GM 33277

GEOLOGICAL REPORT AND MAPS, PROJECT 711, BAIE JOHAN BEETZ

Documents complémentaires

Additional Files

Licence

License

Énergie et Ressources naturelles
Québec

GEOLOGICAL REPORT AND MAPS PERTAINING TO A CLAIM GROUP OF NORTHGATE EXPLORATION LIMITED, LOCATED IN DESHERBIERS TOWNSHIP, CO. SAGUENAY, QUEBEC

Project 711 - Baie Johan Beetz

Introduction

Uranium mineralization was discovered in the granitic rocks of the Grenville sub-province of Precambrian age in the Johan Beetz area in the late fifties. Intensive exploration during the last half of the sixties defined the region of main interest as the Lac Turgeon granite stock and the offshoot pegmatitic dykes invading the surrounding gneisses and metasediments.

Numerous aerial and ground radiometric surveys defined the zones of highest radioactivity. The resultant surface trenching and sampling of these zones indicated appreciable and significant areas of uranium mineralization grading approximately one-half pound in U_3O_8 content. Thorium content was fortunately found to be low to negligible. Despite these encouraging indications the exploratory programs ground to a halt and the claim holdings were abandoned as the price of uranium fell to a low of $4 to $6 a pound in the early seventies. In 1974 the demand for uranium began to increase sharply with a resultant increase in price as supplies dwindled. Many companies in the past two years, 1975 and 1976, have acquired properties in the area and are currently exploring their claim groups. These explorers include Imperial Oil - Denison, Texasgulf, Canex Placer, Aggressive Mining, Essex Minerals, Northgate-Westfield, Urangesellshaft, Brinco and others. There are reports of sizeable tonnages of uranium-bearing granitic rock deemed to be of potential economic significance considering the current price of $50.00 per pound for uranium.

Northgate Exploration acquired the subject group in the early fall of 1976 and has been continuously exploring the 267 claims save for the winter period January to May 1977.

The group surrounds and extends westward along the coast from the village of Johan Beetz. It is located along the shore of the Gulf of St. Lawrencefor eight miles and inland to a depth of 3 miles all within the southern limits of Desherbiers Township (N.T.S. 12L7SW), (see location and claim plan).

The licences and claims are recorded as follows:

366020 claims 1 & 2
364217 claims 3 to 5
364219 claims 1 to 5
364218 claims 1 to 5
365045 claims 1 to 5
365044 claims 1 to 5
365042 claims 1 to 5
365043 claims 1 to 5

.....2/

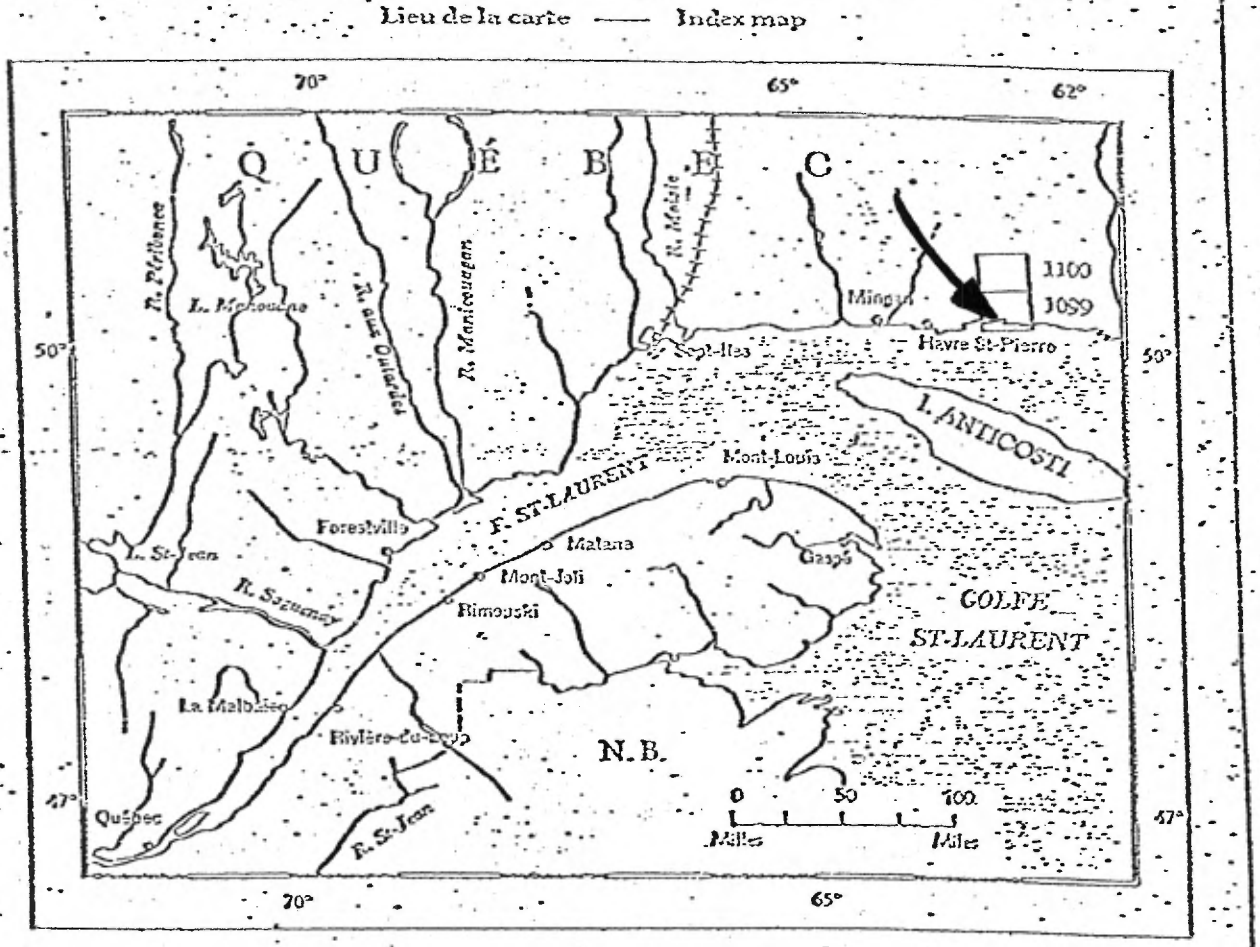
365041 claims 1 to 5
365040 claims 1 to 5
365039 claims 1 to 5
365038 claims 1 to 5
364193 claim 1
364183 claims 4 & 5
364182 claims 1 & 2
364190 claims 1 & 2
364180 claim 4
364191 claims 4 & 5
364188 claims 1 to 5
364189 claims 1 to 5
364208 claims 1 to 5
364209 claims 1 to 5
364196 claims 1 to 5
364186 claims 1 to 5
364187 claims 1 to 5
364197 claims 1 to 5
364194 claims 1 to 5
364184 claims 1 to 5
364185 claims 1 to 5
364195 claims 1 to 5
364192 claims 1 to 5
364182 claims 3 to 5
364183 claims 1 to 3
364193 claims 2 to 5
364190 claims 3 to 5
364180 claims 1 to 3 and 5
364181 claims 1 to 5
364191 claims 1 to 3
364178 claims 1 to 5
364179 claims 1 to 5
364206 claims 1 to 5
364207 claims 1 to 5
364216 claims 1 to 5
364217 claims 1 & 2
364042 claims 1 to 5
364204 claims 1 to 5
364205 claims 1 to 5
364202 claims 1 to 5
364176 claims 1 to 5
364177 claims 1 to 5
364203 claims 1 to 5
364200 claims 1 to 5
364139 claims 1 to 5
364201 claims 1 to 5
364137 claims 1 to 5
364138 claims 1 to 5
364198 claims 1 to 5
364199 claims 1 to 5
364146 claims 1 to 5
364147 claims 1 to 5
364145 claims 1 to 5

267 claims

Location

Desherbiers Township is located on the north shore of the Gulf of St.

....3/



LOCATION INDEX MAP

Arrow denotes location
of claim group

Microfilm

PAGE DE DIMENSION HORS STANDARD

MICROFILMÉE SUR 35 MM ET

POSITIONNÉE À LA SUITE DES

PRÉSENTES PAGES STANDARDS

Numérique

PAGE DE DIMENSION HORS STANDARD

NUMÉRISÉE ET POSITIONNÉE À LA

SUITE DES PRÉSENTES PAGES STANDARDS

Location (continued)

Lawrence directly north of Anticosti Is. Johan Beetz is a small fishing village in the southeast corner of the township. This village with some 30 resident families is five miles due south of the claim group. It is located approximately 165 miles east of Sept. Iles and 35 miles east of Havre St. Pierre.

Access and Ancillary Facilities

A paved all weather road extends for 465 miles from Quebec City to Havre St. Pierre, a point 43 miles distant from the claim group. There are paved airstrips at Sept. Iles and Havre St. Pierre capable of accommodating any aircraft. An Otter aircraft on floats or skis shuttles passengers and freight from Lac Sale at Johan Beetz to Havre St. Pierre weekly.

There are deep water ocean harbours at Sept. Iles and Havre St. Pierre. In addition, there is a small harbour and dock at Johan Beetz capable of handling coastal vessels up to 1,000 tons gross and limited draft with lifts up to 10 tons sufficient for exploration and development requirements. These Clarke Steamship vessels make fairly regular and frequent calls during the open season May to December.

Air Canada and Quebecair both serve Sept. Iles with four flights daily to Montreal. Helicopter charters are available at Sept. Iles. Sept. Iles Helicopters operates 18 machines from this base.

Power is now amply available at Havre St. Pierre from the main transmission line originating at the new development at Churchill Falls. A small diesel generating plant supplies the local needs of the populace at Johan Beetz.

The male population of Johan Beetz has acquired considerable experience in claim staking, line cutting, trenching and other exploration activities and are available most times of the year.

There is one boarding house of excellent quality (M. Walter Harvey) with room and board available for up to 8 guests.

Vegetation

Along the shore of the Gulf and for some distance inland there is only sparse stunted vegetation. The trees are restricted in variety to spruce mainly and are located along the banks of the water courses and surrounding the numerous lakes. Outcrop is plentiful often bare or lightly covered by lichens or scrub shrubs. Muskeg or swampy areas surround the rock outcroppings. There is little soil cover or glacial debris to be noted.

Topography

The terrain has been denuded by glacial action and hence has contoured mounds of outcrop with relief rarely in excess of 50 feet. The elevation ranges from sea level to slightly over 100 feet above sea level.

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General Geology

Geological Report No. 74 with the accompanying map No. 1099, issued by the Quebec Department of Mines under the authorship of Gerard E. Cooper, describes the regional geology of the Johan Beetz district.

This excellent report covers the above subject and further repetition is not warranted save for the following brief resume.

All the rocks exposed in the district are part of the Grenville sub-province of late Precambrian age. The oldest rocks are altered sediments mainly quartzites and biotite schists. Sill-like masses of gabbro have invaded the metasediments parallel to their strike. The Lac Turgeon granite, covering over 55 square miles, is the youngest major intrusive and has dislocated and granitized the pre-existing rocks especially in the peripheral areas.

Coarse grained pegmatitic dykes and masses occur within the granite and have invaded the surrounding non-granitic rocks.

Mineralization

The Lac Turgeon granite is strongly radioactive as is apparent from the airborne radiometric survey of the Geological Survey of Canada (Open File 271).

This granite is a greyish to pinkish massive medium grained sometimes porphyritic biotite granite with numerous inclusions or roof pendants or quartzite, amphibolite, gabbro and paragneiss. The mineral constituents are mainly quartz, potash and soda feldspar and biotite with minor magnetite, ilminite, zircon and lesser accessories.

The pegmatitic masses within and without the parent rock tend to be coarse grained, often exceptionally so with a similar mineral make-up. The coarse pegmatites, with an association of glassy to smoky quartz, burnt reddish feldspar, coarse magnetite crystalsor specks of molybdenite, are the most common hosts for the uranium mineralization.

The thorium and uranium occur as minute specks of uraninite, uranothorite, monzonite and zircon. The uranium content is on the average 4 times the thorium content.

A reddish hematitic glaze or the bright yellow uranophone staining are surface evidences of leached uranium. It is in general necessary to blast a trench to the depth of this leaching (18 in.) to get a fresh and representative assay sample.

The association of magnetite with the uranium has prompted test work using high-intensity magnetic separators to upgrade the low grade material prior to milling. The preliminary test work in this field has in several instances upgraded uranium content in the magnetic fraction.

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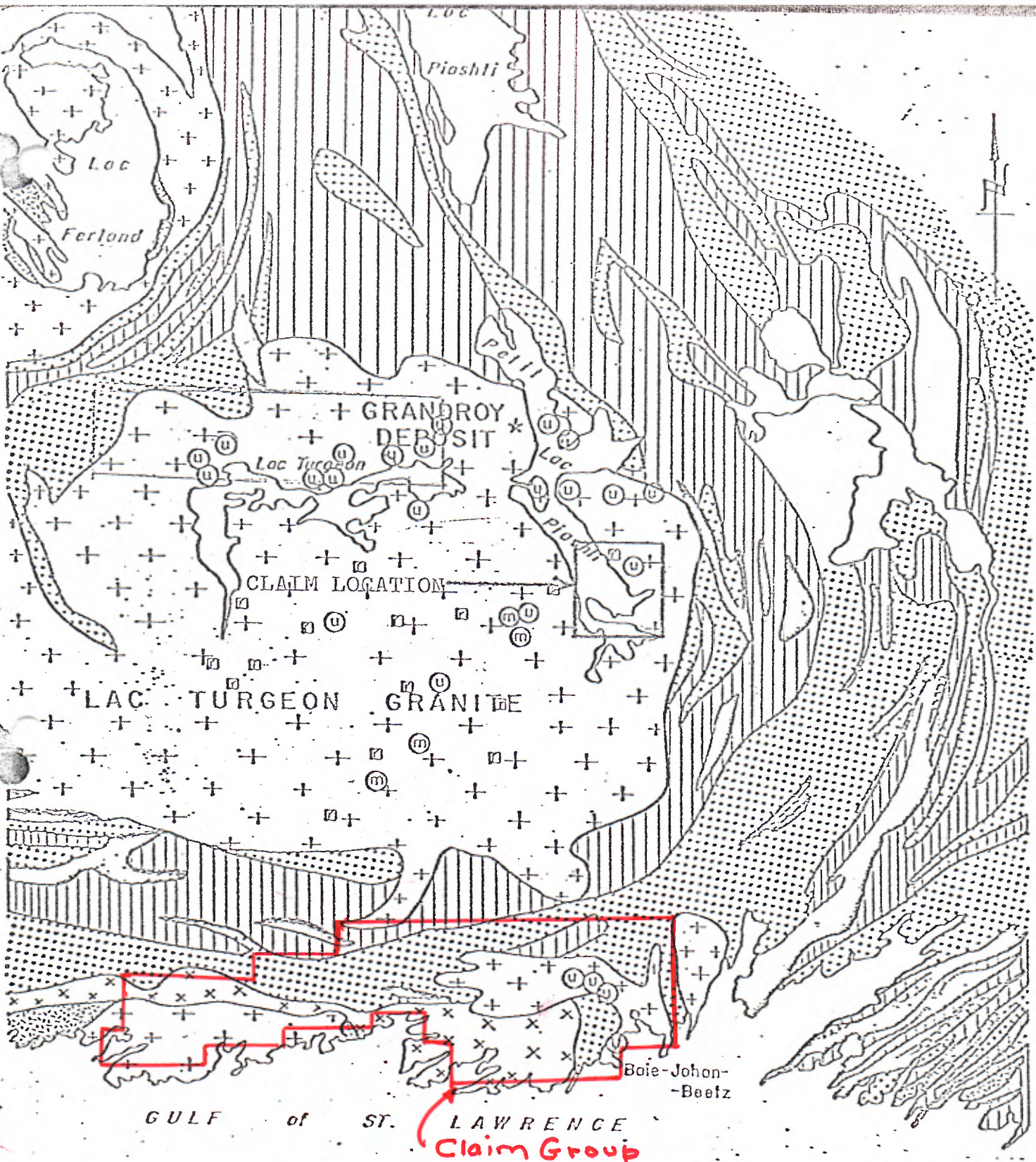
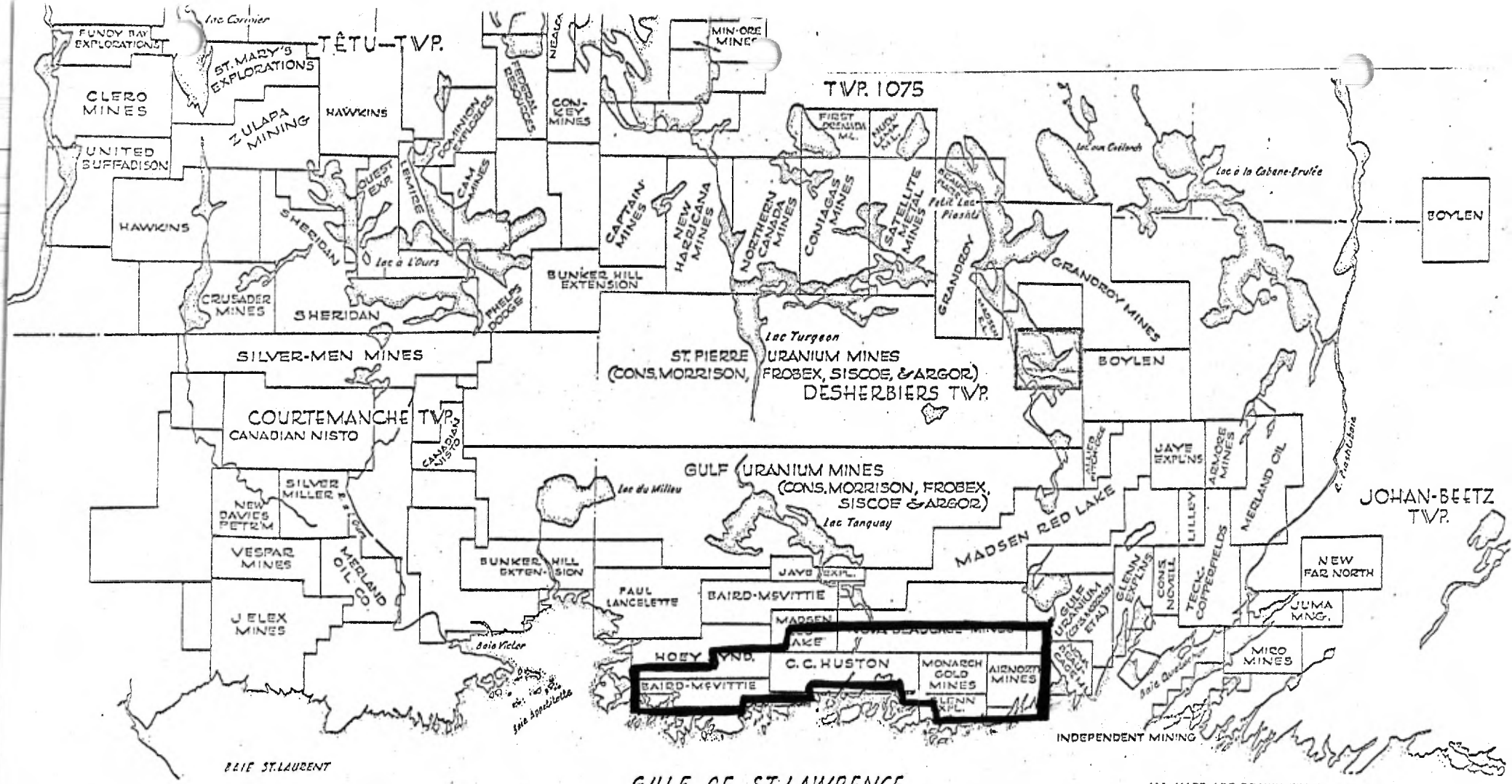


FIGURE 4—Geology of the Johan Beetz Area (after G. E. Cooper, 1957).



JOHAN-BEETZ AREA

5A

Dec. 7, 1967

1967 Property Holdings showing location of current claim group to former holders and explorers of claims. Claim Group (black outline heavy)

SCALE: 1" = 2 miles

Leaching of the uranium with an acid solvent has in the preliminary tests demonstrated a high recovery of the uranium content (over 90%) but requires a high consumption of acid (approximately 40 lbs. of acid per lb. of uranium). Despite this high consumption of acid, this possible process of leaching crushed ore piled in heaps on retaining pads on the surface, portends of a low cost method of extration.

Previous Work

From the plate opposite, (Langridge 1967) it is apparent the present claim group (outlined in black) comprises in part the former holdings of a large number of exploring companies active in the area in the period 1966 to 1968. These companies (see list below) conducted prospecting, geological mapping, geophysical surveys (mainly magnetic and radiometric, ground and airborne) surfracetrenching, pitting and sampling and limited diamond drilling. The assessment reports available at the Quebec Department of Natural Resources, Technical Documentation Division are listed below:

Airnorth Mines Limited

GM-20942 Report on scintillometer survey, G.B. Tribble, 1967, Plan of scintillometer survey (same as GM-21073-Gemmell, James W.), 200' to 1" reduced at 400' to 1", Location sketch of the property, 100 miles to 1".

Blackwood, Eric

GM-22362 Report on scintillometer survey, H.H. Sutherland, Earth Sciences International, 1968, Plan of scintillometer survey, 300' to 1".

Bourque, Roger

GM-20988 Sketch of surface work, 1967.

Gemmell, James W.

GM-20984 Location sketch of rock trenches, 1967, 200'to 1" approx.

GM-21073 Plan of scintillometer survey (same as GM-20942-Airnorth Mines Ltd.) with location of surface work, 1967, 200' to 1" reduced at 400' to 1".

GM-21076 Location sketch of trenches, 1967, 200' to 1"

Hoey, Frank

GM-20991 Three sketches of surface work, 1967.

Hollinger North Shore Exploration Company Limited

GM-22572 Geological report on the Airnorth Property, Bruce A. Brown, 1968, (6 pages). Geological plan, 200' to 1" (11 sq. ft.), Location sketch of claims, 1/2 mile to 1".

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GM-22573 Report on geophysical work, on the Airnorth Property, G.M. Hogg, 1968, (9 pages). Location sketch of claims, 1000' to 1" approx. Plan of magnetometer survey, 200' to 1" (9.75 sq. ft.) Plan of radiometric survey with trench locations Nos. A1 to A-34, 200' to 1", (10 sq. ft.).

GM-22574 Report on trenching operations on the Airnorth Property, G.M. Hogg, 1968, (12 pages). Location sketch of claims, 1000' to 1" approx. (Allow 1 page). Sketch of line cutting and trench locations Nos. A-1 to A-33, 1000' to 1", (allow 1 page). 17 geological sketches of trenches Nos. A-1 to A-33, 5' to 1", (Allow 1 page each).

GM-22575 Geological Report on the Monarch Property, Bruce A. Brown, 1968. Geological plan, 200' to 1". Location sketch of claims, 1/2 mile to 1".

GM-22576 Report on geophysical work on the Monarch Property, G.M. Hogg, 1968. Location sketch of claims, 1000' to 1" approx. Plan of magnetic survey, 200' to 1". Plan of radiometric survey with trench locations Nos. M-1 to M-7, 200' to 1".

GM-22577 Report on trenching operations on the Monarch Property, G.M. Hogg, 1968. Location sketch of claims, 1000' to 1" approx. Sketch of line cutting and trench locations Nos. M-1 to M-7, 1000' to 1". 4 geological sketches of trenches Nos. M-1 to M-7, 5' to 1".

GM-23301 Appendix to report (GM-22574) on trenching operations on the Airnorth Property, G.M. Hogg, 1968. Sketch of line cutting and trench locations Nos. A-1 to A-37, 1000' to 1". 4 geological sketches of trenches Nos. A-34 to A-37, 10' and 20' to 1".

GM-23302 Report on diamond drilling on the Airnorth Property and logs of holes Nos. AD-1 to AD-7, G.M. Hogg, 1968. Location sketch of claims, 1000' to 1" approx. Location sketch of diamond drill holes Nos. AD-1 to AD-7, 1000' to 1".

Huston, Charles Coombs

GM-20937 Report on geology and geophysical surveys, N. Firth, C.C. Huston and Associates, 1967. Map No. 1 (East Sheet) - Geology 200' to 1". Map No. 2 (West Sheet) - Geology 200' to 1". Map No. 1 (East Sheet) - Scintillometer survey results, 200' to 1". Map No. 2 (West Sheet) - Scintillometer survey results, 200' to 1". Three detailed sketches of geology and sampling (trenches A,B,C,) 20' to 1". Two detailed sketches of geology and sampling (trenches D,E) 10' to 1". Sketch of claims, 2640' to 1".

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Monarch Gold Mines Limited

GM-20902 Report on scintillation counter survey, H.J. Bergmann, Prospecting Geophysics Ltd., 1967. Plan of scintillation counter survey, 200' to 1". Plan of magnetometer survey, 200' to 1".

Airnorth Mines Limited

GM-23023 Summary report on exploration program, H.J. Bergmann, Prospecting Geophysics Limited, 1968. Map No. 1 - Scintillation counter survey with geology, 400' to 1". Map No. 2 - Detail scintillation counter survey, 400' to 1". Map No. 2A - Detail magnetometer survey, 400' to 1".

GM-24376 Progress report on scintillometer surveys, trenching and sampling, H.J. Bergmann, 1967.

Madsen Red Lake Gold Mines Limited

GM-21818 Geological report on three groups (Rivers and Sale Mining Groups), F.A. Innes, 1967. Six geological and assay plans (Zones Nos. 5,6,8 to 11 - Sale Mining Group) 20' to 1". Geological Plan (Zone No. 13 - Sale Mining Group), 100' to 1". Location plan of the Rivers and Sale Mining Groups, 1/2 mile to 1". Plan of claims and location of anomalous zones (Sale Mining Group - North), 400' to 1".

GM-21820 Geological Report, F.A. Innes, 1967 (2 pages. Map I - Geology (Sale Mining Group), 400' to 1", (10.63 sq. ft.). Map II - Geology (Sale Mining Group), 400' to 1", (11.38 sq. ft.). Geological Plan (Sale Mining Group - North), 400' to 1", (2.5 sq. ft.). Geological Plan of pits and trenches (Sale Group), 50' to 1", (2 sq. ft.). Sampling plan (Sale Group - Area 1-C), 10' to 1", (Allow 2 pages). Sampling plan of white pegmatite (Sale Group - Area 2-A), 10' to 1", (Allow 1 page). Sampling plan (Sale Group - Area 1B), 10' to 1", (allow 1 page). Sampling Plan (Sale Group - Area 1-A), 10' to 1", (allow 1 page). Plan of scintillation survey (Sale Group), 50' to 1", (allow 1 page).

GM-21821 Geological report on two groups, F.A. Innes, 1967, (5 pages).

Nova Beaucage Mines Limited

GM-20948 Geological and geophysical report on three groups, Jean Berard and Laurier Juteau, 1967. Index map of claims (Desherbiers and Johan Beetz Townships), 835' to 1". Geological map of East Shore Property (Johan Beetz Township), 420' to 1", approx. Geological map of West Shore Property (Desherbiers Township), 420' to 1", approx. Base map of Shore Holdings Property (Desherbiers Township), 200' to 1".

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GM-20948 Geological map of Shore Holdings Property (Desherbiers Township), 200' to 1". Magnetometer survey map of Shore Holdings Property (Desherbiers Township), 200' to 1". Radiometric survey map of Shore Holdings Property (Desherbiers Township), 200' to 1". Three base maps (Sheets Nos. 1 to 3), of Baird McVittie Property (Desherbiers Township), 200' to 1". Three geological maps (Sheets Nos. 1 to 3) of Baird McVittie Property (Desherbiers Township), 200' to 1". Three magnetometer survey maps (Sheets Nos. 1 to 3) of Baird McVittie Property (Desherbiers Township), 200' to 1". Three radiometric survey maps (Sheets Nos. 1 to 3) of Baird McVittie Property (Desherbiers Township), 200' to 1". Plate I - Property location, 100 miles to 1". Plate II - Location of properties (Desherbiers and Johan-Beetz Townships), 1 mile to 1". Plate III - Location of sample numbers (Anomaly "A" and "B") of Shore Holdings Property (Desherbiers Township, 400' to 1"). Plate IV - Location of sample numbers (Anomaly "C") of Baird McVittie Property (Desherbiers Township), 200' to 1".

Kirkland Townsite Gold Mines Limited

GM-21761 Report on airborne radiometric survey, Robert W. Stemp, Canadian Aero Mineral Surveys Ltd., 1967. Plan of airborne radiometric survey, 1320' to 1" approx.

Madsen Red Lake Gold Mines Limited

GM-21316 Report on airborne gamma ray spectrometer survey, W.G. Wahl, 1967. Plan of airborne gamma ray spectrometer survey, 1/4 mile to 1".

GM-21759 Report on uranium prospect on Sale and Rivers Groups in Baie Johan Beetz area, W.G. Wahl, 1967. Plan of airborne gamma ray spectrometer survey (Desherbiers and Johan Beetz Townships), 1/4 mile to 1" approx. Plan of claim groups (Desherbiers and Johan Beetz Townships), 40 chains to 1".

Geology of the Claim Group

Table of Formations


Pegmatite


Biotite Granite


Amphibolite


Gneissic Granite


Quartzitic Metasediment


Quartz biotite schist

.....9/

Quartz-biotite schists, quartzitic metasediments

These highly metamorphosed sedimentary rocks are the oldest of the Precambrian rocks in this Grenville Province. On the claim group, these rocks occur in a synclinal trough occupying the northern half of the claim group. In the eastern section, one inlier is wrapped about the nose of the gneissic granite while the second exposure occurs in an infolded trough separating the Baie Johan Beetz granitic mass and the Pointe de la Gaine a Foin cupula.

The greyish quartzitic metasediments are more common than the schistose quartz-biotite rocks. The exposures are more prominently in the core of the synclinal structure as noted in the exposures in the central part of the claim group near the Corneille River.

The main exposures of the quartz-biotite schists occurs in the warped band on the nose of the gneissic granite and the inlier to the east of Johan Beetz. Quartzite and quartz-biotite schists are intimately intercalated suggestive of rapid change and oscillation during the time of deposition. Thermal and dynamic metamorphism accompanying the granitic intrusions has totally reconstituted the constituent materials and caused flowage and warping to accommodate the entry of the intrusive.

Amphibolite

This rock type outcrops extensively across the northern limits of the claim group between Lac Sale and the Corneille River. It is a hard, blackish-green, finely crystalline rock, presumably the product of a metamorphosed basic intrusive. The amphibolite occurs as sill-like interstratified lenses or irregular intrusive-like masses within the older sedimentary rocks. In turn, the amphibolite has been intruded by granite and pegmatite. Since the rock is totally reconstituted in this site flanking to the south the main Lac Turgeon granite mass the original nature of the rock type is not discernible. Minor indications of base metal mineralization (molybdenite and chalcopyrite) have been noted in the amphibolite in the vicinity of Lac Sale.

Gneissic Granite

This rock type is exposed across the southern third of the claim group from Longue Pointe near Johan Beetz to the Corneille River. It is pale greyish to rose coloured, coarse grained and strongly laminated or gneissic. The foliation of the gneissic granite parallels the schistosity of the sedimentary rocks suggesting it was emplaced early in the intrusive cycle and suffered deformation during later cycles prior to consolidation.

No radioactivity of significant or abnormal intensity has been found to be associated with this rock type.

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Biotite Granite

The main Lac Turgeon batholith which covers an area of 55 square miles is the largest example of this medium grained pinkish biotite-bearing granite. Two small apophyses of this mass invade the amphibolite mass in the northern limits of the claim group.

In addition a claw-shaped mass centred on Baie Johan Beetz extends westerly in the sedimentary trough gradually pinching out about 2 miles short of the Corneille River.

A small triangular cupola outcrops along the shore of Anse Gaine a Foin.

There are numerous dyke-like masses of this granite apparently concordant with the sediments.

This rock type exhibits abnormal radioactivity in manifold instances and it is believed to be the primary source of the uranium mineralization found in pegmatite derived from this source or granitized host rocks invaded by the parent rock.

Structural Geology

The older sedimentary horizons occupy a synclinal trough trending slightly north of east in the vicinity of the Corneille River. Near Johan Beetz a granitic intrusion has split this horizon into two inliers each wrapped about the nose of the gneissic granite with a consequent change in strike from east-west to north-south and an attendant steepening in dip. The Johan Beetz granite occupies an enlarged bulbous shape separating the two sedimentary inliers.

The schistosity follows the warping trend of the sedimentary belt and is also apparent in a parallel fashion in the gneissic granite to the south.

No sharp faults have been noted in the field but some discontinuity is ascribed to assumed faults believed to follow sharp northeasterly lineaments.

Radioactivity

It is apparent (Sheet 1) that the main radioactive occurrences lie within the synclinal trough of metasediments and are confined to the granitic and pegmatitic sill-like intrusions following the superimposed warping and schistosity of the deformed inliers. The radioactivity is erratic at times with high values localized along slips or faults and at times bulging with low grade ore tenor to widths in excess of 250 feet.

The highest concentrations of uranium and thorium occur within white and grey pegmatites rich in plagioclose and biotite. The uranium

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and thorium occur as uraninite, uranothorite, monazite and zircon often associated with intense reddish hematitic alteration to the feldspars, coarse biotite books, crystalline magnetite, molybdenite and smoky quartz.

It is difficult to distinquish the pale citron yellow of the ferro-mobydate staining from the brighter sunny yellow of the uranophane staining.

It is significant to note that the uranium occurrences in the inliers appear to follow a stratigraphic horizon which may be an accident of the mode of the intrusion but may also lend some support to a granitization of a specific sedimentary horizon.

Conclusion

The geological mapping has defined on the ground the radioactive zones distinguished in the aerial radiometric survey. A program of detailed ground investigation now in progress includes scintillometer surveys 100 feet x 25 feet, detailed spectrometer surveys on a 25 foot grid on the above anomalous areas with follow-up Cobra drilling on this grid to acquire dust samples for testing as well as trenching, pitting, and surface sampling of the major occurrences. This program now nearly completed will cost approximately $165,000.

R Parker

R. Parker, Project Geologist

November 3, 1977
Toronto, Ontario

W. Weber, Manager, Exploration
North America

Oct. 1976

(2)

QUEBEC

Johan Beetz Property

Geophysics

A helicopter-borne radiometric survey was completed by Scintrex surveys.

Geophysics

This survey covered the entire property on N-S lines, one-eighth of a mile apart. A total of approximately 160 line miles were flown.

A preliminary assessment of this work indicated that the main anomalies were associated with the known showings. Background levels of 20-30 cps were recorded on the uranium channel, and anomalies of 190, 150 and 120 cps were indicated over showings number 2, 1 and 4 respectively.

A number of anomalies of lesser amplitude do not correspond to known showings and obviously deserve investigation.

Widespread moderate anomalies overlie the granite in the vicinity of the village of Johan Beetz, and to the northeast. Preliminary ground investigation with GRS-101 scintillometer shows uniformly high readings of 150-200 cps (5 to 7 times background) but no areas exceeding 240 cps (8X background) were encountered.

The airborne survey indicated only subtle anomalies in the western half of the property. No anomalies appeared to overly the granite in the southwest corner of the property.

A small airborne survey carried out over ground a few miles northwest of the property did not reveal any outstanding anomalies.

Geology

Geological mapping of the eastern half of the property (i.e. east of the Corneille River) is in progress.

Preliminary results show that the granite mass indicated to the northwest of the village is in fact a series of narrow granite lenses injecting metasediments. The uranium showings are associated with concordant pegmatites lying within the metasediments and at the contact of metasediments and granite. Several of the showings fall on the same strike and may form part of a single discontinuous zone.

The granite lying to the east and southwest of the village forms a continuous, massive, intrusion, with no metasedimentary lenses. The granites east and west of the village appear to be connected and the petrographic similarities suggest that they are parts of the same intrusion.

~~NOVA SCOTIA~~

~~South Pond (NS-08) and Saunders Cove (NS-09)~~

~~General~~

~~Both these properties have been renewed for a further year (with minor changes) until November 20, 1977. Reports have been submitted to the Mines Department to cover work done during 1975/1976.~~

MAY 77

Quebec

Rouyn Township (Here Fault)

Soquem have advised that although they are interested in the property, their funds for 1977 have been allotted and unless the Quebec government injects new finance into exploration in that area through them, they cannot consider a joint venture.

Complaints to the School Board regarding taxes have resulted in an expected reduction from $3,000 to about $1,000.

Baie Johan Beetz Project — R. Parker

	May 1977	Year to Date
Expenditures	$2,223.24	$12,069.49

The majority of effort has been expended in setting up camp and obtaining and importing equipment. The camp is now almost complete, and it is intended that personnel now staying at Harvey's guest house should move into the camp in the first week of June.

Fieldwork, in the form of Cobra drilling and scintillometer and spectrometer surveys is now in progress.

The crushing plant is at present being assembled in Sept. Iles and should be ready for delivery in the second week of June.

Line Cutting

Due to the close-spacing of the projected detailed surveys, it was decided that the precision of existing lines cut by previous companies, was inadequate and new lines are being cut over areas of prime interest as defined by the airborne spectrometer survey. Approximately five line miles have been cut to date.

Scintillometer Surveys

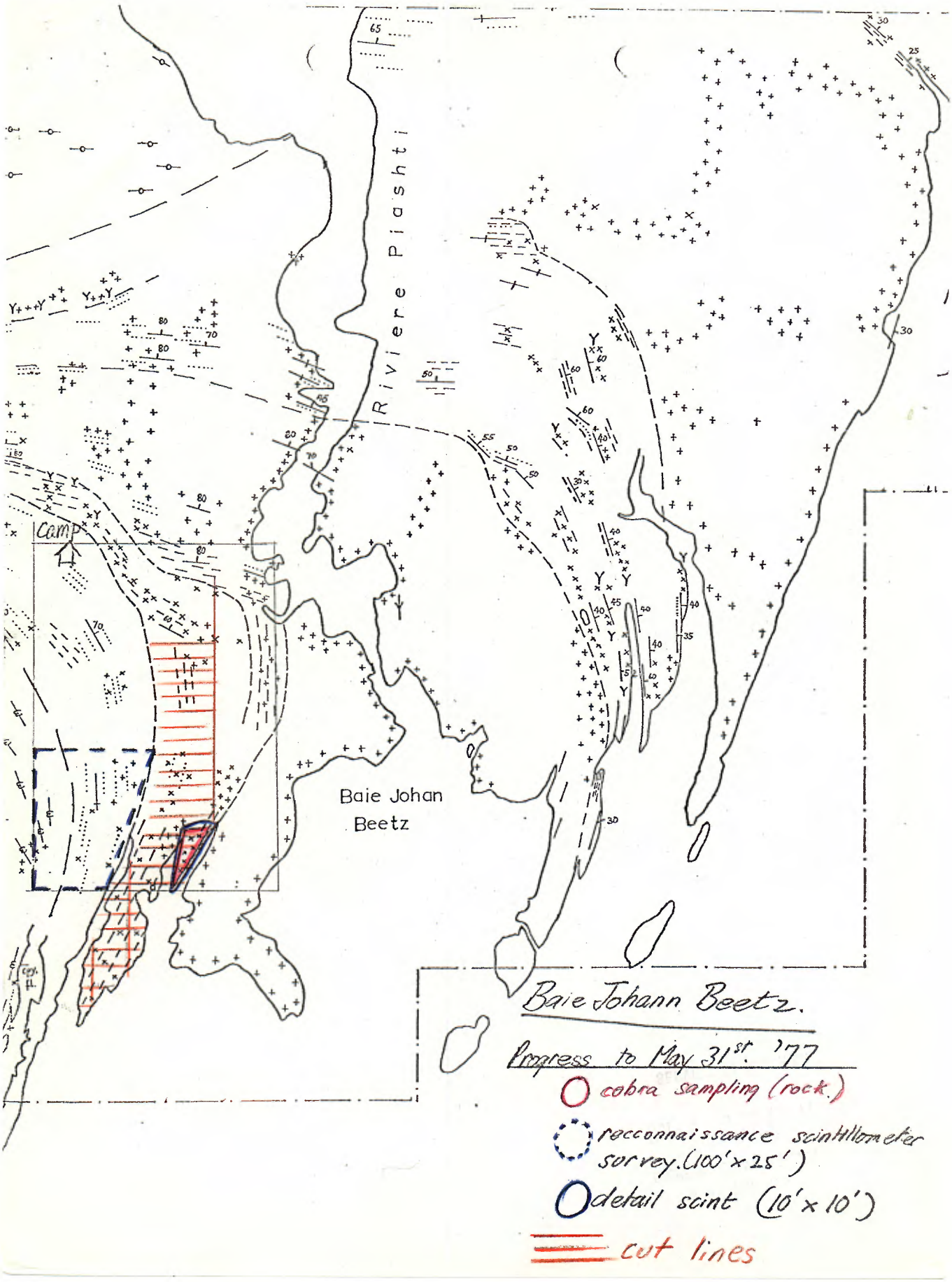
A reconnaissance scintillometer survey on 100' x 25' grid is in progress. Cut lines provide control for this survey in the areas of prime interest. Beyond these areas enlargements of air photos on 1" - 100 feet scale provide sufficient detail for accurate station location. So far, 300 readings have been taken in this survey.

Anomalous areas defined by this survey and by the work of previous operators, will then be covered by a detailed 10 ft. x 10 ft. grid. Six hundred readings have been taken on this type grid this month.

Cobra Sampling

This is being carried out on a 20 ft. grid over anomalous areas as defined by the 10 ft. x 10 ft. scintillometer survey. So far 27-5 foot holes have been completed with chipping samples taken at one-foot intervals.

Tests show that the Cobra will not sample through more than 3 ft. of muskeg due to the non-return of chippings.


Rivière Piashti
Camp
Baie Johan
Beetz
Baie Johann Beetz.
Progress to May 31st '77
cobra sampling (rock.)
reconnaissance scintillometer survey. (100' x 25')
detail scint (10' x 10')
cut lines

NORTHGATE EXPLORATION LIMITED

EXPLORATION PROGRESS REPORT

period May 1 to May 30th

PROJECT Baie Johan Beetz, 711

		units	% of total
GENERAL	Y. Goulet, Sylvio Tanguay setting up camp, estimated completion 2-6-71. D. Jackson - Cobra. R. Parker, A. Heyman, Spectrometer, Scintillometer, line cutting		
Geological mapping,	recconnaissance —		
	detail —		
Geochemical survey	—		
Geophysical survey	airborne —		
	recce 100'x25' grid	300 readings	
	ground detail 10'x10'	600 readings	
	Spectrometer readings along trenches.	200 1 min readings	
Cobra sampling	Rock chip samples taken at 1 ft intervals in 5 ft hole	135 - samples ~~0 - ft samples~~	
Bulk sampling			
Diamond drilling			
Line Cutting.	approx 5 line miles cut chained and picketed.		

June 77

NORTHGATE EXPLORATION LIMITED

WESTFIELD MINERALS LIMITED

PROGRESS REPORT M6/77

EXPLORATION

Johan Beetz

June Expense $29,283.00 Total 1977 $41,352.00

General

Field work proceeded satisfactorily during the month, although four days were lost due to heavy rain in the first half of the month, and instrument failure caused some inconvenience in the second half.

Andrew Hayman left Johan Beetz on June 28th due to incompatibility with bush conditions.

* June expense -	412 - Saunders Cove	$2,094.53	1977 Total	$2,399.80
	413 - Probert	$1,134.51	1977 Total	$1,740.09
	415 - East Parrsboro	Nil	1977 Total	$ 6.70
	416 - Parrsboro	$1,532.92	1977 Total	$6,200.08
	410 - N.S. General	$2,760.34	1977 Total	$13.285.31
				$23,631.98

Johan Beetz

Line Cutting

Approximately seven line miles of the Old Hollinger North Shore grid have been brushed out, chained and picketed and a further three line miles have been cut, chained and picketed on grid I.

Scintillometer Surveys

Reconnaissance

1,100 scintillometer readings taken on 100 ft. x 25 ft. spacings have been taken to complete the reconnaissance survey on grid I. This survey shows well defined anomalies corresponding to the airborne anomalies 18A and 18B, and smaller, well defined anomalies corresponding to airborne anomalies 20A and 17B. Four further ill-defined anomalies were also recorded.

Detail

Detail scintillometer surveys on 10 ft. x 10 ft. grids have been completed on all the anomalies outlined by the reconnaissance survey, except anomaly 18B. A total of 3,000 readings were taken in this way.

Results show that, in general, anomalies other than those indicated on the airborne survey were of too small an aerial extent to warrant further work.

Spectrometer surveys

Spectrometer surveys have been carried out on anomalies 18A, 19B and 20A. Readings were taken on 5 ft. centres with a probe height of 2 ft. and a count period of 30 seconds, a total of 2,100 readings were taken in this manner. Results for anomaly 18A indicate a number of areas in the region of 100 ft. x 100 ft. with net uranium counts in excess of 20 c.p.s. A reduction of these readings to terms of ppm U will be carried out when analytical results are received and a correlation with spectrometer readings is possible.

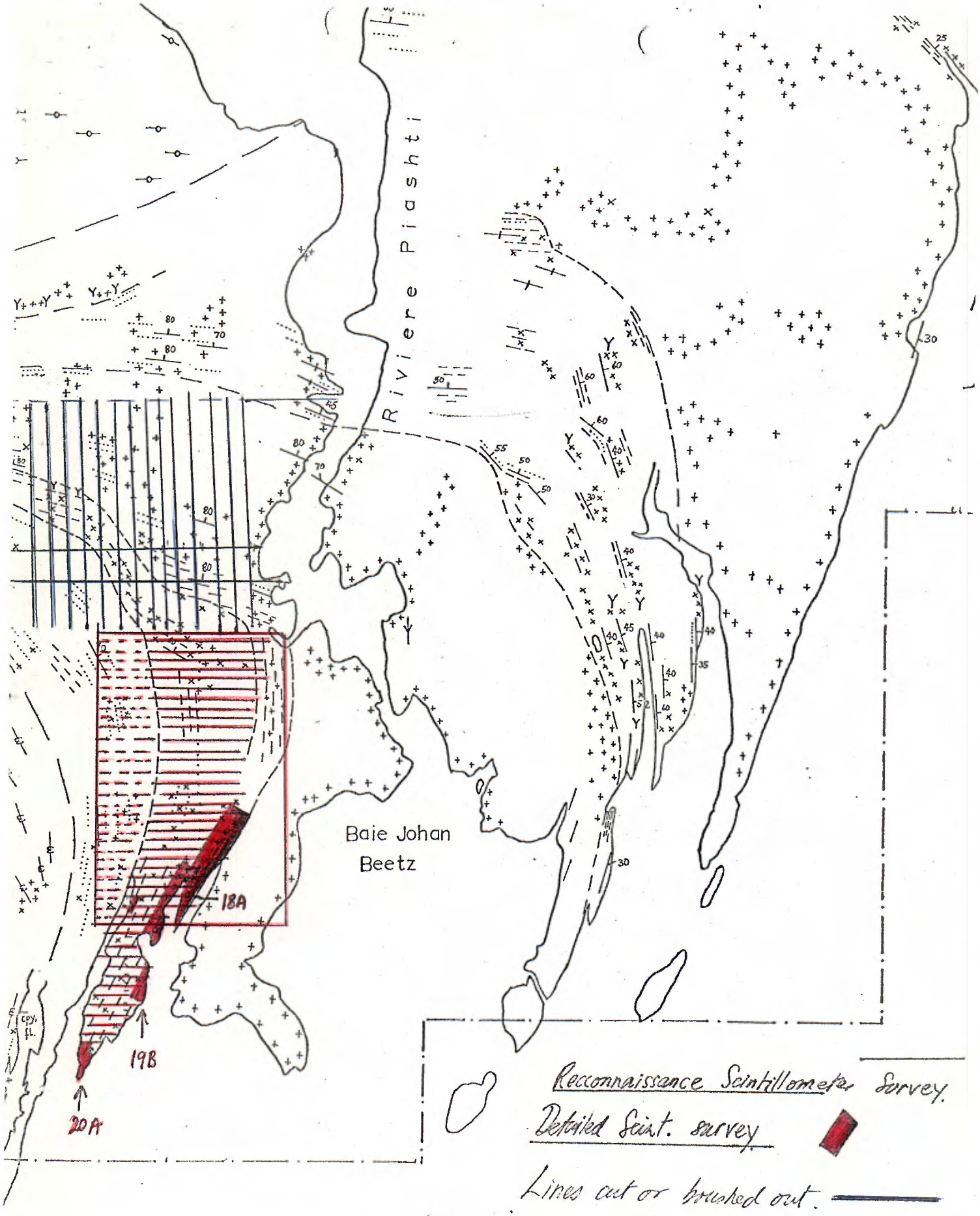
Cobra Sampling

One hundred Cobra holes have been drilled to a depth of 4 feet on anomalies 18A, 18B, 19B and 20A. Collection of dust from these holes has provided 400 samples weighing approximately one pound each. One hundred samples collected during May have been dispatched for assay by Atomic Energy of Canada Limited.

Bulk Sampling

One trench (77-1) crossing the most radioactive section of anomaly 18A for a length of approximately 80 feet has been blasted and mucked-out. A further three trenches have been drilled across other sections of this zone.

Delays in the assembly of the crusher have postponed the expected delivery date to July 6th.


Riviere Piashti
Baie Johan
Beetz
18A
19B
20A
Reconnaissance Scintillometer Survey.
Detailed Scint. survey
Lines cut or brushed out.

NORTHGATE EXPLORATION LIMITED

EXPLORATION PROGRESS REPORT

period June 1st to June 30th

PROJECT ~~Base~~ John Beetz

		units	% of total
GENERAL			
Geological mapping,	recconnaissance		
	detail		
Geochemical survey			
Geophysical survey	airborne		
Scintillometer.	recce. 100' x 25' grid	1100 readings	
	ground detail 10' x 10' grid	3000 readings.	
Spectrometer.	30 sec count on 5' x 5' grid.	2100 readings.	
Cobra sampling		100 x 4ft holes.	
Bulk sampling	material mucked from trenches.	7½ tons.	
Diamond drilling			
Line cutting	brushed out, chained, picketed.	7 miles	
	cut, chained, picketed	3 miles	