY

(i) General

The Ryerson Graphite Project property is entirely underlain by middle to late Precambrian rocks of the Grenville Supergroup or Series. Rocks of this series occupy a roughly rectangular section of the Canadian Shield, 1,750 kilometers long and 320 kilometers wide, with the long axis extending in a northeasterly direction from the east shore of Georgian Bay in Ontario to the northeast coast of Labrador.

Rocks of the Grenville Series are characterized by moderate to high grade regional metamorphism and complex structural style. Recent field studies conducted in Ontario, by personnel of the Geological Survey of Canada, have begun to sort out some of the structural complexities and provide useful information to guide future exploration of the economic mineral potential in this portion of the Grenville Supergroup.

In the Province of Quebec, Grenville Series rocks host major iron ore bodies at Wabush and Gagnon, iron and titanium ore bodies at St. Urban and Lac Tio, a major niobium ore body at St. Honore, and smaller but economic occurrences of magnesium, phosphate, iron, copper, lead, zinc, and precious metal ores at a number of other locations. The uranium ores of the Bancroft Area in Ontario are hosted by rocks of the Grenville Series and iron ore, precious and base metal ores, as well as a variety of industrial minerals have been mined in the past from this environment. All of the more than 50 known graphite deposits, occurrences, prospects, and past producers in Ontario are situated in the Grenville Province.

(ii) Description of Rock Types

Field mapping over the property outlined five distinct rock types. It is possible that at a greatly enlarged scale, the gneisses could be further sub-divided. However, on an exploration basis such definition, particularly at this time, would have been impractical and redundant. Units that were outlined are described as follows.

METAGABBRO - is usually massive, dark green to black in colour, fine to medium grained, and retains relics of ophitic texture. Foliation in outcrops of this unit is generally light.

GRANITIC ORTHOGNEISS - is massive, red to brick red in colour, coarse grained, and coarsely foliated. Orthoclase and biotite are the major mineral constituents with accessory quartz and hornblende.

QUARTZ-BIOTITE GNEISS - is massive, light to dark grey in colour on fresh surfaces, fine to medium grained, and intensely foliated. Quartz and biotite are the main mineral constituents. Accessory minerals include plagioclase, red or brown garnet, and the occasional grain of pyrite and, quite often, muscovite mica.

QUARTZ-BIOTITE-BROWN GARNET GNEISS - is massive, medium to dark grey in colour on fresh surfaces, fine to medium grained, and intensely foliated. Quartz and biotite are the main mineral constituents. Brown garnet in varying amounts is, megascopically, the most prominent constituent. Other accessory minerals include plagioclase, hornblende and minor pyrite.

QUARTZ-BIOTITE-RED GARNET GNEISS - is massive, medium to dark grey in colour on fresh surfaces, fine to medium grained, and strongly foliated. Quartz and biotite are the main mineral constituents. Plagioclase, varying amounts of red garnet, minor hornblende and pyrite, are the common accessory mineral constituents.

In addition to the rocks described above, small pods or lenses of a very coarse grained PEGMATITIC material was noted during the field mapping. Usually not more than three to five metres long or in diameter, these masses are composed of quartz and grey to pink coloured feldspar. They appear to form no pattern of distribution but may occur more frequently in the graphite-bearing zone(s) than elsewhere.

(iii) Mineralization

The most prominent geological feature on the property is a sinuous zone of light to dark grey coloured, fine to medium grained, flake graphite-bearing, quartz-biotite gneiss. This zone has an indicated width of 20 metres (65 feet) to more than 60 metres (195 feet) along a strike length of 2,100 metres (6,900 feet). A short, parallel zone of similar material shows up from 1750 W to 1850 W and again at 2080 W and 165 S. A third isolated occurrence was mapped along the side of a north-trending outcrop at 1150 W and 675 S.

Within the mineralized zone(s), graphite occurs as seams or laminae of fine to coarse flakes in bands of varying concentrations estimated to run from less than one percent to more than 10 percent. This zone also carries appreciably more pyrite than the graphitic-barren gneisses and often presents a friable, dark brown to black coloured "burn" on outcrop surfaces. A distinct, pale mauve coloured garnet is also commonly present in the mineralized zone.

Although two bulk samples of flake graphite-bearing material have been shipped to metallurgical testing facilities and 70 samples comprising 696.5 feet of graphite-bearing drill core were split, no analytical data were available by year's end so the grade of the graphitic zone and the quality of the mineralization remained unknown.

(iv) Structure

Regional metamorphism has imparted a very pronounced foliation to the various rock assemblages on the property and this foliation grades into more high developed schistosity in more locally deformed areas. For the most part, foliation appears to parallel the strike and dip of the bedding planes, except in areas of tight, complex folding. Local crimping and crenulations are common.

No major faults appear in the mapped area unless the beaver pond and creek system which traverses the south part of the property represents such a feature. Perceived offsets along the mineralized zone and some of the electromagnetic conductor axes may be due to minor, north trending faulting and fracturing, or warping.

Finally, it appears as if the property is underlain by a fairly closed anticlinal structure, the axis of which is represented by the zone of graphite-rich, quartz-biotite gneiss and which plunges steeply to the southeast.

DESCRIPTION OF WORK UNDERTAKEN

All work, the results of which form the basis of this report, was carried out under the direct supervision of Graham M. Ackerley, Project Manager for Ryerson Graphite Project. Mr. Ackerley resides at R.R. #1, George Road, Bracebridge, Ontario P0B 1C0.

The diamond drilling was done under contract to Langley Drilling, 49 Jayfield Road, Brampton, Ontario L6S 3G3 and F. Hodgkinson, P.Eng., of 221 Audrey Avenue, Toronto, Ontario was employed to log and sample the diamond drill core. The drilling produced 1AX (1.375") core.

To facilitate the logging, sampling and storing of core, a 16x20 foot core shack was constructed on the property.

Two bulk samples of approximately 500 pounds each were sent to facilities in the U.S.A. for metallurgical and product testing and analyses. One sample was sent to Ashbury Graphite in Ashbury, New Jersey. The second sample, originally shipped to the Dravo Research Centre on Neville Island, Pittsburg, Pennsylvania, was subsequently reshipped by Dravo to the Institute of Mineral Research of Michigan Technological University of Houghton, Michigan for testing.

DISCUSSION OF RESULTS

(i) Bulk Sampling

No results of the metallurgical work on either of the bulk samples were received by Ryerson Graphite Project up to December 31, 1982. Presumably this work was in progress but had not proceeded far enough to support meaningful reports.

(ii) Diamond Drilling

Diamond drilling commenced on November 19 and was suspended on December 19 for the Christmas - New Year holiday period. A total of seven holes comprising 2,842.5 feet of drilling was completed. Depth of overburden (casing) ran from two feet to 15 feet and averaged nine feet for each of the seven holes drilled, or 2.4 percent of the total footage drilled. For all practical purposes, core recovery was 100 percent.

A total of 70 samples comprising 696.5 feet of core were split and bagged but up to December 31, 1982 none was assayed for total carbon content or tested for graphite recovery.

A review of the drill-hole logs confirms that flake graphite occurs in concentrations from less than one percent over many tens of feet to 10 percent over short intervals, in a complex quartz-feldspar-biotite gneiss containing more or less muscovite mica. The logs contain estimates by Hodgkinson of the graphite content but these estimates must be confirmed by assaying.

In general, drilling has confirmed the geological setting as previously mapped. Formations in the area investigated strike approximately N 60° W and dip 75 degrees to the southwest. The graphite zone(s) appear to coincide with a very broad, weak VLF electromagentic survey response.

From an economic viewpoint, based strictly on Hodgkinson's estimates of graphite content and Ackerley's Progress Report No. 3 (see Appendix 1), it appears as if flake graphite does not occur in sufficient concentration in the area examined.

CONCLUSIONS AND RECOMMENDATIONS

With absolutely no valid analytical or metallurgical data for support, it is impossible to arrive at any conclusions or make recommendations pertinent to the possible economic implications of the 1982 programme. Every effort should be made to acquire these data at the earliest possible date to assist in directing or redirecting further exploration of the property.

Only a relatively short section of the main, flake graphite-bearing zone has been examined and several interesting geophysical anomalies which may represent parallel zones of mineralization have not been tested. Also, whether or not the section which has been investigated contains economic concentrations of flake graphite is a moot point. Therefore, in-as-much as the programme has provided excellent geological information on rock types and associations, and the mode of mineral occurrence, it is recommended that any further, planned diamond drilling be directed toward establishing the causative sources of the geophysical anomalies and testing the main zone of mineralization at widely spaced intervals - 200 metres - along its entire length, at least until valid analytical data are obtained which could completely alter any current plans.

All of which is respectfully submitted for your information and consideration.

Toronto, Ontario, Canada
February 21, 1983

Melville William Rennick, P.Eng.
Consulting Geologist

ESTIMATE OF PROPOSED PROGRAMME COSTS

Diamond Drilling - 10,000 feet @ $25.00/foot	$250,000.00
Assaying	20,000.00
Metallurgical Testing	30,000.00
Stripping, Trenching, Report & Map Preparation	15,000.00
Project Supervision, Transportation & Miscellaneous	40,000.00
Total Estimated Costs	355,000.00
Plus contigencies @ 20%	71,000.00
Total Estimate Funding Required	$426,000.00

Toronto, Ontario, Canada
February 21, 1983

Melville William Rennick, P.Eng.
Consulting Geologist

CERTIFICATE

I, Melville William Rennick, of the Borough of East York, in the Municipality of Metropolitan Toronto, do hereby declare:

1. That I am a consulting Geologist residing at 234 Donlea Drive, Toronto, Ontario M4G 2N2.

2. That I am a graduate of the Provincial Institute of Mining, Haileybury, Ontario, in 1955 and have been continuously engaged as a practicing geologist since that time, and I am a Registered Professional Engineer in the Province of Ontario.

3. That the foregoing report is based on several sources of information including published reports and articles relating to graphite as well as results of the work discussed therein.

4. That I have worked on the subject property and visited it twice during the course of the programme discussed in the foregoing report.

5. That I have no interest, direct or indirect, in Ryerson Graphite Project or any of its properties, nor do I expect to receive or acquire any such interest.

Toronto, Ontario, Canada
February 21, 1983

Melville William Rennick, P.Eng.
Consulting Geologist

GEOLOGY

(i) General

The Ryerson Graphite Project property is entirely underlain by middle to late Precambrian rocks of the Grenville Supergroup or Series. Rocks of this series occupy a roughly rectangular section of the Canadian Shield, 1,750 kilometers long and 320 kilometers wide, with the long axis extending in a northeasterly direction from the east shore of Georgian Bay in Ontario to the northeast coast of Labrador.

Rocks of the Grenville Series are characterized by moderate to high grade regional metamorphism and complex structural style. Recent field studies conducted in Ontario, by personnel of the Geological Survey of Canada, have begun to sort out some of the structural complexities and provide useful information to guide future exploration of the economic mineral potential in this portion of the Grenville Supergroup.

In the Province of Quebec, Grenville Series rocks host major iron ore bodies at Wabush and Gagnon, iron and titanium ore bodies at St. Urban and Lac Tio, a major niobium ore body at St. Honore, and smaller but economic occurrences of magnesium, phosphate, iron, copper, lead, zinc, and precious metal ores at a number of other locations. The uranium ores of the Bancroft Area in Ontario are hosted by rocks of the Grenville Series and iron ore, precious and base metal ores, as well as a variety of industrial minerals have been mined in the past from this environment. All of the more than 50 known graphite deposits, occurrences, prospects, and past producers in Ontario are situated in the Grenville Province.

(ii) Description of Rock Types

Field mapping over the property outlined five distinct rock types. It is possible that at a greatly enlarged scale, the gneisses could be further sub-divided. However, on an exploration basis such definition, particularly at this time, would have been impractical and redundant. Units that were outlined are described as follows.

METAGABBRO - is usually massive, dark green to black in colour, fine to medium grained, and retains relics of ophitic texture. Foliation in outcrops of this unit is generally light.

GRANITIC ORTHOGNEISS - is massive, red to brick red in colour, coarse grained, and coarsely foliated. Orthoclase and biotite are the major mineral constituents with accessory quartz and hornblende.

QUARTZ-BIOTITE GNEISS - is massive, light to dark grey in colour on fresh surfaces, fine to medium grained, and intensely foliated. Quartz and biotite are the main mineral constituents. Accessory minerals include plagioclase, red or brown garnet, and the occasional grain of pyrite.

QUARTZ-BIOTITE-BROWN GARNET GNEISS - is massive, medium to dark grey in colour on fresh surfaces, fine to medium grained, and intensely foliated. Quartz and biotite are the main mineral constituents. Brown garnet in varying amounts is, megascopically, the most prominent constituent. Other accessory minerals include plagioclase, hornblende and minor pyrite.

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(iii) Mineralization

The most prominent geological feature on the property is a sinuous zone of light to dark grey coloured, fine to medium grained, flake graphite-bearing, quartz-biotite gneiss. This zone has an indicated width of 20 metres (65 feet) to more than 60 metres (195 feet) along a strike length of 2,100 metres (6,900 feet). A short, parallel zone of similar material shows up from 1750 W to 1850 W and again at 2080 W and 165 S. A third isolated occurrence was mapped along the side of a north-trending outcrop at 1150 W and 675 S.

Within the mineralized zone(s), graphite occurs as seams or laminae of fine to coarse flakes in bands of varying concentrations estimated to run from less than one percent to more than 10 percent. This zone also carries appreciably more pyrite than the graphitic-barren gneisses and often presents a friable, dark brown to black coloured "burn" on outcrop surfaces. A distinct, pale mauve coloured garnet is also commonly present in the mineralized zone.

Although exposure along parts of the mineralized zone is good, no adequate preparation for any meaningful sampling has been carried out so no sampling was done.

(iv) Structure

Regional metamorphism has imparted a very pronounced foliation to the various rock assemblages on the property and this foliation grades into more highly developed schistosity in more locally deformed areas. For the most part, foliation appears to parallel the strike and dip of the bedding planes, except in areas of tight, complex folding. Local crimping and crenulations are common.

No major faults appear in the mapped area unless the beaver pond and creek system which traverses the south part of the property represents such a feature. Perceived offsets along the mineralized zone and some of the electromagnetic conductor axes may be due to minor, north trending faulting and fracturing, or warping.

Finally, it appears as if the property is underlain by a fairly closed anticlinal structure, the axis of which is represented by the zone of graphite-rich, quartz-biotite gneiss and which plunges steeply to the southeast.

DISCUSSION OF RESULTS

In-as-much as the purpose of the work discussed in this report was to develop a physical relationship between the various known graphitic mineral occurrences and extend them to reasonable limits, the programme was a success. Results of the various methods employed to do this are discussed below.

(i) Geological Mapping

This work produced a comprehensive picture of underlying bedrock formational implications and mineral associations. However, whether or not the concentration of graphite is related to folding or to the proximity of metoplutonic rocks has yet to be determined. What was confirmed, is that a series of mineralized outcrops which extend in a southeasterly direction through the central part of the property can confidently be expected to be parts of a continuous zone of mineralization, 20 to more than 60 metres wide, dipping to the southwest.

Although both the strike and dip of the foliation can change dramatically from outcrop to outcrop, the general strike of formations in the south part of the property is 290 degrees with dips to the SSW. In the east part of the holdings, the general strike is 350 degrees with dips to the west. These data indicate that the property covers a tight anticlinal structure, overturned to the northeast, with its axis plunging southeasterly.

(ii) Geophysical Surveys

Seven conductive zones were outlined by the V.L.F. EM 16 survey over the Ryerson Graphite property (Plate 4). Maxmin II electromagnetic surveys were utilized to further characterize the nature of the V.L.F. responses in terms of conventional EM interpretation, as well as to evaluate apparent thicknesses, apparent dips, and vertical depths to the top of conductive units (Plates 6 and 7). Conductivity-thickness products based on free-air model comparisons were made at both 1777 Hz and 444 Hz where possible.

Zone A extends from 500 West to 1250 West at roughly 250 to 300 South. It is terminated by the large, northwest-trending lake at 1250 West and by an area of structural distortion which appears to have divided the main unit into two separate zones at 500 West. The strongest areas of response and highest conduction are indicated by high (70%) in-phase amplitudes and general lack of out-of-phase correlation from about 500 West to 900 West. Widths, estimated from HL Maxmin out-of-phase data, could be up to 30 metres although estimates based on this parameter are often unreliable due to the severe effects of lateral conductivity contrasts. Poorer conduction is indicated in the remaining intervals along the conductor except from 950 West to 1050 West where a weak, poorly conductive zone is noted. Based on examination of partial responses at the edge of the lake, it is likely that Zone A continues further northwest, under the lake.

Zone A1 may be related to Zone A in a folded sense. Its overall conduction appears to be moderate with high amplitude, in-phase cross-overs and very little out-of-phase correlation. A broad or, possibly, double zone may be indicated on lines 375 West and 400 West at 150 South.

Zone A2 consists of inflection type responses, modest amplitudes, and low conduction, indicated by the out-of-phase correlation.

Zone A, A1 and A2 all occur in areas exhibiting little magnetic signature and, although no outcrop has been located along them, it is likely that the units reflect the presence of weak to strong graphite mineralization within quartz-biotite gneiss.

Zone B occurs in an area of previous trenching. An almost complete lack of V.L.F. signature over the showing may augur well for the estimation of the tenor of the graphite mineralization shown on the rest of the property, provided that higher indicated conduction does not correspond to narrow widths. There is no coincident HL Maxmin II response over this zone.

Zone C is manifest by a system of oblique-trending, inflection point, V.L.F. conductors. Multiple parallel zones are indicated by the "stepped" nature of the in-phase signatures on most of the lines. The larger, most southerly conductor in this zone corresponds, roughly, to a moderately strong magnetic feature and may be the reflection of an intrusive metagabbroic contact. Also, since no outcrop was noted in the immediate area, it is conceivable that the V.L.F. is outlining zones of weak graphitic mineralization other than the zone referred to above. A weak, HL Maxmin II quadrature correlation, at 1777 Hz, is noted over several of the V.L.F. responses.

Zone D is made up of three separate conductors which are characterized by low amplitude, in-phase, inflection-type responses and probable low conduction. Magnetic correlation is non-existent and the outcrop pattern suggests the probable presence of weak graphitic mineralization in quartz-biotite gneiss. Weak HL Maxmin II responses, at 1777 Hz only, are noted over this zone.

Zone E consists of a series of conductors with similar response characteristics to those in Zone D and the two short southern-most conductors may be related to magnetic units of metagabbro which intrude the genissic sequence to the south.

In total, 39.8 miles of lines were cut, chained, and picketed at 30 metre intervals over the property, including 2.9 miles of base lines. The HL Maxmin II survey was carried out over 9.96 miles of line along which 526 stations were occupied. 36.9 miles of magnetic and V.L.F. electromagnetic surveys were conducted. 1,967 stations were occupied and read during the course of the V.L.F. survey and 2,123 readings were taken during the magnetic survey.

RECOMMENDATIONS

It is recommended that a bulk sample of appropriate size be taken and shipped to an acceptable testing laboratory where the overall recoverable carbon content, graphite flake size and quality, and the associated graphite products such as smoke, amorphous, and dust can be determined. A substantial diamond drilling programme is also recommended to determine the potential size and grade of the various zones defined by geological and geophysical mapping. In order of priority, the following drill programme should be carried out as a preliminary step towards defining the economic potential of the property.

Zone A - Collar hole @ 300S & 700W

Drill 1st hole north along grid section @ - 45° to 275'
Drill 2nd hole north along grid section @ - 60° to 350'

Zone A1 - Collar hole @ 110S & 200W

Drill 1st hole north along grid section @ - 45° to 250'
Drill 2nd hole north along grid section @ - 60° to 350'

Zone A2 - Collar hole @ 340S & 300W

Drill 1st hole north along grid section @ - 45° to 425'
Drill 2nd hole north along grid section @ - 60° to 590'

Zone B - Collar hole @ 110S & 850W

Drill 1st hole north along grid section @ - 45° to 280'
Drill 2nd hole north along grid section @ - 60° to 400'

Zone A - Collar hole @ 330S & 1000W

Drill 1st hole north along grid section @ - 45° to 275'
Drill 2nd hole north along grid section @ - 60° to 400'

Should the first hole in any of the above sections prove that the conductor is not caused by the presence of flake graphite mineralization, drilling of the second hole would be redundant. However, where graphite is found to be present in quantity, not only should the second hole on

Appendix 1

RYERSON GRAPHITE PROJECT

THE CAN/AM GROUP
Project Administrator
376 Woolwich Street
Guelph, Ontario
N1H 3W7

Telephone: (519)824-3515
Telex: 069-56636

GRAHAM M. ACKERLEY
Project Manager
R. R. #1, George Road
Bracebridge, Ontario
P0B 1C0

Telephone: (705)645-6061

PROGRESS REPORT NO. 3

General

Weather, with the exception of a few two-day periods, has been soft, and this has slowed down a program to develop a new sampling pit in the area in front of No. 5 drill hole. However, this work is now making good progress. Diamond drilling was suspended December 21st for the holiday period. Seven holes were completed, all obtaining potentially mineable sections of graphite mineralization.

Since, a special effort has been made to complete a detailed log of these holes, in view of the necessity to establish a thorough and reliable reference base to accommodate the extremely complex blend of units within the local geology. This work has been useful and provides us with a good oversight of the conditions we will encounter henceforth; at the outset, we had only minimal geological data. Now, we have made a good penetration into the matter, even though much more has yet to be learned.

Diamond Drilling

The most easterly hole was DDH JV-82-4, located on line 550W. Most easterly was DDH JV-82-7, completed just prior to Christmas. Three holes were located on the original line - section at 618W, and these provided a good cross-section over a zone width of over 500 feet. Two holes were drilled at 700W, providing a cross-section over some 600 feet. In all, with the normal projections allowed by good engineering practice, the zone has been confirmed for a distance of over 1,000 feet with some sections exceeding 300 feet in vertical depth. Only the more heavily mineralized sections are being sampled.

In each hole, there is less mineralization in sections either adjoining or intervening between the better sections. The following footages reflect only the better mineralization:

JV-82-1	53 feet to 149 feet
JV-82-2	65 feet to 122 feet (possibly to 162 feet)
JV-82-3	67 to 146 feet and 262 to 300 feet where hole was stopped in good mineralization to save footage. The core zone was tested to its full width in the two holes above.
JV-82-4	32 feet to 40 feet and 103 to 141 feet with intervening mineralization. Zone is faulted off in this hole.
JV-82-5	Collared in good mineralization 19 to 67 feet with numerous narrower sections of mineralization through to 478 feet.

JV-82-6	191 feet to 441 feet with better members from 191 to 274 feet and from 323 to 441 feet.
JV-82-7	Many intersections, the better ones being from 212 to 243 feet, from 294 to 339 feet and from 380 to 420 feet.

The sections obtained in DDH Nos. JV-82-5 and 6 produced the heaviest mineralization yet encountered on the property, with a generally larger flake size than encountered on the property. Just as important, there are far fewer quartz-feldspar veins and lenses than have normally been encountered. Since these lenses are always barren, this means that contained graphite in terms of volume will be greater than will be the case in the sections in holes Nos. 1, 2, 3 and 4 where in the corresponding zones (tentatively named "Trench" and "Lower") quartz-feldspar veining represented perhaps 25% of the volume.

When the presently contemplated sampling has been completed in the next few days, over 700 feet of core will have been split and sampled, representing only the best sections in the approximate 3,000 feet of drilling that has been completed to date.

Sampling Pit

Our consultants at Michigan Tech., who are doing our metallurgical investigations and grade determinations, have requested a second bulk sample. In order to obtain this, an area 60 feet by 20 feet of overburden has been stripped (5 feet average thickness) and a permanent drainage ditch put in. A rock pit has been started and will be taken to 10 feet in depth, with an area of 6 by 10 feet.

The first 2 lifts confirmed mineralization much the same as obtained in holes Nos. 5 and 6. A third lift was being drilled off at the time of writing. The pit will be completed and 1,000 lbs. of material will be shipped by January 18th, barring unforeseen delays. A straight face is being left on the northwest wall of this pit, and this can be broken as necessary for future bulk samples and to provide a working face to support a small pilot mill operation should such an operation be deemed necessary.

Metallurgy/Prices

Preliminary data from the screening phase of work being done at Michigan Tech. has indicated a large portion (perhaps 70%) of our flake will be plus 65 mesh in size, which is a premium grade. The local office of the Mines Section of The Ontario Department of Natural Resources has been doing studies of markets and prices for graphite flake, and they advise us they consider the price of plus 65 mesh material to be in the range of U.S. $1,400 per ton. Notwithstanding what we might obtain for the balance of our flake, this grade would therefore obtain the following prices for hypothetical grades of contained carbon on recovery of 95%:

3%C	$34.06 Canadian
5%C	$44.42 Canadian
7%	$77.73 Canadian
9%	$99.84 Canadian

(Price per lb. is 83.5¢ Canadian at a rate of $1,400.00 U.S. per ton.)

Miscellaneous

The core shack is functioning quite satifactorily. We have purchased a second-hand snow machine for service use. Mr. Frank Hodgkinson has joined us as staff geologist.

Respectfully submitted,

GRAHAM M. ACKERLEY.

COMPANY
PROJECT

RYERSON GRAPHITE PROJECT
Ryerson Twp., Ontario
DIAMOND DRILL LOG

DIP TEST - CORRECTED					
FOOTAGE	DEGREE				
COLLAR	45				
290	41				

COMMENCED	Nov. 19/82	LATITUDE	72.0 S
FINISHED	Nov. 23/82	DEPARTURE	618.5 W
CLAIM No.	Lot 1, Conc. 1X	ELEVATION	
LENGTH	290 Feet	AZIMUTH	55°

HOLE No. 82-1
SHEET No. 1 of 3
LOGGED BY F.H.
TOTAL RECOVERY 283.0'

Drilled by: LANGLEY DRILLING Core Size: IAX = 1.375"

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION
0	5.0	Casing
5.0	8.4	QUARTZ-FELDSPAR-BIOTITE GNEISS - light to medium grey - minor pyrite - 5.0 - 6.0 Biotite Rich - minor GRAPHITE
8.4	13.0	QUARTZ-FELDSPAR-BIOTITE-MUSCOVITE GNEISS -light grey - slight greenish tinge (chlorite) - 2% GRAPHITE - minor pyrite
13.0	53.3	QUARTZ-FELDSPAR-BIOTITE GNEISS - medium grey to dark grey - minor pyrite on some foliation planes - 19.2 - 20.2 flesh coloured feldspar & quartz blebs 15% core - 27.1 - 29.2 greenish tinge; 6 inches flesh coloured feldspar & white quartz in centre of section. - 47.8 - 49.0 greenish tinge - 56.5 - 56.9 greenish tinge - 59.5 - 60.5 flesh coloured lenses - 61.2 - 62.1 silicious - flesh coloured lenses - 62.9 - 63.5 " " " " - 66.9 - 67.3 flesh coloured lenses - 67.8 - 68.4 several narrow greenish tinged sections.

SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS

COMPANY
PROJECT RYERSON GRAPHITE PROJECT

DIAMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-1
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 2 of 3
COLLAR						CLAIM No.	ELEVATION	LOGGED BY
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS %	ASSAYS Total Carbon
53.3	126.0	GRAPHITE ZONE	336	53.0	63.0	10'		0.96
		QUARTZ-BIOTITE-MUSCOVITE GNEISS	337	63.0	73.0	10'		0.28
		- occasional mauve and pink garnet	338	73.0	83.0	10'		0.28
		- similar to section 8.4 - 13.0	339	83.0	93.0	10'		1.16
		- light to medium grey - some sections have greenish blue tinge	340	93.0	103.0	10'		1.00
		- minor disseminated pyrite throughout section	341	103.0	113.0	10'		0.76
		- GRAPHITE 4%	342	113.0	123.0	10'		1.16
		- foliation not as distinct as above section	343	123.0	133.0	10'		1.16
		- 75.5 - 77.2 - pink feldspar mottling	344	133.0	143.0	10'		0.70
		- 97.5 - 103.4 - " " "	345	143.0	149.0	6'		0.16
		- 112.2 - 126.0 - greenish grey; brick red (hemitized) feldspar mottling; chloritized, few chloritic fractures						
		- L.C. 50° to core axis						
		- 121.0 - 125.0 core badly broken 2' lost core						
126.0	219.5	QUARTZ-FELDSPAR -BIOTITE GNEISS						
		- minor GRAPHITE						
		- similar to section 13.0 - 53.3						
		- occasional pink garnet						
		- 128.0 - 130.2 dark grey greenish tinge; lacks distinct foliation - 5% GRAPHITE						
		- 139.5 - 140.4 - similar to above						
219.5	226.0	WHITE PEGMATITE - U.C. 30° C.A.						
226.0	290.0	QUARTZ-FELDSPAR-BIOTITE GNEISS						
		- medium to light grey						
		- flesh coloured blebs and lenses						
		- minor GRAPHITE						
		- few pink garnets - more noticeable in last 20' in lighter grey sections						
	290.0	End of Hole						

COMPANY RYERSON GRAPHITE PROJECT

PROJECT

DIAMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-1
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 3 of 3
COLLAR						CLAIM No.	ELEVATION	LOGGED BY
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
		Angles of Foliation to Core Axis					
		@ 10' - 70°					
		40' - 60°					
		70' - 60°					
		110' - 70°					
		200' - 75°					
		250' - 75°					

COMPANY: AMOND DRILL LOG
PROJECT: RYERSON GRAPHITE PROJECT
Ryerson Twp., Ontario

DIP TEST - CORRECTED					
FOOTAGE	DEGREE	440	55		
COLLAR	60				
250	58				

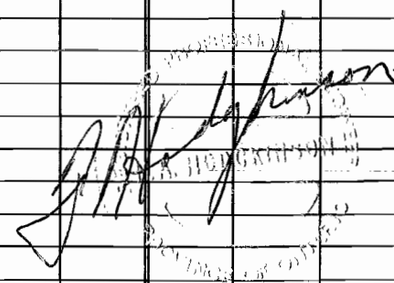
COMMENCED Nov. 23/82
FINISHED Nov. 28/82
CLAIM No. Lot 1, Conc. 1X
LENGTH 446.0 feet

LATITUDE 72.05
DEPARTURE 618.5W
ELEVATION
AZIMUTH 55°

HOLE No. 82-2
SHEET No. 1 of 3
LOGGED BY F.H.
TOTAL RECOVERY 444.0'

Drilled by: LANGLEY DRILLING Core Size: NAX = 1.375"

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS % Total Carbon
0	2.0	Casing					
2.0	64.0	QUARTZ-FELDSPAR-BIOTITE-GNEISS					
		- med grey to dark grey					
		- quartz-feldspar lenses up to ½"					
		- 2.0 - 27.0 - light grey; greenish tinge; minor GRAPHITE; narrow sections to 1%					
		flesh coloured lenses - L.C. 50° CA					
		- 24.0 - 25.0 light grey - greenish tinge - pink mottling					
		- 25.5 - 27.0 " " " " " "					
		- 27.0 - 28.1 " " " " " "					
		- 37.0 - 37.8 " " " " " "					
		- 43.7 - 45.7 " " " " " "					
64.0	122.2	GRAPHITE ZONE					
		QUARTZ-FELDSPAR-BIOTITE-MUSCOVITE GNEISS					
		- lacks distinct quartz-feldspar lenses	358	67	74	10'	0.48
		- light to medium grey	359	74	84	10'	0.80
		- minor purite with 1 - 3% GRAPHITE	360	84	94	10'	1.24
			361	94	104	10'	1.08
		- 87.0 - 89.5 - flesh coloured mottling	362	104	114	10'	1.16
		- 92.0 - 92.8 - " " "	363	114	124	10'	0.88
		- 97.8 - 98.4 - " " "	364	124	144	20'	0.46
		-100.5 -105.5 - " " "	365	144	162	18'	0.96
		-113.9 -114.7 - " " "					
		- some narrow sections have slight greenish tinge					
122.2	327.9	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- medium to dark grey					
		- narrow quartz-feldspar lenses					
		- well foliated					
		- occasional mauve and pink garnet					
		- minor GRAPHITE					



COMPANY RYERSON GRAPHITE PROJECT
PROJECT
DIAMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-2
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 2 of 3
COLLAR						CLAIM No.	ELEVATION	LOGGED BY
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
		- 150.0 - 162.0 more massive appearance - dark grey - lacks quartz feldspar lenses - 1% GRAPHITE					
		- 161.0 - 162.0 greenish tinge, minor P4 and mauve garnets					
		- 162.0 - 197.0 - dark grey quartz-feldspar lenses form 10% of core					
		- 197.0 - 229.0 - medium grey - white quartz-feldspar lenses up to 3/4 inch - making up 30% of core					
		- 229.0 - 230.3 - dark grey - no quartz-feldspar lenses					
		- 230.3 - 239.0 - flesh coloured lenses - section has greenish tinge in centre					
		- 239.0 - 327.9 - medium grey - narrow quartz-feldspar lenses, flesh coloured lenses formed 5% of core					
		- 273.2 - 281.5 - slight greenish tinge; minor GRAPHITE and pyrite					
		- 294.5 - 298.0 - quartz-feldspar-hornblende-gneiss - flesh coloured, coarse grained - 20% hornblende					
327.9	353.2	WHITE PEGMATITE					
353.2	363.5	QUARTZ-FELDSPAR-BIOTITE GNEISS with minor hornblende					
363.5	368.3	WHITE TO FLESH COLOURED PEGMATITE					
368.3	401.0	QUARTZ-FELDSPAR-BIOTITE GNEISS - few quartz-feldspar lenses up to ¼ inch with minor hornblende; light to med. grey with few pink garnets					
401.0	409.0	WHITE TO FLESH COLOURED PEGMATITE					
409.0	446.0	QUARTZ-FELDSPAR-BIOTITE GNEISS - irregular flesh coloured lenses form 10% of core; minor hornblende; medium grey					
	446.0	End of Hole					

COMPANY RYERSON GRAPHITE PROJECT

PROJECT

DIAMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-2
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 3 of 3
COLLAR						CLAIM No.	ELEVATION	LOGGED BY
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
		Angles of Foliation to Core Axis					
		@ 6' 65°					
		45' 55°					
		160' 55°					
		215' 65°					
		315' 55°					
		390' 45°					

COMPANY RYERSON GRAPHITE PROJECT
PROJECT Ryerson Twp., Ontario
DIAMOND DRILL LOG

DIP TEST - CORRECTED									
FOOTAGE	DEGREE								
COLLAR	45								
300	42.5								

COMMENCED Dec. 2/82
FINISHED Dec. 3/82
CLAIM No. Lot 1, Conc. 1X
LENGTH 300.0 feet

LATITUDE 127.5 S
DEPARTURE 638.2 W
ELEVATION
AZIMUTH 30°

HOLE No. 82-3
SHEET No. 1 of 3
LOGGED BY F.H.
TOTAL RECOVERY 288.5'

Drilled by: LANGLEY DRILLING Core Size: 1AX = 1.375"

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS % Total Carbon
0	10.0	Casing					
10.0	67.0	QUARTZ-FELDSPAR-BIOTITE GNEISS - medium to dark grey - medium grained - narrow quartz-feldspar lenses - few pink garnets - minor pyrite - 10.0 - 18.5 - 20% quartz-feldspar lenses - 18.5 - 19.2 - 50% quartz and flesh coloured blebs and lenses - 25.0 - 26.3 - 10% pink garnets - 26.3 - 28.2 - 60% quartz-feldspar lenses, 10% pink garnets - 32.3 - 34.0 - white to flesh coloured pegmatite in centre of section (1.0') greenish tinge to remainder - 30.5 - 32.8 - 10% flesh coloured lenses and blebs - 32.8 - 61.3 - 5% pink garnets - 57.0 - 68.0 - 2-5% white - flesh coloured lenses and blebs					
67.0	152.0	QUARTZ-FELDSPAR-BIOTITE GNEISS (Chloritic) - medium to dark grey - 67.0 - 94.0 generally massive to mottled appearance to section - foliation not as distinct as other sections of quartz-feldspar-biotite gneiss - minor pyrite and graphite - 67.0 - 72.5 medium grey - 5% white to flesh coloured lenses, narrow greenish sections; 2% GRAPHITE; muscovite on some foliation planes - 72.0 - 78.6 greenish hue; 30% flesh coloured lenses; minor graphite; some fracturing parallel to core axis are pyrite smeared - 78.6 - 81.0 medium grey; 30% white to flesh coloured lenses; minor GRAPHITE - 81.0 - 83.7 pegmatite	346	67	77	10'	0.28
			347	77	87	10'	0.14
			348	87	97	10'	1.74
			349	97	107	10'	2.62
			350	107	117	10'	0.92
			351	117	127	10'	0.56
			352	127	137	10'	0.64
			353	137	151	14'	0.56

COMPANY
PROJECT RYERSON GRAPHITE PROJECT
DIAMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-3
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 2 of 3
COLLAR						CLAIM No.	ELEVATION	LOGGED BY F.H.
						LENGTH 300'	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
		- 83.7 - 90.0 - 5% narrow flesh coloured blebs and lenses; 1% GRAPHITE					
		- 90.0 - 94.0 - 10% narrow flesh coloured blebs and lenses					
		- 91.8 - 93.0 - quartz carbonate filled fracture parallel to core axis					
		-116.2 -118.5 - 15% white & flesh coloured lenses					
		-121.7 -123.0 - pegmatite					
		-136.0 -144.0 - core broken - 1.5' lost core					
		-151.0 -152.0 - white quartz & feldspar					
152.0	201.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		-light to medium grey with few tiny pink garnets					
		- 152.0 - 170.0 - finely foliated					
		- 170.0 - 201.0 - coarsely foliated					
		- few narrow greenish sections - minor pyrite; minor GRAPHITE					
		- 174.0 - 175.2 - white pegmatite					
		- 183.7 - 189.3 - dark grey, biotite rich					
201.0	210.4	BIOTITE-HORNBLENDE GNEISS - slight gneissosity - massive appearance 80% dark minerals (maple intrusive?)					
210.4	237.0	QUARTZ-FELDSPAR-BIOTITE GNEISS light grey					
237.0	253.0	BIOTITE-HORNBLENDE GNEISS and QUARTZ-FELDSPAR-BIOTINE GNEISS					
		- 237.0 - 237.8 80% dark minerals					
		- 241.7 - 243.0 " " "					
		- 244.3 - 246.3 " " "					
		- 250.0 - 251.0 " " " QUARTZ-FELDSPAR-BIOTITE GNEISS	2% GRAPHITE				
		- 237.0 - 240.0 fine grained siliceous " " "	"				
		- 243.0 - 244.3 " " " " " "	"				
		- 251.0 - 253.0 " " " " " "	"				

COMPANY RYERSON GRAPHITE PROJECT
PROJECT
DIAMOND DRILL LOG

DIP TEST - CORRECTED									
FOOTAGE	DEGREE								
COLLAR									

COMMENCED	LATITUDE	HOLE No. 82-3
FINISHED	DEPARTURE	SHEET No. 3 of 3
CLAIM No.	ELEVATION	LOGGED BY F.H.
LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS % Total Carbon
253.0	255.3	LEUCRATIC QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- with less then 5% biotite					
255.3	259.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- greenish tinge (chloritic) with 2% GRAPHITE					
259.0	262.5	LEUCRATIC QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- with numerous chloritic fractures					
262.5	300.0	GRAPHITE ZONE	354	263	273	10'	0.32
		- QUARTZ-FELDSPAR-BIOTITE-MUSCOVITE GNEISS	355	273	283	10'	0.62
		- varies from grey to greenish grey	356	283	293	10'	1.32
		- minor pyrite	357	293	300	7'	0.16
		- GRAPHITE 2 - 5%					
		- 294.0 - 300.0 flesh coloured lenses comprise 5% of core; 1% GRAPHITE					
	300.0	End of Hole					
		Angles of Foliation to Core Axis					
		112' 72° @ 40' - 70°					
		145' 60°					
		175' 57°					
		225' 50°					
		270' 65°					

Appendix 111

COMPANY RYERSON GRAPHITE PROJECT
PROJECT Ryerson Twp. Ontario
DIAMOND DRILL LOG

DIP TEST - CORRECTED					
FOOTAGE	DEGREE				
COLLAR	45				
300	41				

COMMENCED Dec. 5/82
FINISHED Dec. 7/82
CLAIM No. Lot 1, Conc. 1X
LENGTH 306.0 feet

LATITUDE 92.5
DEPARTURE 550 W
ELEVATION 550 W
AZIMUTH 30°

HOLE No. 82-4
SHEET No. 1 of 3
LOGGED BY F.H.
TOTAL RECOVERY 301.0'

Drilled by: LANGLEY DRILLING Core Size: IAX = 1.375"

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS % Total Carbon
0	5.0	Casing					
5.0	31.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- medium grey - quartz feldspar lenses and blebs up to ½"					
		- few pink garnets					
		- 30.0 - 30.6 - biotite rich					
		- 30.6 - 30.8 - quartz feldspar layer					
31.0	40.0	GRAPHITE ZONE					
		QUARTZ-FELDSPAR-BIOTITE-MUSCOVITE GNEISS					
		- light greenish grey					
		- lacks distinct foliation					
		- minor pyrite					
		- 2 - 3% GRAPHITE					
		- 38.0 - 40.0 - 15% narrow flesh coloured lenses					
40.0	67.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- light to medium grey with few pink garnets					
		- mica varies 5 - 25%					
		- minor graphite					
		- 45.0 - 50.5 flesh coloured lenses form 3% of core					
		- 66.2 - 67.0 quartz-feldspar layer					
67.0	73.5	BIOTITE-HORNBLENDE GNEISS					
		- dark grey black massive appearance					
		- pinheads pink garnets					
73.5	80.5	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- medium grey					
		- narrow quartz-feldspar lenses					
		- 1% GRAPHITE					
		- 76.0 - 76.8 - greenish tinge; massive appearance; 5% GRAPHITE					
		- 77.5 - 78.8 - biotite - rich					

COMPANY
PROJECT RYERSON GRAPHITE PROJECT
DIAMOND DRILL LOG

DIP TEST - CORRECTED							COMMENCED	LATITUDE	HOLE No. 82-4
FOOTAGE	DEGREE						FINISHED	DEPARTURE	SHEET No. 2 of 3
COLLAR							CLAIM No.	ELEVATION	LOGGED BY F.H.
							LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS % Total Carbon
80.5	82.7	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- light grey; narrow chloritic fractures with hematized feldspar					
82.7	84.8	PEGMATITE					
		- inclusions of biotite-hornblende gneiss					
84.7	103.7	BIOTITE-HORNBLENDE GNEISS					
		- dark grey to black - massive appearance with pinhead sized pink garnet					
103.7	141.0	GRAPHITE ZONE	366	104	114	10'	1.24
		QUARTZ-FELDSPAR-BIOTITE GNEISS	367	114	124	10'	0.50
		- grey to greenish tinge	368	124	134	10'	1.52
		- foliation not as distinct	369	134	140	6'	1.24
		- 2 - 3% GRAPHITE					
		- minor pyrite					
		- 119.0 - 121.0 - 10% flesh coloured blebs and lenses					
		- 130.0 - 130.5 - pegmatite					
141.0	147.2	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- medium grey to greenish grey					
		- finely foliated					
		- narrow quartz-feldspar lenses					
		- 3 to 5% scattered flesh coloured lenses					
		- few scattered pink garnets					
147.2	219.0	QUARTZ-FELDSPAR-BIOTITE GNEISS (Alteration Zone)					
		- chloritic hematitic med grey to greenish grey with many chloritic fractures and muscovite on same foliation planes					
		- minor pyrite irregularly distributed					
		- 167.8 to 169.8 - 3% GRAPHITE					
		- 193 to 198 - 1% GRAPHITE					

COMPANY
PROJECT RYERSON GRAPHITE PROJECT

DIAMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-4
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 3 of 3
COLLAR						CLAIM No.	ELEVATION	LOGGED BY F.H.
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
219.0	254.6	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- pink & white lenses up to ¼ inch thick form 10 - 30% of core					
		- last 10 feet increase in biotite-greenish hue (chloritic)					
		- 239.8 - 240.2 - brecciated - quartz - carbonate (fault?)					
254.6	306.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- dark grey					
		- white blebs and lenses					
		- few flesh coloured lenses					
		- minor graphite 258.0 - 267.8					
		- 267.8 - 269.5 - white pegmatite					
		- 271.0 - 279.8 - 1% GRAPHITE & minor pyrite					
		- 279.8 - 292.0 - greenish grey - pink lenses and blebs (hematized feldspar, chloritic)					
		- 279.8 - 292.0 - greenish grey - pink blebs and lenses form 10% of core; 5% chloritic knots					
		- 292.0 - 306 - medium grey quartz-feldspar lenses form 30% of core					
	306.0	End of Hole					
		Angles of Foliation to Core Axis					
		@ 20' 70°					
		60' 68°					
		80' 73°					
		120' 70°					
		200' 75°					
		240' 65°					
		270' 70°					
		300' 65°					

COMPANY RYERSON GRAPHITE PROJECT
PROJECT Ryerson Twp., Ontario
DIAMOND DRILL LOG

DIP TEST - CORRECTED					
FOOTAGE	DEGREE	520	42		
COLLAR	45'				
250	44				

COMMENCED Dec. 8/82
FINISHED Dec. 11/82
CLAIM No. Lot 1, Conc. 1X
LENGTH 527.5 feet

LATITUDE 45S
DEPARTURE 700W
ELEVATION
AZIMUTH 30°

HOLE No. 82-5
SHEET No. 1 of 5
LOGGED BY F.H.
TOTAL RECOVERY 515.5'

Drilled by: LANGLEY DRILLING Core Size: 1AX = 1.375"

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS % Total Carbon
0	15	Casing - reamed 12 to 15					
12.0	19.5	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- quartz-feldspar lenses and blebs form 40% or core					
		- few pink garnets					
19.5	67.0	GRAPHITE ZONE					
		QUARTZ-FELDSPAR-BIOTITE GNEISS	301	19.5	25.0	5.5	1.43
		- medium to dark grey	302	25.0	30.0	5.0	1.84
		- few pink & mauve garnets	303	30.0	35.0	5.0	0.95
		- minor pyrite	304	35.0	40.0	5.0	1.24
		- 19.5 - 22.8 - narrow quartz-feldspar lenses; 2 -3 % GRAPHITE	305	40.0	45.0	5.0	1.40
		- 22.8 - 23.5 - quartz-feldspar lenses form 40% of core; 1% GRAPHITE	306	45.0	50.0	5.0	1.26
		- 23.5 - 24.0 - dark grey - massive appearance; 10% GRAPHITE	307	50.0	55.0	5.0	0.96
		- 24.0 - 25.7 - quartz-feldspar lenses form 40% of core; 2% GRAPHITE	308	55.0	60.0	5.0	1.54
		- 25.7 - 27.7 - dark grey massive appearance; 6% GRAPHITE	309	60.0	67.0	7.0	1.64
		- 27.7 - 29.4 - medium grey narrow quartz-feldspar lenses -	310	67.0	77.0	10.0	0.43
		greenish tinge; 5% GRAPHITE	311	77.0	87.0	10.0	0.46
		- 29.4 - 30.8 - quartz-feldspar lenses and blebs up to ⅓ inch form	312	87.0	97.0	10.0	0.38
		10% of core; 5% GRAPHITE					
		- 30.8 - 31.9 - dark grey greenish bands 5% GRAPHITE					
		- 31.9 - 33.7 - quartz-feldspar lenses up to ½ inch; 2% GRAPHITE					
		- 33.7 - 34.3 - black, massive appearance - biotite-rich no GRAPHITE;					
		tiny pink garnets					
		- 34.3 - 35.8 - 25% quartz-feldspar lenses; 2% GRAPHITE					
		- 35.8 - 38.6 - 15% " " " 2% GRAPHITE					
		- 38.6 - 39.2 - biotite-rich -greenish blue - small pink garnets					
		quartz & feldspar on upper and lower contacts - no GRAPHITE					
		- 39.2 - 43.0 - quartz feldspar lenses - 10%; 5% GRAPHITE; some					
		narrow greenish bands with pink garnets					
		- 43.0 - 48.0 - 35% quartz-feldspar lenses; 2% GRAPHITE					
		- 48.0 - 51.0 - narrow, indistinct, quartz-feldspar lenses;					
		4% GRAPHITE					
		- 51.0 - 66.3 - 20% quartz-feldspar lenses up to ½ inches; some					
		flesh coloured lenses & coloured & greenish sections; 2% GRAPHITE					

COMPANY / PROJECT	DIP TEST - CORRECTED								
RYERSON GRAPHITE PROJECT	FOOTAGE	DEGREE					COMMENCED	LATITUDE	HOLE No. 82-5
	COLLAR						FINISHED	DEPARTURE	SHEET No. 2 of 5
DIAMOND DRILL LOG							CLAIM No.	ELEVATION	LOGGED BY F.H.
							LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
		- 66.3 - 67.0 massive appearance; greenish tinge; 6% GRAPHITE					
67.0	100.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- light to medium grey					
		- some greenish tinge sections					
		- minor GRAPHITE					
100.0	165.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- medium to dark grey					
		- quartz-feldspar mottling & narrow lenses; few up to ½ inch					
		- well defined foliation					
		- tiny pink garnets scattered throughout					
		- 110.0 - 113.2 - biotite-hornblende gneiss - black, massive appearance					
165.0	196.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- not as distinctly foliated as above section					
		- medium to dark grey					
		- some greenish tinged sections					
		- minor GRAPHITE					
		- minor pyrite					
		- 192.4 - 194.8 - biotite-rich with tiny pink garnets					
196.0	252.8	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- light to medium grey - more silicious than above					
		- some narrow, biotite-rich, garnetiferous sections					
		- 196.0 - 228.8 - quartz-feldspar lenses up to ½ inch; blotchy appearance					
		- 203.0 - 204.2 - pegmatite & partially digested quartz-feldspar-biotite gneiss					
		- 228.8 - 221.8 - 10% flesh coloured lenses					
		- 244.0 - 249.0 - minor GRAPHITE					

COMPANY RYERSON GRAPHITE PROJECT
PROJECT
AMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-5
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 3 of 5
COLLAR						CLAIM No.	ELEVATION	LOGGED BY F.H.
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
252.8	260.5	BIOTITE-HORNBLENDE GNEISS					
		- dark grey to black; pinheads of garnet; lower contact @ 50° to core axis					
260.5	478.5	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- 260.5 - 293.5 - 5% narrow quartz-feldspar lenses; few narrow biotite-rich, garnetiferous sections					
		- 268.0 - 269.5 - biotite-hornblende gneiss					
		- 289.0 - 291.9 - fracturing low angle to CA; chloritic contains 2" section breccia - carbonated cemented - minor GRAPHITE					
		- 293.5 - 301.6 - 15% quartz-feldspar lenses; minor GRAPHITE					
		- 301.6 - 305.0 - biotite-hornblende gneiss					
		- 305.0 - 312.8 - 15% quartz-feldspar lenses; minor GRAPHITE					
		- 312.8 - 321.6 - indistinct quartz-feldspar lenses, biotite-rich, garnetiferous					
		- 321.6 - 336.7 - minor GRAPHITE					
		- 336.7 - 337.7 - 10% hematized, feldspar; chloritic.					
		- 338.3 - 338.5 - 20% " " "					
		- 340.6 - 341.7 - 10% " " "					
		- 343.2 - 354.8 - minor GRAPHITE					
		- 354.8 - 363.0 - 15% flesh coloured lenses - greenish tinge; minor GRAPHITE					
		- 356.0 - 2" of carbonate & chlorite					
		- 363.0 - 383.0 - dark grey - few muted quartz-feldspar lenses pinheads sized pink garnets - minor GRAPHITE; becomes more silicious toward lower contact					
		- 373.0 - 373.3 - breccia - quartz carbonate (fault?)					
		- 382.2 - 383.0 - mafic section; greenish hue					
		- 383.0 - 384.7 - light grey; biotite-poor; flesh coloured lenses coarse knots of pyroxene					
		- 384.7 - 386.2 - silicious					
		- 386.2 - 386.6 - similar to 383.0 - 384.7					
		- 388.6 - 392.0 - silicious, slight greenish tinge; GRAPHITIC					

COMPANY RYERSON GRAPHITE PROJECT
PROJECT
DIAMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-5
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 4 of 5
COLLAR						CLAIM No.	ELEVATION	LOGGED BY F.H.
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS % Total Carbon
		- 392.0 - 395.0 - 5% coarse knots pyroxene; 70% flesh coloured lenses					
		- 395.0 - 410.0 - dark grey; several biotite-rich sections; minor GRAPHITE					
		- 410.0 - 421.0 - chloritized, hematized zone ; greenish grey, minor GRAPHITE					
		- 428.0 - 434.0 - light to medium grey; minor GRAPHITE & pyrite	313	424	439	15.0	0.63
		- 434.0 - 450.5 - dark to medium grey; small pink garnets; minor GRAPHITE					
		- 450.5 - 470.0 - greenish grey (chloritic); core badly broken					
		450.5 - 453.0 - 1% GRAPHITE; 5% pink lenses					
		470.0 - 477.0 - 80% flesh coloured lenses					
		470.5 - 472.0 - core broken					
		477.0 - 478.5 - green buff rock - finely foliated - few tiny pink garnets					
478.5	482.0	BIOTITE-HORNBLENDE GNEISS					
		- dark greenish grey ; massive appearance					
482.0	500.4	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- light grey, silicious; quartz-feldspar lenses more abundant toward lower contact					
		482.0 - 485.8 - coarse grained					
500.4	503.3	BIOTITE GNEISS					
503.3	527.5	QUARTZ-FELDSPAR-PYROXENE GNEISS					
		- medium to coarse grained; 5% is knots of pyroxene					
		514.0 - 527.5 - 40% is brick red colour (hemitized); many chloritic slips					
	527.5	End of Hole					

COMPANY RYERSON GRAPHITE PROJECT
PROJECT
DIAMOND DRILL LOG

DIP TEST - CORRECTED								
FOOTAGE	DEGREE					COMMENCED	LATITUDE	HOLE No. 82-5
COLLAR						FINISHED	DEPARTURE	SHEET No. 5 of 5
						CLAIM No.	ELEVATION	LOGGED BY F.H.
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
		Angle of Foliation to Core Axis					
		51' 70°					
		71' 73°					
		101' 88°					
		120' 80°					
		150' 82°					
		175' 88°					
		230' 75°					
		316' 65°					
		490' 75°					

COMPANY RYERSON GRAPHITE PROJECT
PROJECT Ryerson Twp., Ontario

DIAMOND DRILL LOG

DIP TEST - CORRECTED	
FOOTAGE	DEGREE
COLLAR	45°
300	43

COMMENCED Dec. 12/82
FINISHED Dec. 14/82
CLAIM No. Lot 1, Conc. 1X
LENGTH 444.0 feet

LATITUDE 128 S
DEPARTURE 700 W
ELEVATION
AZIMUTH 30°

HOLE No. 82-6
SHEET No. 1 of 2
LOGGED BY F.H.
TOTAL RECOVERY 432.0'

Drilled by: LANGLEY DRILLING Core Size: AX = 1.375"

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION
0	15.0	Casing - reamed 15 - 20
12.0	97.5	QUARTZ-FELDSPAR-BIOTITE GNEISS
		- 15 - 20 limonitic; light to medium grey; few narrow garnetiferous sections
97.5	130.0	QUARTZ-FELDSPAR-BIOTITE-GARNET GNEISS
		- light grey; 10-15% biotite; clusters of crushed pink garnets randomly distributed; minor hornblende
130.0	136.8	QUARTZ-FELDSPAR-BIOTITE GNEISS
		- dark grey
136.8	146.5	QUARTZ-FELDSPAR-BIOTITE-GARNET GNEISS
		- medium grey; 15-20% biotite
146.5	191.0	QUARTZ-FELDSPAR-BIOTITE GNEISS
		- medium grey; few narrow garnetiferous sections; biotite 20-30%
		- 146.5 - 153.0 - coarse grained & amphibolitic
		- 154.0 - 173.2 - minor GRAPHITE
191.0	274.0	QUARTZ-FELDSPAR-BIOTITE GNEISS (GRAPHITE)
		- 191.0 - 199.0 - light to medium grey; few quartz-feldspar lenses; 2% GRAPHITE
		- 199.0 - 210.0 - medium grey; 10% quartz-feldspar lenses; 2% GRAPHITE
		- 210.0 - 274.0 - dark grey; indistinct foliation; minor pyrite & 1-2% GRAPHITE
		- 232.2 - 235.0 - biotite-hornblende gneiss
		- 252.0 - 253.8 - " " "

SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS % Total Carbon
314	191	201	10'	1.98
315	201	211	10'	1.16
316	211	221	10'	0.81
317	221	231	10'	1.70
318	231	241	10'	1.55
319	241	251	10'	1.64
320	251	261	10'	1.48

COMPANY RYERSON GRAPHITE PROJECT
PROJECT Ryerson Twp., Ontario
DIAMOND DRILL LOG

DIP TEST - CORRECTED									
FOOTAGE	DEGREE								
COLLAR	45								
300	42								

COMMENCED Dec. 16/82 | FINISHED Dec. 19/82 | CLAIM No. Lot 1, Conc. 1X | LENGTH
LATITUDE 110 S | DEPARTURE 850 W | ELEVATION | AZIMUTH 30°
HOLE No. 82-7 | SHEET No. 1 of 4 | LOGGED BY F.H. | TOTAL RECOVERY 522.0'

Drilled by: LANGLEY DRILLING Core Size: 1AX = 1.375"

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS % Total Carbon
0	7.0	Casing					
7.0	50.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- light to medium grey; biotite 5-20%					
		- 7.0 - 20.0 minor hornblende					
		- few narrow garnetiferous sections					
		- narrow quartz-feldspar lenses; few up to 1"					
50.0	100.0	QUARTZ-FELDSPAR-BIOTITE GNEISS - GRAPHITIC	370	50	60	10'	1.16
		- minor GRAPHITE	371	60	70	10'	1.18
		- 50.0 - 50.7 - 4% GRAPHITE	372	70	80	10'	0.40
		- 60.5 - 65.0 - 5% "	373	80	90	10'	0.88
		- 79.8 - 80.5 - breccia - chlorite & carbonate	374	90	100	10'	0.44
		- 82.3 - 85.0 - 5% GRAPHITE					
		- 88.0 - 89.5 - pyrite smeared, chloritic slips					
		- 93.4 - 94.5 - " " " "					
100.0	166.4	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- medium grey					
		- biotite 10-25%					
		- scattered few pink garnets					
		- 100 - 120 - minor GRAPHITE observed on some foliation planes					
166.4	176.0	BIOTITE-HORNBLENDE-GARNETIFEROUS GNEISS					
		- dark grey to black					
		- massive appearance					
		- 10% tiny pink garnets					
		- sharp upper contact at 70°					
176.0	181.6	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- coarse grained					
		- light grey					
		- few pink garnets					

COMPANY / PROJECT	DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-7
RYERSON GRAPHITE PROJECT	FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 2 of 4
Ryerson Twp., Ontario	COLLAR						CLAIM No.	ELEVATION	LOGGED BY F.H.
DIAMOND DRILL LOG							LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
181.6	190.0	BIOTITE-HORNBLENDE-GARNETIFEROUS GNEISS					
		- 20% pink garnets					
		- 0.5' quartz-feldspar layer at U.C.					
190.0	212.3	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- medium grey					
		- scattered few pink garnets					
		- 202.7 - 203.4 - chloritic					
		- 203.4 - 212.3 - several narrow sections of minor GRAPHITE					
212.3	243.0	QUARTZ-FELDSPAR-BIOTITE GNEISS - GRAPHITIC					
		- medium grey					
		- less than 1% GRAPHITE					
243.0	388.0	QUARTZ-FELDSPAR-BIOTITE GNEISS					
		- medium to dark grey					
		- several narrow biotite-rich sections					
		- " " garnetiferous sections					
		- quartz-feldspar lenses at 5 to 10%					
		- 294.8 - 297.0 - minor GRAPHITE					
		- 303.4 - 304.9 - " "					
		- 329.5 - 334.5 - " "					
		- 339.5 - 355.4 - 5% garnet					
		- 361.0 - 388.0 - 10-20% quartz-feldspar lenses					
388.0	420.0	QUARTZ-FELDSPAR-BIOTITE GNEISS - GRAPHITIC					
		- 1-2% GRAPHITE in narrow sections					
420.0	424.0	QUARTZ-FELDSPAR-BIOTITE-HORNBLENDE GNEISS					
		- light to medium grey					

COMPANY RYERSON GRAPHITE PROJECT
PROJECT
DIAMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-7
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 3 of 4
COLLAR						CLAIM No.	ELEVATION	LOGGED BY F.H.
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
424.0	432.0	QUARTZ-FELDSPAR-BIOTITE GNEISS - dark grey - minor GRAPHITE - 429.0 - 432.0 - chloritic; core fractured					
432.0	453.8	QUARTZ-FELDSPAR-BIOTITE GNEISS (Alteration Zone) - greenish grey - chloritic - brick red feldspar (hemitized) - minor GRAPHITE					
453.8	482.0	QUARTZ-FELDSPAR-BIOTITE GNEISS - medium grey - minor GRAPHITE - tiny mauve and pink garnets					
482.0	496.0	QUARTZ-FELDSPAR-BIOTITE-GARNET GNEISS - light grey; leucratic - studded with pink garnets - 5% - coarse grained					
493.0	524.7	QUARTZ-FELDSPAR-BIOTITE GNEISS - light grey - few narrow garnetiferous sections					
524.7	529.0	QUARTZ-FELDSPAR-BIOTITE-GARNET GNEISS - light grey - 70% quartz feldspar - studded with 5% pink garnet - narrow pegmatitic sections					
	529.0	End of Hole					

COMPANY RYERSON GRAPHITE PROJECT
PROJECT
DIAMOND DRILL LOG

DIP TEST - CORRECTED						COMMENCED	LATITUDE	HOLE No. 82-7
FOOTAGE	DEGREE					FINISHED	DEPARTURE	SHEET No. 4 of 4
COLLAR						CLAIM No.	ELEVATION	LOGGED BY F.H.
						LENGTH	AZIMUTH	TOTAL RECOVERY

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	FOOTAGE LENGTH	ASSAYS
		Angle of Foliation to Core Axis					
		@ 50' - 75°					
		110 - 120' - 70 - 75°					
		150 - 160' - 65 - 70°					
		270' - 75°					
		340' - 80°					
		450' - 70°					
		510' - 65°					