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EXPLORATION REPORT ON THE SOUTH-WEST OTISH PROPERTY

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EXPLORATION REPORT

on the

South-West Otish Property

for

Consolidated Pacific Bay Minerals Ltd.

N.T.S. 32P15, 33P16

Latitude 51° 52' N, Longitude 72° 30' W

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3. SUMMARY

During 2005 and 2006 Consolidated Pacific Bay Minerals Ltd. (hereafter referred as Pac Bay or by the acronym PBML) embarked on a project to acquire available claims and explore for uranium mineralization in the Otish Mountains areas of North-Central Quebec. The Otish Mountains are underlain by an extensive basin of Late Precambrian (Proterozoic) sandstones and conglomerates resembling the uranium-prolific Athabasca Basin of Northern Saskatchewan. Radioactivity and uranium mineral occurrences were discovered in the Otish during earlier exploration campaigns in the 1970's and 1980's when uranium prices were robust and the future for the metal was bright; however, subsequent price weakness precluded follow-up on these discoveries. Current high prices for uranium have renewed interest in the Otish's potential and exploration has become robust.

In cooperation with neighbouring claim holder, Strateco Minerals Inc., Pac Bay has participated in a regional, multi-system airborne geophysical survey of the south-western segment of the Otish. The survey was completed by Aeroquest Limited in August, 2006.

The airborne survey covered two separate Pac Bay claim blocks approximately 15 km apart. The eastern block is centred on the Matoush deposit, a high-grade uranium deposit extending from near surface to depths of approximately 650 m into the sedimentary basin. Regional magnetic trends suggest this is an area where the sedimentary basin is relatively thick (~1 km) and lies above a high susceptibility basement unit (possibly a gabbro) that dips to the northeast. The western block is located at the western tip of the Otish Basin where the regional magnetic trends suggest a thinner sedimentary sequence (up to 100 m). This area defines the Pac Bay South-West Otish property (or the Property).

The Property lies in the centre of the Province of Quebec, approximately 600 km due north of Quebec City. It consists of 63 contiguous registered unpatented CDC claims covering a total of 3,352.84 hectares (8 285 acres or 33.53 km^2). Consolidated Pacific Bay Minerals Ltd owns 100 % of the mining exploration right on the Property.

The present report prepared on behalf of Consolidated Pacific Bay Minerals Ltd documents the results of the 2007 field exploration program on the SW Otish property, more specifically on the eastern and south-eastern parts of this claim block referred as the "Pac Bay SW Otish 1" block .

Geologically, the Property belongs to the Otish Basin, a late proterozoic sedimentary sequence unconformably overlying the Archaean Craton in the Superior Province of the

Canadian Shield. Within the property area, complex magnetic patterns suggest the basement rocks of the volcano-plutonic Opatica Sub-Province are cut by NW and NE trending faults and diabase dykes. Observed outcrops during the 2007 field work program are restricted to a relatively flat-topped hill and its north-western and northern slopes within the southern portion of the SW Otish 1 claim block. Well indurated, fine to medium-grained and light grey to light pink or light buff sandstones are the main sedimentary lithologies. Broadly, they bear similarities with the "Channel Bar Facies" (CBF) recognized in the Matoush area. Radiometric readings on outcrops range from 80 to 200 cps, highest values being generally registered on pinkish to red thin layers or to pale buff and diffuse localized limonite staining.

A limited radiometric boulder prospecting campaign was carried out on 23 of the 31 claims of the South-West Otish 1 claim block. Boulders commonly have a decimetric to metric size and consist of arkosic sandstones lithologically very similar to those observed on outcrops. Radiometric readings range from 130 to 250 cps, excepted for two boulders registering about 400 cps. These two boulders are located directly down-ice of one of the two magnetic highs interpreted as intrusive bodies from the 2006 Aeroquest survey in the north-eastern part of the SW Otish 1 claim block. Their combined location and mildly radioactivity are in agreement with the Pezzot's hypothesis that alteration halos (increase of the clay content) may surround these intrusives.

The particular geological setting of the Pac Bay South-West Otish property at the western tip of the Otish Basin, suggests at least two uranium exploration targets, a Matoush-type deposit and an unconformity-type deposit. On the other hand as the Proterozoic sedimentary sequence is expected to be relatively thin, uranium mineralization below the unconformity should also be considered, as should secondary kimberlite targets; a Beaver-type geological environment cannot be excluded. Geophysical responses may also suggest structural formations conducive to mineral deposits (faulting, intrusions, alteration zones…).

Four areas of the South-West Otish 2 claim block exhibiting elevated uranium counts were recommended by Pezzot (2007) for ground verification and follow-up. The highest priority was afforded to a NE trending zone in the north-western corner of the claim group. None of these areas were prospected during the 2007 field exploration program and as far are still recommended areas of interest.

A fifth one area was recommended by Pezzot (2007) for ground verification within the eastern portion of the property south-west of two high amplitude magnetic anomalies. The limited follow-up work undertaken in this area did not return any significant radiometric readings excepted on the two previously mentioned boulders. This fact is sufficiently intriguing

to recommend more follow-up work to the south-west of these two magnetic anomalies. Attention should be paid particularly on the eastern one which seems to be related to a SSW to SW spread of high magnetic linears likely reflective of mafic dykes.

Even if no outcrop was recognized from the air within the extreme SW of the SW Otish 1 claim block, this area offers a particular geological setting. Possibly at the crosscutting of two sub-orthogonal faults filled with mafic lithologies and very close to the unconformity, this area offers favourable metallotects for uranium mineralization. It should be a place for ground radiometric prospecting with reconnaissance Mag-VLF survey.

The South-West Otish property also contains a large number of small, circular magnetic features; some of these could be interpreted as possible kimberlite pipes.

4. INTRODUCTION

At the end of May 2007, Consolidated Pacific Bay Minerals Ltd (hereafter referred as Pac Bay or by the acronym PBML) mandated Exploration Esbec Inc. (Esbec) from Sept-îles (Quebec) to carry out an uranium exploration program on its Otish Mountains properties.

Two separate Pac Bay claim blocks, approximately 15 km apart were the subject of this exploration program. The south-western block, herein referred as the SW Otish claim block, is located at the south-western tip of the sedimentary Otish Basin. The eastern block is centred on the Matoush deposit, a high-grade uranium deposit extending from near surface to depths of approximately 300 m into the sedimentary Otish Basin. The Pac Bay Matoush claim block partly surrounded by the east, north and west the Matoush deposit which is currently intensively investigated and drilled by Strateco Resources Inc.

The Pac Bay Otish Mountains properties were covered in August 2006, by a helicopter-borne electromagnetic, radiometric and magnetic survey completed by Aeroquest (Smith, 2006). The 2007 summer exploration program is essentially based on the identification of areas of interest and on recommendations following the Pezzot's interpretation of this survey (Pezzot, 2007).

This report is prepared for Consolidated Pacific Bay Minerals Ltd to document the results of the 2007 field exploration program on the SW Otish claim block (the Property), and more specifically on the eastern and south-eastern parts of this claim block referred as the "Pac Bay SW Otish 1" block (see Fig. 3). It provides the technical details, discussion of results, conclusion and recommendations based on this fieldwork. It also includes a résumé of the main results and recommendations established by Pezzot (2007) following the 2006 Aeroquest survey. The report is written in the style of an NI 43-101 Technical Report, however there are no plans to submit it as such.

Fieldwork was performed from the Pac Bay base camp of Alfred Lake located .about 15 km north-east, on the northern part of the Matoush claim block. It consists of geological surveying and radiometric boulder prospecting conducted during 6 days between September 27 and October 5, 2007.

The author of the present report, a qualified person member of the "Ordre des Géologues du Quebec (OGQ)" acted as the 2007 fieldwork manager for the Pac Bay Otish Mountains exploration program. He assessed and organized the logistics of the exploration work, collaborated in most of the exploration-decision making, and directly participated in the field to

the exploration program from July 12 to October 29. Along this period of time, he was intermittently assisted in the fieldwork by Etienne Forbes, P geol. and OGQ's member, Sandy Forbes, an OGQ junior geologist member, Sarah-Jane Morin, a student from Laval University in Quebec city and by two Esbec technicians, Denis Mercier and Bernard Gravel.

5. RELIANCE ON OTHER EXPERTS

5.1. AUTHORSHIP

On behalf of Consolidated Pacific Bay Minerals Ltd, the author, Serge Chevé, P. Geo prepared the present report on the South-West Otish property. However, some parts of it are partly extracted from a previous report authorized by Trent Pezzot (Pezzot, 2007) with the collaboration of Pac Bay's Consultants Bernhart Free, Ph. D. and director and Ernie Black, M.Sc., P.Eng. , all three being Qualified Persons as defined by the National Instrument 43-101 rules.

History (Item 8) and Geological setting (Item 9) were initially written by Bernhart Free and Ernie Black. In the present report, they are modified and adapted from the Trent Pezzot report (*ibid*). Modifications and adaptations were realized on the Accessibility (Item 7), Deposit Types (Item 10) and Mineralization (Item 11) initial chapters written by Trent Pezzot (*ibid*). The geophysical portion developed by Trent Pezzot is not integrally reported. Only parts directly related to the South-West Otish claim block are presented and resumed in the Exploration chapter (Item 12.1).

Trent Pezzot is a P. Geo and geophysicist member of the Association of Professional Engineers and Geoscientists of British Columbia.

Dr. Bernhart Free is a well known and very qualified geologist, with over 50 years experience in the mineral industry, in general, and in uranium exploration in particular. Dr. Free worked as an uranium exploration geologist in Canada and in the USA for Cominco and Uranerz. Moreover, Dr. Free managed Uranerz's uranium exploration program in the Otish, which included discovery and drilling of the Matoush uranium deposit, currently held and being drill explored by Strateco Resources Inc.

Ernie Black is a mature and knowledgeable geologist with over 50 years of experience in the mineral business; who, in the late 1960's and 1970's, worked as a consultant for a number of

Canadian and USA uranium exploration clients, including prospecting, geological mapping and airborne radiometric surveys in the Otish Mountains

5.2. SOURCES OF INFORMATION

Information and data contained in this report were collected in the field by Esbec geologists. Besides this 2007 field acquired information, the report relies upon geoscientific information taken from various reports available in the public record with the Ministère des Ressources Naturelles et de la Faune of Quebec (MRNFQ) as geological reports, maps and assessment reports (GM report series). Most of these reports were completed prior to establishment of current NI 43-101 standards in 2001; however, the writer has every reason to believe that the work was competent and compliant with industry standards of the time and is therefore reliable to a considerable degree. References are also made to geoscientific publications, geological theses, recent news releases and 43-101 reports on file with Sedar pertaining to adjacent or nearby claims and prospects. The writer has not verified information derived from government and independent corporate sources and assumes no responsibility for the accuracy and completeness of this information. However, the writer does not discount the credibility of qualified persons and sources of such information.

All the pertinent information is quoted along the report and listed under item "**16. References**" section below.

6. PROPERTY DESCRIPTION AND LOCATION

6.1. PROPERTY AREA

The SW Otish property covers a total of 3,352.84 hectares (8 285 acres or 33.53 km^2)

6.2. LOCATION

The Property lies in the centre of the Province of Quebec, approximately 600 km due north of Quebec City (Fig. 1).

The Property is located in the central-eastern part of the territory of the James Bay Municipality. The closest settlements to the property are the native Cree village of Mistissini

(pop. 3,461) and the jamesian city of Chibougamau (pop. 7,922) respectively located at about 185 km and 250 km by air to the south-west (Fig. 2).

The property is named for its location in the south-western part of the "Otish Basin", a supracrustal proterozoic basin filled with terrigenous sedimentary rocks overlying Archaean-age basement rocks of the geological Superior Province (see Item 9).

6.3. CLAIM DETAILS

The SW Otish Property consists of 63 contiguous registered unpatented CDC claims ("Claim Désigné sur Carte"). As such, the size of each claim are predefined by a 30 seconds latitude and 30 seconds longitude cell which results on the SW Otish property in an approximately 920 m north by 578 m west claim of about 53.3 ha each. This claim block straddles NTS sheets 32P15 and 32P16. It is broadly centred at latitude 51°52' N and longitude 72°30' W corresponding to UTM zone 18 (NAD 83) coordinates 5749164 N and 0672123 E. The property is externally bordered by longitudes 72°23'00" W and 72°32'00" W and by latitudes 51°49'30" N and 51°54'30" N. Figure 3 shows the boundaries of the claim group defining the property and of the internal distribution of the claims to each other in relation to the geographic and UTM (NAD 83) coordinates. Detailed descriptions of these claims, as extracted from the MRNF's *Gestim* website updated on March 8, 2008., are listed in Appendix 2. The list includes the type of mineral tenure, identifying numbers, nature and extent of the issuers title, and registration and expiry dates.

6.4. ISSUERS INTEREST

Consolidated Pacific Bay Minerals Ltd owns 100 % of mining exploration right on the SW Otish claim block for a period of two years after the registration date of the claim. For the SW Otish property, the claims will expire on April 25th 2008 for 31 claims defining the SW Otish 1 sub-group and on September 20th for 32 claims of sub-group SW Otish 2. To maintain the claims for an additional two years, renewals fees of $ 50 per claims should be paid on each claim 60 days before its expiry day and a total of $ 1,200 worth of acceptable exploration work has to be spent (or to be paid as cash in lieu of work) within the proscribed time limits. Exceeding amounts can be moved from one claim to another within a radius of 4,5 km to complete the minimum required expenditure. A renewal form and renewal fees for the 63 claims of the SW Otish property were submitted to the MRNF's authorities on February 20th, 2008. The renewal

form is being processed (March 8th, 2008) as for the work file related to the 2006 Aeroquest Survey.

6.5. LEGAL SURVEY

Claims of the Property are CDC class claims. As such, a legal survey of the property is not required. On the other hand, no staking park is present in the immediate area that might require a survey of its borders.

6.6. LOCATION OF MINERALIZATION

No mineralization has been historically reported nor discovered during the 2007 summer exploration program on the SW Otish property.

The reader is referred to the Deposit Types (Item 10) and Mineralization (Item 11) sections for details concerning the targeted type of mineralization on the property and for the principal known sites of uranium mineralization within the Otish Bassin.

6.7. PROPERTY AGREEMENT

The SW Otish property is not included in the Option agreement signed with Strateco Resources Inc. in late October 2007.

6.8. ENVIRONMENTAL LIABILITIES

To the best of the author's knowledge, the Property is not subject to any known environmental liabilities related to exploration activities. No mining activity has occurred in this area.

6.9. WORK PERMITS

The exploration work performed to date by Pac Bay is preliminary and was helicopter supported from the base camp of Alfred Lake.

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7. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INRASTRUCTURE AND PHYSIOGRAPHY

7.1. ACCESSIBILITY

The Otish Project area lies approximately at the geographic centre of the Quebec Province (see Fig. 1); as such accessibility is limited. The Cree Village of Mistissini, located southwest of the largest body of fresh water in Quebec, Mistissini Lake, is the closest settlement to the property. A 15 km long unpaved road connects Mistissini to the Provincial Highway 167 at 85 km north of Chibougamau. North of the Mistissini intersection, the Provincial Highway 167 becomes gravelled and gives an all weathered access to the float plane base of Temiscamie River where it ended.

The only roadway of significance is the now disused Eastmain winter road which tracks north from Temiscamie River to the old Eastmain Gold mine. This winter road passes about 20 km east of the centre of the SW Otish property and 12 km east of the westernmost claim of the property. During the 2007 and 2008 winter months, equipment and fuel were hauled along this road to the newly built Weatherhaven Strateco camp at Matoush Lake.

Only one lake on the 32P15 side of the Property offers limited access possibilities by float plane from the base at Temiscamie River. Helicopter support is required in summer for exploration and prospecting all over the Property.

7.2. CLIMATE

The Hippocampe Lake plateau (see Item 7.4) has a continental subarctic climate characterized by brief, cool summers and bitterly cold winters. The freeze free period is three to four months long; however a freeze can occur in any month. Lakes thaw in early-June and freeze over in late-October. Summer temperatures average in the 15°C range with occasional days reaching up to 30°C. Snow covers the ground approximately eight months of the year and winter temperatures average around minus 10°C but can range down temporarily for few days between minus 30°C to minus 45°C.

Precipitation is fairly heavy with something in the order of 80 to 100 cm for a year. Most of the precipitations fall as snow in wintertime. Snowfalls are heaviest from December to March and accumulations of several metres are considered normal.

Fog is frequent particularly in Fall. Foggy conditions complicate fieldwork logistic, mainly when helicopter supported.

7.3. VEGETATION

Because of the latitude and elevation the Hippocampe Lake plateau is moderately forested. Black spruce and grey pine are the common coniferous trees of the wooded areas. Minor amounts of balsam fir are also present. Tamarack grows in the swampy areas.

Undergrowth in the wooded areas is thin. Low growing deciduous shrubs and Labrador tea are the main plants overlying the ground cover of mosses and/or lichens.

7.4. PHYSIOGRAPHY AND DRAINAGE

The Pac Bay SW Otish property is located in the so-called "Otish Montains" region, a very broadly defined geographical area in the Quebec's Near-North region. This region is bordered notheasterly by the "Monts Otish" and their over 1,000 m culminating tops namely Mont Marie-Victorin, Mont Yapeitso (1,128 m) and Mont Stefansson (1,039 m). This area encompasses the Hippocampe Lake high-plateau approximately located at 160 km south-west of the "Monts Otish",

The Hippocampe Lake plateau rises on its highest part at about 750 m above sea-level (asl) and slopes gently to the east, south-east and south towards the Temiscamie River and the Mistissini Lake. On its north, north-western and western flanks, the plateau is deeply dissected to produce rounded hills few hundreds metres high and culminating between 600 m and 800 m asl. On the western border, the Tichegami Mountains corresponds to a chain of such hills. To the south, a small group of isolated hills up-rising to 776 m (Mont Takwa) are the witness of a similar dissected border.

The Hippocampe Lake plateau lies west of the height of land separating the St-Lawrence drainage system from the James Bay (Hudson Bay) drainage system. Thus, it entirely drains into James Bay. The northern and north-western parts of the plateau drain via tributaries into the Tichegami River and thence westward to the Eastmain River and to James Bay. The eastern and south-eastern areas drain southward to Albanel Lake, thence to Mistassini Lake via the Temiscami River and its right-side tributaries, the Camie and the Temis rivers. The Papaskwasati River and the Tawka River with its tributaries, the Cheno, Kapaquatche and Toco rivers drain the southern parts of the plateau into Mistissini Lake and thence to James Bay via the Rupert

River. Over most of their courses, these rivers flow in deep and straight valleys parallel to the direction of glaciation. Several of them have cut gorges and impressive canyons up to 30 m deep.

The present topography of the Hippocampe Lake plateau has been greatly fashioned by glaciation. The last Pleistocene ice advance gives to it a pronounced N-200°E trending and gently rolling surface. Most of the drumlinoid hills (rarely exceeding 50 m high), eskers, streams, lakes and wet lands are elongated according to this direction. Outcrops are scarce.

On the central-west part of the Hippocampe Lake plateau, the SW Otish Property slopes down towards NNE from 750 m to 640 m above sea level. Two major creeks drain the area, north-north-easterly and broadly parallel to the glacial trend, into a small river flowing north-westward to the Tichegami River and thence the Eastmain River. Outcrops are present on the flat top of the hill between these two creeks on the south-eastern side of the property (south of the Pac Bay SW Otish 1 claim block).

7.5. LOCAL RESOURCES

Apart for an abundance of water the region has little resources. No commercial value is allocated to the forest. Cree people are the only regional inhabitants. Hunting and trapping are their only traditional and seasonal economic activity directly related to the local resources.

All supplies have to be flown in or tractor-trained when conditions allow from Mistissini or from Chibougamau.

Mistissini is one of the largest Cree villages of the James Bay Territory. Various commodities and services are available from this village, including a grocery store, a lumber store, fuel services, a health centre and an office of the Cree Mineral Exploration Board. Experienced people in expediting, exploration surveys and camp construction can also be employed by exploration companies.

While still considered as a mining town, Chibougamau's economy has diversified over the years. Chibougamau is now the centre of a large logging industry and serves as the centre of services for industrial, educational and leisure activities for neighbouring communities. Mining and drilling contractors operate from Chibougamau as do others mining, exploration and prospecting service companies.

The Chibougamau-Chapais airport, owned and operated by Transport Quebec allows passengers and freight transportation. A daily scheduled airline service to Montreal is available.

Helicopter companies can also provide mining exploration services from the airport, from bases in town and recently from the Temiscamie River base.

Via Provincial Highway 113, Chibougamau is located at about 400 km from the mining town of Val-d'Or in Abitibi. Via Provincial Highway 167, Chibougmau is also linked to the Saguenay - Lac St-Jean region (245 km from Roberval) and to Quebec city (515 km).

7.6. INFRASTRUCTURE

No permanent infrastructure is now available on the property. No railways, no hydro-electric power and no airstrips. The all-seasoned Strateco's Matoush camp, about 30 km NW from the SW Otish property, must be now consider as the main infrastructure of the area

The only roadway is the now disused Eastmain winter road from Temiscamie River, a north-south road which bisects the western portion of the Otish Basin. This winter road passes about 20 km east of the centre of the SW Otish property. The project to create the Albanel-Temiscamie-Otish National Park and the regional consensus regarding the need to extend northward Highway 167 (BAPE report 224, March 2006) would allow to reactivate this roadway along most of its track. Such a road would both enhance the ecotourism potential of the new park and foster mining development in the region.

8. HISTORY

The Otish Mountains area was frequently targeted for mining exploration. Several waves of prospecting and exploration activity, beginning with a search for copper-lead-zinc and iron deposits immediately after World War II were conducted in the Chibougamau district and further north in the Mistissini Lake area. A spill over of regional exploration followed development of the Chibougamau mining camp in the late 1950's. Because of the lack of infrastructure and the great distances from established roads and railways in the Chibougamau and Saguenay–Lac-St-Jean areas, and a lack of valuable resource discoveries, no major exploration thrust took place until the late 1960's when uranium was a "hot" commodity and it was recognized that the Otish rocks resembled the uranium-bearing Blind River conglomerates. From 1968 to 1979 companies active in the area included Atlantic Richfield, Soquem, Phelps Dodge, Pan-Continental, Cominco, Shell Oil, Seru Nucleaire, Eldorado Nuclear, Placer-Dome and Noranda. These companies carried out various airborne radiometric and aeromagnetic surveys followed by prospecting, ground radiometrics and soil and rock sampling.

Uranium exploration activity was short lived as environmental concerns began to overtake the development of nuclear power plants and uranium metal prices dropped precipitously in 1971.

Uranium interest in the Otish was revived about 1979 when Soquem and Seru Nucleaire joint venture acquired large claim blocks in NTS map sheets 23D02, 23D03, 23D04 and 23D07. Later, Seru Nucleaire became Cogema (Canada) Ltd. and this partnership reportedly carried out in the order of 37,000 metres of drilling, in 334 holes, and spent approximately $15,000,000. Reconnaissance of a 12,000 km^2 area resulted in the discovery of the "G" and "S" uranium showings and mineralized uranium float in the "L" zone. Surveys in 1979-1981 consisted of regional airborne radiometric, magnetic and electromagnetic coverage. Ground surveys included stream sediment and lake sediment surveys plus prospecting and mapping.

Results of this work led to systematic diamond drilling in the G, S and L zones in 1982 and 1983. Detailed drilling and follow-up exploration continued until 1985, when the partnership began to break up and Cogema focused its exploration efforts in the Athabasca Basin.

Also, as part of the resurgence of the Otish uranium exploration in the 1980-85 period Uranerz Exploration and Mining Limited entered the area and discovered uraniferous sandstone showings in the Hippocampe area; including the Matoush structure, Little Matoush showing and an uraniferous boulders to the east of the Matoush structure, all in the south-western portion of the Otish Basin.

Detailed evaluation of the Matoush mineralization confirmed the nature and composition of the showing and its association with a vertical fault structure. Ground radiometric, track-etch and uranium soil sampling surveys, detailed ground magnetometer and VLF/EM surveys were conducted to detail the Uranerz discovery. Once again about 1985 metal price weakened and the Otish uranium exploration dropped off.

Canadian diamond exploration found its way to the north of Otish in mid 1990. Little is known about diamond exploration programs by DeBeers (Monopro) in the Otish Mountains before that time. Soquem and its partner Ashton Mining began reconnaissance work in 1996 as well as Ditem. In 1998, Ditem announced the discovery of 4 macro-diamonds from the Beaver Lake kimberlite, a mafic-ultramafic intrusion discovered and drilled in 1978 by Uranerz (Jenkins and Gehrisch, 1978a) during an uranium exploration campaign. In 1999, reconnaissance heavy minerals sampling programs led to the discovery of promising diamantiferous sectors on the Foxtrot property held by Ashton-Soquem. Then, in 2001 and 2002, after a drilling program at the head of a major indicator mineral dispersal train, the Soquem-Ashton joint venture announced the discovery of the Renard diamantiferous kimberlitic field (Renard 1 to 10) upon which a

feasibility study is expected to commence in 2008. In early 2002, this discovery fuelled a unique staking rush in Quebec's Near-North, and particularly on the western portion of the Otish Basin. Diamond exploration is on-going in the district and a number of possible kimberlite targets have been identified even within the south-western end of the Otish Basin within and around parts of the PacBay's SW Otish property.

The growing uranium demand from mines and its coeval increasing price renewed interest in exploration for uranium in the Otish Basin during the past 3 years. Companies such as Strateco Resources Inc, Cameco, Uranor Inc, Golden Valley Mines Ltd and others, including Consolidated Pacific Bay Minerals Ltd, brought activity back over "old" uranium exploration lands.

9. GEOLOGICAL SETTING

Geological mapping in the Quebec's Near-North by geologists from the Geological Survey of Canada and the Quebec Department of Natural Resources started immediately after World War II. During the sixties, interest in the iron formation of the Lake Mistissini area initiates systematic geological mapping at a 1/63 630 scale up to 52°N latitude on the northward and north-eastward extensions of the Mistissini Basin. The geology established by geologists involved in this geological mapping (Chown, 1971a and 1971b; Caty, 1976) was the principal reference for the major uranium exploration programs carried out in the Otish Basin between 1970 and 1984. The most recent published geological study on the Otish Basin is the sedimentological study and basin analysis completed by Genest in the mid-1980's and submitted as his Ph.D. thesis to the University de Montreal (Genest 1989). Figure 5 overlies the Pac Bay claims (SW Otish and Matoush properties) on a portion of the Genest geology map of the south-western Otish Basin.

9.1. REGIONAL SETTING

9.1.1. General Overview

The Otish Mountains are underlain by a Proterozoic basin of sedimentary rocks which rest unconformably on Archaean basement of the Superior Province. The basin is elongated in a northeast-southwest direction and lies at the margin of the Superior and Grenville Provinces. The

basin is approximately 170 km long by 40 km wide and is expected to be in the order of 1,000 metres deep in its core region.

The Otish Basin is a localized Proterozoic remnant of the once continuous myogeosyncline that circumscribed the Quebec-Ontario Archaean craton, at least from the Labrador Trough (New Quebec Orogen) on the east to the north shore of the Great Lakes on the west. Some parts of this ancient trough are found behind the Grenville Front and are therefore difficult to find and classify. Identifiable vestiges include the Labrador Trough, Otish Basin, Mistassini Basin, Sudbury Basin and Blind River Structure.

A synthesis of the Geological units of the Otish Mountains area is presented in the Table of Formations of figure 4.

9.1.2. Basement Rocks

Basement rocks which surround and underlie the Otish Basin belong to the volcano-plutonic Opatica Sub-Province and more particularly to its NE domain (Hocq, 1994). Rocks from this domain consist predominantly of granodioritic to tonalitic migmatitic gneisses, metatexitic to diatexitic amphibolites and orthogneisses. Narrow east-west trending belts of metavolcanic and metasedimentary sequences occur in this gneissic assemblage as well as remnants of peridotite sills (?).These possible relicts of Greenstone belts are composed of metamorphosed acid to mafic tuffs, volcanic flows and fragmented volcanic rocks, intercalated with sandstones, conglomerates, cherty iron formation, chlorite schists and in few drilled sites, with graphitic schists and narrow sulfide-rich horizons (Madon, 1983). Their magnetic signatures allow to those that surround the Otish Basin to be reasonably extended below the thinnest part of the basin. (Fig. 5). Coarse-grained and locally porphyroid granitic complexes (granodiorite, biotite/hornblende monzonite) as well as white biotite pegmatite (Hocq, 1994) intrude all the previously mentioned gneissic rocks. Some of this granitic material might be formed from the "granitization" of adjacent gneisses and migmatites.

All the gneisses, migmatites, metavolcanites, metasedimentary rocks and granites previously described are thought to be Archaean in age. However, age dating indicates Aphebian age (1800-2400 Ma) reflecting probably a Kenorean and/or Hudsonian metamorphic overprint.

East-West or North-South trending gneissic domes characterize the North-East domain of the Opatica Sub-Province. Narrow amphibolitic and metavolcanic belts are mainly tightly pinched in between these dome structures.

9.1.3. The Otish Basin

The geology of the Otish Basin is illustrated on figure 6.

An unconformity separates the basement rocks from the Proterozoic fluvioterrestrial to marginal marine sediments of the Otish Group[1] (Otish Basin). Two formations defined this group: the lower Indicator Formation and the overlying Peribonca Formation (see Fig. 4).

The Indicator Formation, underlying the whole of the basin, is composed of buff to white conglomerates and sandstones of fluvial origin. Caty (1976) estimates the Indicator Formation rocks are 340 m at the type section (52°26' N / 70°47' W) to at least 760 m in the central-west part of the basin, north of Indicator Lake. Drilling in the Matoush area by Strateco Resources Inc intercepts the Basement-Indicator contact at a vertical depth of 792 metres (Sedar news release, June 27, 2007).

Caty (1976) defines four units at the type section. However, this author recognizes that their thickness varies considerably from place to place and that some of them may have been locally eroded or truncated at the time of their deposition. The basal "A" unit is 136 m in thickness and composed of quartz-pebble conglomerate, sandy conglomerate and conglomeratic sandstone at the type section. Quartz-pebble conglomerate predominate in the 70 m thick lower section of this unit. Unit "B" defined a 56 m thick section of grey to buff arenites and/or feldspathic wackes. This sandstone unit is massive, thinly laminated or cross-laminated and bears locally few red argillite and pink sandstone beds. Unit "C" consists of an 11 m thick sequence of buff to pink conglomeratic sandstone with few thin sandstone or quartz-pebble conglomerate interbeds. The uppermost unit of the type section, unit "D", is composed of buff or pink arenites and/or feldspathic wackes with minor interbeds of red argillites. Sandstones are well sorted, thinly bedded and cross-laminated. The thickness of the exposed, but incomplete unit is 41 m.

Diamond drilling by Uranerz allows to Jenkins (1984) to subdivide the first 500 m of the Indicator Formation below the Matoush area in two lithological facies. This two repeating facies which were likely deposited in a braided river environment are termed "Active Channel Facies" (ACF) and "Channel Bar Facies" (CBF). The following descriptions are extracted from Jenkins (1984).

[1] In his Ph.D. thesis, Genest (1989) considers this stratigraphical unit as a Super-Group. Consequently the Indicator and Peribonca formations become stratigraphical Groups. The Indicator Group is further subdivided into an underlying horizon named the Matoush Formation and an overlying unit designated the Shikapio Formation. Similarly, the Peribonca Group is subdivided in three formations, namely the Laparre, Gaschet and Marie-Victorin formations. Within the present report, the stratigraphical terminology established by Chown (1971a) and Caty (1976) is preserved as it was of common use during the several waves of uranium exploration within the Otish Basin.

The **ACF** consists of massive to slightly cross-bedded, gritty coarse-grained sandstone to conglomerate. The sediments are poorly sorted with angular to subrounded pebble to cobble size grains and clasts of quartz, feldspar, granite and mudstone. The conglomerates are dominantly matrix-supported and the matrix is composed of clay-silt and medium to coarse-grained sands. The rocks are generally well cemented with silica. Numerous and sharp erosional contacts between individuals beds as well as a cyclic nature of the sedimentary deposition characterize the ACF. A full preserved cycle ranges from two to four metres in thickness. ACF sequences reaches a thickness in the range of 50 m.

The **CBF** is composed of medium to coarse-grained, well cross-bedded and sorted subarkosic sandstone. Quartz and feldspar grains are subangular to subrounded and well cemented with silica. The cyclic nature of sedimentation is not as clearly defined as in ACF facies due to gradational contacts and numerous mini-cycles. A cycle bounded by sharp erosional contacts in this facies may be greater than 15 m thick whereas mini-cycles are 20 to 50 cm thick CBF reaches a thickness in the range of 150 m.

Detailed exploration drilling by Strateco Resources Inc. in the Matoush area recognizes four ACF cycles and three intercalated CBF cycles within the 792 m of Indicator Formation. Deep drilling reveals a 400 m thick lower ACF unit overlying basal conglomerate (28 m) and a 4 m thick basement regolith (Cook and Ross, 2007).

The Peribonca Formation conformably overlies the Indicator Formation. This top eroded formation is well represented in the centre and north-eastern parts of the Otish Basin where its maximum preserved thickness is 380 m (Caty, 1976). The Peribonca Formation consists mainly of sandstone, argillaceous sandstone, conglomerate and minor strata of dolomite and stromatolitic dolomite. Apart from the white dolomite, this sedimentary assemblage has a general reddish tint, and is composed of at least three cycles of conglomerate-sandstone sedimentation. A continental to marginal marine origin is postulated. Detailed stratigraphy conducted in the L-zone uranium mineralization (eastern Otish Basin; see Item 11) identified a 10-20 m thick dolomite/dolomitic sandstone overlain by purplish siltstones as the boundary between the Indicator and Peribonca formations. At the same stratigraphic level, a one-metre thick ash tuff at the base of the dolomite was postulated to be a Basin-wide marker horizon for the Peribonca/Indicator formational boundary.

The Otish sedimentary pile is intruded by **the Otish Gabbro**. These Aphebian gabbro forms vertical dykes as well as sills conformable with bedding.

Strata within the Otish Basin are generally sub-horizontal and wavy. Two structural domains are recognized within the Otish Basin initiated by north-westerly directed Grenvillian

thrust faults (Lavoie, 1981; Genest, 1989). These are 1) the main central and northwest parts and, 2) the south-eastern part of the Basin. The central/northwest domain is a northeast-southwest elongated monocline. The south-eastern domain is moderately folded with north-easterly trending fold axis. Uranium mineralization has been found in both domains. Flanking the Otish Basin on the southeast is a third structural domain, the intensely folded, faulted and gabbro intruded Grenville Front.

Faulting is omnipresent throughout the Otish Basin. These faults are either growth faults, sedimentation slump faults, or Grenvillian faults.

9.1.4. Mafic intrusives

Two major dyke swarms are present in the Otish -Mistassini area. They are referred as the Mistassini and the Otish dyke swarms (Bernier and Moorhead, 2000). Two broadly orthogonal NW and NE beams of dykes characterize the Mistassini dyke swarm. The dyke directions of the more intensively NW beam vary from N 315° E in the Mistissini Lake area to N 335°-355° E in the Otish Basin area. These tholeiitic to komatiitic dykes intrude only the Archaean basement rocks. Zircon and baddeleyite U-Pb dating yield a 2470 Ma age (Heaman, 1994). The Otish dyke swarm define a mainly North and NNE trending beam of olivine-gabbro dykes (Chown, 1984). Sm/Nd dating yield a 1730 ± 30 Ma (Bernier and Moorhead, 2000) to these mafic rocks that intrude both basement rocks and unconformably overlying sedimentary formations of the Otish Basin.

The Beaver Lake kimberlite refers to another mafic-ultramafic intrusive event. The Beaver Lake kimberlitic megga-breccia with its south-easterly trending dyke-like offshot is interpreted as the hypabyssal facies of a kimberlite pipe. It occurs within the Temiscamie-Corvette structural zone (TCZ) defined by Moorhead *et al.* (1999); a 551 Ma age is assigned to it.

9.2. Local Geology

As shown by figure 7, the South-West Otish property lies at the western tip of the Otish Basin close to the trace of the Archaean unconformity.

9.2.1. Magnetic signature

High altitude (300m) aeromagnetic data for the south-western part of the Otish Basin obtained from the NRCAN website provide a regional overview of the magnetic environment. As shown on figure 8, the South-West Otish claim block exhibits lower amplitude and higher

frequency magnetic responses dominated by a NW trending linear along the western edge of this claim block and a complex pattern of circular highs and lows to the east. The equal area colour distribution of the total magnetic field extracted from the 2006 Aeroquest survey highlight more subtle magnetic features (Fig. 9). In particular, the NW trending linear, which exhibits the geophysical characteristics of a diabase dyke (Pezzot, 2007) of the Mistassini swarm, displays several satellite magnetic highs (satellite dykes) along its flanks. According to the Genest's geological map (Fig. 7) this dyke would be a fault-related feature at the local contact between the Otish Basin and the Archaean basement.

Another likely diabase dyke is inferred from a narrow NE trending high magnetic linear in the southern part of the SW Otish property. Detailed study of this linear suggests a structure of about 3.2 km in length, segmented by NW faulting with apparent right lateral offsets (Pezzot, 2007). Helicopter and ground geological survey failed to locate outcrops within the middle part of the postulated dyke. This suggests that this magnetic signature reflects an in depth NE trending dyke of the Mistassini dyke swarm. Some moderately magnetic NW and NE trending features, particularly within the north-western portion of the property, could represent similar dykes that do not reach the surface or, alternatively, structures (fault or fold axes) in the Archaean basement.

Two elliptical shaped magnetic highs are located just outside the eastern portion of the Pacific Bay claim block. 3D modelling by Pezzot (2007) suggests these magnetic anomalies are consistent with an interpretation of intrusive-type bodies (not excluding large kimberlite pipes?) approaching to within 75 m of the surface and extending to depth varying from 200 m to 700 m.

9.2.2. Field geology

As for much of the Hippocampe Lake plateau, glacial deposits are extensive and outcrop exposure is correspondingly scarce on the SW Otish property. Bedrock overburden is primarily glacial drift. A NNE-SSW trending esker crosscuts the east-west row of claims of the eastern portion of the property approximately in its centre.

Outcrops are limited to a relatively flat-topped hill and its north-western and northern slopes within the southern portion of the SW Otish 1 claim block. This area represents the most western outcrop area of Otish Basin sedimentary rocks mapped and reported by Hashimoto (1961) and Chown (1971a). It falls within a NNE trending low range of magnetic susceptibility values outlined by a relatively uniform blue colour (56 600 to 56 675 nTs) on figure 9.

Table 1 summarizes the main geological features of visited outcrops from this area. According to Genest (see Fig. 7), rocks from this area belongs to the Laparre Formation of the Peribonca Group. Our data are presently insufficient to confirm or to infirm this interpretation.

The predominant sedimentary facies consists of subhorizontal strata of subarkosic to quartz-sandstone with minor interlayering of conglomerate and conglomeratic sandstone. Broadly, it bears similarities with the CBF sedimentary facies described by Jenkins (1974) in the Matoush area. The sandstones are characteristically well indurated, fine to medium-grained and light grey to light pink or light buff (Fig. 10) Commonly, individual decimetric beds display thin laminated internal structures (parallel laminations and various type of cross bedding) enhanced by diffuse pink or buff millimetric to centimetric intervals. Minor and isolated red siltstone beds are locally interlayered with the sandstone units

Conglomerate and conglomeratic sandstone are typically light grey, massive and normally lack any internal sedimentary structure. Quartz and minor feldspar or lithic clasts are commonly openly packed in a medium to very coarse-grained arkosic matrix. Bedding ranges in thickness from some centimetres to some decimetres. Metric levels of conglomerate and conglomeratic sandstone are uncommon.

10.DEPOSIT TYPES

According to Genest (1989), mineralization in the Proterozoic Otish Basin occurs in four metallogenic environments: 1) uranium associated with continental terrigenous accumulations; 2) uraniferous and polymetallic hydrothermal mineralization directly or indirectly related to basaltic intrusives; 3) magnesite associated with evaporitic environments and 4) Cu-Pb-Zn mineralization related to platform carbonated sediments. Diamond bearing kimberlites may also exist.

Two major historic waves of uranium exploration were carried out in the Otish Basin. Exploration companies involved in the first wave, approximately from 1965 to 1975, targeted Elliot Lake-type deposits (paleoplacer uranium-type deposits). Companies exploring during the second wave, from 1980 to 1985, aimed for unconformity-associated uranium deposits now typified by the MacArthur, Cigar Lake and Midwest Lake uranium deposits from Arthabasca. Consequently, they did most of their work near the edges of the Otish Basin.

Table 1: South-West Otish property : outcrops location and description.

Outcrop number	UTM (Nad 83) Easting	UTM (Nad 83) Northing	UTM Zone	Ground Scintillometer (cps)		Lithology	Outcrop dimension (L x W x H) in metre	Bedding (So)
SC-101	674437	5748290	18 U	90	110	Arkosic to quartz-sandstone; well indurated, thinly laminated, fine to medium grained, light grey, light buff to light pink; some millimetric and diffuse pink layers.	10 x 2 x 3	~ 0°
SC-102	674219	5748210	18 U	90	160	Arkosic to quartz-sandstone; similar to SC-101; few centimetric to decimetric conglomératic and arkosic sandstone beds.	100 x 20 x 5	~ 0°
SC-103	674348	5748347	18 U	100	170	Arkosic to quartz-sandstone similar to SC-101 in the upper part of the outcrop; alternating decimetric beds of sandy conglomerate and coarse to very coarse grained sandstone in the lower part of the outcrop.	50 x 25 x 8	
SF-014	674057	5747003	18 U	130	200	Sandstone, fine to medium grained with light pink laminae		~ 0°
SF-017	674726	5747399	18 U	100	200	Arkosic sandstone; alternating millimetric beds of fine grained and medium grained sandstone; white, light pink to buff.	20 x 2 x 2,5	~ 0°
SF-018	674321	5747766	18 U	80	100	Arkosic sandstone, medium to coarse grained, massive.	10 x 1 x 1	
SF-019	674159	5747879	18 U	90	140	Arkosic sandstone, fine to medium grained; some coarse grained and quartz-pebble-bearing levels.		
SF-020	674142	5747898	18 U	90	105	Arkosic sandstone, fine to medium grained; Isolated red siltstone bed (~ 6 cm in thickness)	6 x 1 x 0,5	
SF-021	673851	5748246	18 U	70	125	Arkosic sandstone, fine to medium grained;	10 x 1 x 1,5	~ 10° SW
SF-022	674493	5748725	18 U	100	180	Arkosic sandstone, fine to medium grained, pinkish white; one major metric level of light pink and locally pebbly sandstone with few centimetric beds of pebbly to cobbly conglomerate.	40 x 1 x 1	~ 0°
SF-024	674744	5748806	18 U	80	140	Arkosic sandstone, fine to medium grained; Thinly bedded, few quartz-pebble-bearing thin sandstone beds.	8 x 1 x 2	

The most important structures controlling mineralization of unconformity-associated deposits are the unconformity itself, and faults and fracture zones that intersect this surface (Ruzicka, 1995).Unconformity-associated uranium deposits vary greatly in shape (tabular, pencil

shaped, mushroom shaped or irregular), in position and with the mineralogy and forms of the associated zones of host rock alteration. Mineralogy and geochemistry are complex. Perched mineralization may occur, or may have been remobilized in the controlling fault structures, in the sedimentary pile, well above the unconformity.

The reader is referred to paper by Ruzicka (1995) to have an overview of the numerous and complex conceptual genetic models developed for the uranium-associated uranium deposits. Basically, these models required two distinct hydrothermal fluids. They hinge on the divalent nature of uranium, being strongly soluble in oxidizing conditions (uranic: U^{+6}) and relatively insoluble in reducing conditions (uranous: U^{+4}). A generalized vertical cross-section portraying the main geological and geochemical parameters involved in these models is shown on figure 11.

Even if sufficient similarities and evidences of mineralization exist between the Otish Basin and the Arthabasca Basin, as yet unconformity related deposits between the Achaean and Proterozoïc rocks have not been found in the Otish Basin. Thus far, Otish uranium mineralization has been found to be principally fault related, either within the Proterozoic sandstones and conglomerates of the Basin, or within the migmatites and greenstones of the surrounding basement (Fig. 12; Gatzwieler, 1987). Within the sandstones and conglomerates, the deposits found so far appear to be confined to fault-bounded mafic intrusive dykes with some replacement mineralization in porous zones of the adjacent strata. Uranium deposits in the surrounding basement rocks are high-angle fault related.

11. MINERALIZATION

No historic uranium showing is known on the Pac Bay SW Otish property and the 2007 exploration program did not permit the discovery of uranium mineralized outcrops. Consequently, historic uranium discoveries within and immediately around the Otish Basin are described in the present chapter to provide information on different types of promising uranium mineralization.

Principal known sites of uranium mineralization within the Otish Basin lie along the northern and eastern margin of the Basin and include: the L-showing, S-showing, G-showing, Lac Tion showing and G-showing. These eastern showings were found and explored by Cogema-Soquem joint venture in the early 1980's and are now largely within the claim holdings of Golden Valley and Xemplar. In the western part of the Basin the known showings are in the central or southern part of the Basin, and include the Matoush, Little Matoush, SE-Matoush,

Beaver Lake, Indicator Lake, Lorenz , Camie River and Golden Lake showings. The Matoush and Beaver Lake showings were found by Uranerz between1978 and 1984. The Matoush showing is currently controlled by Strateco Resources Inc.

11.1. EASTERN OTISH

11.1.1. L-zone showing

The L-zone showing was drilled by Cogema from 1980 to 1983. It is now located in a 15 claim enclave, jointly owned by Cogema and Soquem at the centre of a large claim block held by Xemplar Energy Corp on the 71st parallel. The mineralization occurs over 1,700 m in strike length and has been traced to a depth of more than 100 m. The mineralization is associated with a subvertical gabbro dyke emplaced along a fault zone with the southern block dropped 150 m or more (Caillat and Raynal, 1984). The gabbro appears to have penetrated the sedimentary sequence at the level of dolomite beds that define the boundary between the Indicator and Peribonca formations. The uranium has accumulated in sandstones below the carbonates beds and at the gabbro-sediment boundary. Seru Nucleaire (predecessor of Cogema) drilled 33 holes spaced at 50 m intervals over a strike length of 612 m. Uranium mineralization thicknesses varied from 0.2 to 6.9 m. Historical (non-43-101 compliant) resource estimates are 385,000 tonnes grading 0.59% U containing approximately 2,000 tonnes of uranium (Caillat and Fouques, 1983).

11.1.2. S-showing

The S-showing is located in a two claims enclave owned by Yacoub Faiz and enclosed in a large claim block held by Xemplar Energy Corp. The area of the S-showing was intensively explored by the Cogema-SDBJ (Société de la Baie James) joint venture from 1980 to 1984. This exploration program led to the discovery of mostly pechblende mineralization on site of the S-showing. Uranium mineralization occurs within a fractured and altered gabbroic dyke, in association with thin carbonate veins and stringers accompanied by silicification and minor sulfides and within chloritized and bleached gabbro. The highest grade, 0.233% U, comes from a selected sample of gabbro (Lavoie, 1981). Later gold exploration campaign by Boreale Exploration Inc. on the S-showing reports 0.5 g/t Au over 1.09 m in carbonate veins in a drill hole (Girard, 1999, reported by Pauwels, 2005).

11.1.3. Hole OELU 229

Cogema hole OELU 229, drilled 1983, 12 km northeast of the L-zone reportedly intersected 0.17% U over 0.8 m near the contact of a gabbro dyke with sandstones of the Indicator Formation (Bisson *et al*, 1983). Other local holes intersected altered gabbro with elevated radioactivity but were not assayed for uranium.

11.1.4. Hole OELV-290

In 1984 Cogema drilled a sandstone gabbro contact 6 km northeast of the L-zone. Hole OELV 290 intersected 4.5 m grading 0.15% U. Flanking holes 296 and 297, spaced 150 m apart on cross-section, encountered radioactivity but were not assayed. A northeast trending U-mineralized zone 100 m by 800 m was proposed but not fully explored (Pauwels, 2005).

11.1.5. Lac Tion zone

Approximately 10 km east of the L-zone, Cogema prospectors found mineralized floats that graded as high as 4% U. This area is now owned by Xamplar Energy Corp. Cogema gridded the area of the discovery (2.5 x 4.0 km) and detail mapped, soil sampled, and VLF and mag. surveyed the prospect (Bisson *et al.*, 1983). Deep drill holes in 1984 did not intercept the source of the mineralized floats; however a series of shallow Winkie holes in 1984 identified a northeast trending, radioactive fault, along a dolerite dyke in contact with Peribonca siltstone and sandstone. One shallow drill hole sample is reported to have assayed 0.05% U over 0.8 m (Caillat and Raynal, 1984). Subsequent soil and lake-bottom sediment sampling by Cogema outlined a northeasterly trending zone of uranium over 2.5 km in length. This zone was not further explored because it was not conform to their L-zone metallogenetic model.

11.1.6. G-showing

Some 20 km west of Lac Tion, Cogema carried out an extensive exploration program from 1980 to 1982 (geological mapping, soil sampling, lake bottom sediment sampling and airborne radiometrics), and came up with four separate occurrences of uranium mineralization in glacial erratics. One of these showings is located in Golden Valley's claims and the other three are in Xemplar holdings. Grades of select float samples ranged from 0.105% to 1.89% U and anomalous values of uranium were encountered in outcroppings (Pauwels, 2005). Drilling done

in 1982 failed to intersect uranium mineralization (Solari and Chainey, 1983) and Cogema stopped all exploration in this area.

11.2. WESTERN OTISH

11.2.1. Matoush showing

The Matoush showing, found by Uranerz geologists in 1982, lies within the Indicator Formation in the central part of the southwestern quadrant of the Otish Basin. Since its discovery, extensive work was completed from 1982 to 1984 by Uranerz geological teams in the area (Madon *et al.*, 1981; Madon, 1983, Madon, 1984 and Jenkins, 1984). All that work conducts Uranerz geologists to describe the showing as a steep easterly dipping north-south oriented fault, the "Matoush structure", within coarse sandstones and conglomerates of the Indicator Lake Formation. Diamond drilling campaigns in 1982, 1983 and 1984 totalling 23 holes, traced the Matoush fault over a length of 900 m along strike and to a depth of 200 m while electromagnetic ground surveys allowed to trace it for 3,900 m (Jenkins, 1984). In association with the structure, drilling also outlined an altered mafic dyke in some drill holes, and, in every holes, a characteristic alteration pattern more or less symmetric with the structure. The alteration halo may extends up to 50 m and consists of an inner dark grey to green tourmaline zone which grades into a chlorite-muscovite-fuschite(?) zone followed by a limonite-hematite zone (Jenkins, 1984). In the central part of this halo, the uranium-mineralized zone is a metre or more in thickness. Mineralization consists of pechblende. It occurs as impregnations in the sandstone matrix associated with tourmaline or coating fracture surfaces. Uranerz grade returns 0.95 % U_3O_8 over 16 m in hole AM-15 including 20.4 % U_3O_8 over 0.5 m (Madon 1984). Uranerz ended their uranium exploration program in the Matoush area in the mid eighties.

Following the possibility that the mafic dyke intruding the Matoush structure, may be of kimberlitic affinity, Ditem Explorations Inc. acquired in 2002 a block of 162 claims approximately centred on the Matoush showing. In May 2005, Ditem optioned the property to Strateco. Since February 2006, Strateco Resources owns 100 % interest in the Matoush property.

Since February 2006, various activities, mainly drilling, were carried out on the Strateco Matoush property (see website at www.stratecoinc.com). Drilling focussed on the AM-15 area confirms the high-grade uranium potential of this sector. So did, the NI 43-101 technical report by Scott Wilson RPA (Cook and Ross, 2007) made exclusively on the AM-15 core zone. The resource evaluation shows indicated mineral resources of 201,000 tonnes grading 0.79 % U_3O_8

containing 3.48 million pounds U_3O_8. Inferred mineral resources are estimated to total 65,000 tonnes grading 0.43 % U_3O_8 containing 0.62 million pounds U_3O_8. A cut-off grade of 0.05 % U_3O_8 is applied to this evaluation.

Recent drilling (2007-2008) defines a new large mineralized zone 200 m below the AM-15 lens. (Press releases February 6 and March 18, 2008) lying at a vertical depth of between 300 m and 650 m below the surface and over a length of 450 m. The most recent drilled hole (MT-08-03) returned a grade of 2.86 % eU_3O_8 over 5.8 m, including 4.48 % eU_3O_8 over 3.4 m.

Drilling and geophysical surveys by Strateco now indicate a possible length of 6 km to the south and of 5 km to north for the Matoush structure.

11.2.2. Little Matoush showing

Also an Uranerz airborne radiometric discovery, this showing is situated 7 km west of the main Matoush showing (Madon, 1983). It is described as being along a similar ENE structural lineament as the Matoush and displays other similarities. A substantial radioactive boulder train occurs in this sector which has not been directly tied to the showing or local bedrock. The trenched radioactive showing (900 cps) reveals that the radioactivity is associated with and directly proportional to the degree of limonitization and to a lesser degree, hematization (Madon, 1983). This showing is now within the Ditem Explorations claim block.

11.2.3. Matoush SE showing

Uranerz's follow-up of their airborne radiometric survey also resulted in the discovery of a subrounded grey quartzite boulder located 6 km to the southeast of the Main Matoush Showing (Anomaly 14B; Madon, 1983). This boulder assayed 0.12% U_3O_8. A search for the source of this material was not successful at the time. The showing is within the present Strateco Resources Property.

11.2.4. Lorenz Gully showing

The Lorenz Gully showing is located near the north rim of the Otish Basin, just east of longitude 72° W. This showing was discovered as a boulder train and intensively explored and drilled (38 holes) by Uranerz in 1978-79 (Jenkins, 1979). Best intercept is reported to be 0.35% U_3O_8 over 0.52 m (Pauwels, 2005) in one of the four drill holes targeted into the known mineralized structures (Jenkins, 1980). The mineralization is pechblende in barite-calcite veins

along a steep fault zone, in tightly folded Archaean metavolcanics that are overlain by a thin veneer of Indicator Formation sandstones.

11.2.5. Beaver Lake showing

The Beaver Lake showing lies within the Archaean basement, bordering on the margin of the western rim of the Otish Basin. Twenty-one (21) diamond drill holes totalling 2,087 m were drilled in 1977 and revealed that the mineralization is confined mainly to a fault breccia and fractured hematized gneiss (Jenkins, 1979). The breccia is composed of angular fragments of altered biotite-feldspar-cordierite gneiss floating in a matrix of hematite, barite, quartz, epidote, chlorite, calcite, sandstone and uranium minerals. The fractured hematized gneiss consists of fractured biotite-feldspar-cordierite gneiss in which hematite, barite ± uranium minerals are coating the fracture surface. The only uranium mineral identified is beta-uranophane. A preliminary ore-reserve calculation (non 43-101 compliant) has indicated the presence of 167.3 metric tons U_3O_8 confined to a mineralized lens. The evaluated lens has a length of 300 m, a width of 41.5 m (average) and a thickness of 4.5 m (average) with an average grade of 0.115 % U_3O_8. In 1978, an Uranerz drilling campaign (14 diamond drill holes) failed to intersect economic uranium mineralization just 500 m west of this lens. Despite these results, north-west striking kimberlitic dykes were discovered (Gehrisch *et al.*, 1979).

12. EXPLORATION

12.1. AIRBORNE SURVEY

12.1.1. Field work, instrumentation, geophysical techniques and data processing

This survey was completed as part of a larger participation survey flown from August 16th to 21st, 2006 by Aeroquest Limited. Approximately 1,683.9 line kilometres of data flown over the two PacBay claim blocks were extracted from the larger survey. Survey lines were flown E-W (88^0) at a line spacing of 100 m with perpendicular tie lines at 1000 m intervals. The terrain clearance of the towed birds housing the EM and magnetometer sensors was nominally maintained at 30 m. The South-West Otish grid was comprised of 93 cross lines and 12 tie lines, as illustrated on figure 13.

Readers are referred to the technical report by Smith (2006) of Aeroquest Limited for detailed descriptions and technical specifications of the equipment as well as descriptions of the ancillary equipment, survey procedures and data processing techniques applied.

Pezzot (2007) described in detail the geophysical methods used for the survey and compiled the data. He interpreted them in relation to the inferred bedrock geology and to the results of known previous exploration works in the area. The primary intention of the airborne survey was to provide a regional geological mapping tool in order to focus attention on areas with high exploration potential. The following chapter resumes his discussion and his conclusions

12.1.2. Discussion of results and conclusions

There are no known mineral deposits or showings located on the Otish PacBay claims. The project area is best known for its uranium potential, as evidenced by the Matoush deposit which is located on claims owned by Strateco Ressources Inc, near the centre of PacBay's eastern claim block. The area has also been explored for kimberlites and diamonds are also considered as potential targets. Other exploration targets can also be considered where the geophysical responses suggest structural formations conducive to mineral deposits (faulting, intrusions, alteration zones).

The primary exploration target is a Matoush-type uranium deposit (see item Mineralization). Reports by Uranerz and Strateco describe this deposit as an accumulation of uraninite along a northerly trending, near vertical fault zone and lamprophyre dyke. There are reports that the deposit is also associated with cross faulting. The current exploration model suggests that the uranium migrated along permeable fault zones and accumulated in favorable areas (sills, contacts, cross-faults) within the Paleozoic sediments. Mineralization is found from the surface to at least 650 m depth.

Diamonds are generally found in kimberlite pipes, which often exhibit circular magnetic anomalies of varying amplitude. Alteration at the tops of these pipes often produces clays which can produce a conductivity response on EM and resistivity surveys. Additionally, these alteration zones are often prone to erosion and it is not uncommon to find topographic depressions (circular lakes, wetlands) directly above a kimberlite pipe.

Claims of the South-West Otish property are at the south-western tip of the Otish basin. The magnetic data across the property map a significant number of local variations suggesting a more complex geology than shown by Chown (1971a) and Genest (1989). These responses conform very well to the regional data and provide some detailed snapshots across some of the larger

regional magnetic features. The amplitude of most of these magnetic responses suggests the sources are located within the Archaean volcanics (see Item 9.2.1).

There are several strong magnetic linears crossing the western portion of the claim block that exhibit the magnetic and electromagnetic characteristics of diabase dykes. The strongest of these linears is part of a regional feature that strikes NNW (338^0) across the western edge of the survey area. Several weaker features intersect it with a striking NE (050^0) direction. These two trend orientations are prevalent across the entire survey block. 2-D profile analysis of these dykes suggests they outcrop or come very close to the ground surface (Pezzot, 2007).

The regional magnetic data shows a cluster of small magnetic highs, approximately 5 km across located to the northeast of the property and two of these anomalies are detailed by the 2006 Aeroquest survey. These elliptical anomalies exhibit the characteristics of small intrusions (or clusters of intrusions). Another possible interpretation is that faulting has uplifted blocks of the basement volcanics. Increased potassium/thorium ratios surround these magnetic anomalies, suggesting possible alteration halos. 3D magnetic modelling across these anomalies suggests they are less than 100 m deep.

There are several different clusters of radiometric responses. Relatively high total counts are observed in the north-west corner of the South-West Otish claim group, very close to the edge of the Otish Basin (Fig. 14). Several portions along these trends include elevated uranium counts. They appear to form north-easterly trending bands and could be associated with radioactive boulder trains. There is also a small, total count radiometric anomaly located directly over one of the magnetic highs in the northeast portion of the claim block. The potassium-thorium ratios across this later anomaly suggest it might be related to clay (possible alteration halo around a buried intrusion).

No strong EM conductors are noted in the area, with the exception of the negative in phase response associated with the interpreted diabase dykes. The weak trends that are observed appear to generally follow the N-25°-E surface topography.

12.2. SCINTILLOMETER PROSPECTING

A portable gamma ray scintillometer (Exploranium GR-110G Model) was used to perform the ground scintillometer prospecting on the South-West Otish property. Emphasis was placed on the South-West Otish 1 block whose claim's expiry date falls February 25th, 2008.

Ground scintillometer prospecting carried out in the outcrop area within the southern portion of this claim's block did not return any significant radiometric occurrences. Scintillometer

readings on outcrops range from 80 to 200 counts per second (cps). Highest values were generally registered on pinkish to red thin layers or to pale buff and diffuse localized limonite staining. Radiometric readings of the same order of magnitude characterized decimetric to metric subangular and subrounded sandstone boulders found in his area.

Outside the outcrop area, particularly in the central and the north-eastern part of the SW Otish 1 claim block, the topography is relatively flat and grassy and/or shrubby wetlands are common. Boulders are sparse and partly to totally covered with a lichen or a moss blanket. Some boulder fields were encountered here and there; the largest and the most abundant being located in the southern part of the SW Otish 1 claim block.

Commonly, boulders have a decimetric to metric (less than 2 m in diameter) size and are subangular to subrounded. Fine, middle to coarse-grained arkosic sandstones characterize these boulders which are lithologically very similar to those observed on outcrops. Radiometric readings range from 130 to 250 cps. However, two boulders exceed these values and registered about 400 cps (see Fig. 15) without any lithologic particularity[2]. These two boulders are aligned with a NNE-SSW direction and are down-ice of one of the elliptical shaped magnetic high located just outside the property. The location of these mildly radiometric boulders is coherent with the Pezzot's hypothesis of possible alteration halos around the interpreted magnetic intrusions.

Few gabbro boulders were observed on the north-south arm of the eastern portion of the South-West Otish 1 property. Their subrounded shapes seem to exclude a local source. Radiometric readings ranged from 130 to 150 cps.

13. DRILLING

No drilling has been done on the property by Consolidated Pacific Bay Minerals Ltd during the 2007 exploration campaign. According to author's knowledge no drill holes were historically reported on the property.

[2] UTM coordinates (Nad 83) of these two boulders are (677037/5749827) and (677314/5750052).

14. INTERPRETATION AND CONCLUSIONS

14.1. HELICOPTER BORNE GEOPHYSICAL SURVEY

Readers are referred to the geophysical report by Pezzot (2007) for a detailed interpretation related to the 2006 Aeroquest helicopter-borne electromagnetic, radiometric and magnetic survey over the South-West Otish property. Elements from his interpretation and conclusions are inserted in the present report on items 9.2.1 (Geological setting: Local geology) and 12.1.2 (Exploration: Discussion of results and conclusions). The most important points presented by Pezzot (2007) can be summarized as follow:

1. Aeromagnetic results display a significant number of local variations suggesting that basement volcanics are cut by NW and NE trending faults and diabase dykes, particularly in the western portion of the property. On the eastern portion, two highly magnetic anomalies located just outside the Pacific Bay claim block suggest small intrusions (or cluster of intrusion) with possible alterations halos (increasing K/Th ratios around the anomalies). Magnetic modelling suggests these linear and elliptical anomalies outcrop or come very close to the ground surface. In addition, numerous small circular magnetic features scattered across the South-West Otish property could be interpreted as kimberlite pipes.
2. No strong EM conductors are noted in the area, with the exception of the negative inphase response associated with the interpreted N-338°E striking diabase dyke across the south-western edge of the South-West Otish property. None are attributed to highly conductive bodies.
3. A distinct increase in the total radiometric counts is observed in the north-western portion of the property claim block. This elevated region contains three well defined north-easterly trending features, each one containing elevated uranium. Generally, these features parallel the glacial trend.

14.2. GEOLOGY AND GROUND SCINTILLOMETER PROSPECTING.

Glacial deposits are extensive and outcrop exposure is consequently scarce on the SW Otish property. Observed outcrops during the 2007 field work program are restricted to a relatively flat-topped hill and its north-western and northern slopes within the southern portion of the SW Otish 1 claim block. A NNE trending low range of magnetic susceptibility values outlined this

area. Well indurated, fine to medium-grained and light grey to light pink or light buff sandstones are the main sedimentary lithologies. Broadly, they bear similarities with the CBF sedimentary facies recognized in the Matoush area. Radiometric readings on outcrops range from 80 to 200 counts per second (cps), highest values being generally registered on pinkish to red thin layers or to pale buff and diffuse localized limonite staining.

A limited radiometric boulder prospecting campaign was carried out on 23 of the 31 claims of the South-West Otish 1 claim block. Boulders commonly have a decimetric to metric (less than 2 m in diameter) size, are subangular to subrounded and consist of fine, middle to coarse-grained arkosic sandstones lithologically very similar to those observed on outcrops. Radiometric readings range from 130 to 250 cps. Two boulders exceed these values and registered about 400 cps. They are aligned with a NNE-SSW direction directly down-ice of one of the elliptical shaped magnetic high located just outside the property. Their location is coherent with the Pezzot's suggested alteration halos (increase of the clay content) surrounding the interpreted intrusions.

15.RECOMMENDATIONS

The particular geological setting of the Pac Bay South-West Otish property at the western tip of the Otish Basin, suggests at least two uranium exploration targets, a Matoush-type deposit and an unconformity-type deposit. On the other hand, as the Proterozoic sedimentary sequence is expected to be relatively thin, uranium mineralization below the unconformity should also be considered, as should secondary kimberlite targets; a Beaver-type geological environment cannot be excluded. Electromagnetic responses may also suggest structural formations conducive to mineral deposits.

Four areas of the South-West Otish claim block exhibiting elevated uranium counts were recommended by Pezzot (2007) for ground verification and follow-up (Fig. 16). The highest priority is afforded to a NE trending zone in the north-western corner of the claim group (6 73 000 E / 57 50 700 N). There are limited streams or lakes in this area that might be unduly influencing the radiometric signatures and both magnetic and EM responses suggest there may be intersecting structural features. None of these areas were prospected during the 2007 field exploration program.

A fifth area was recommended by Pezzot (2007) for ground verification within the eastern portion of the property south-west of two high amplitude magnetic anomalies possibly encircled

by clayed alteration zones. The limited follow-up work undertaken in this area did not return any significant radiometric readings. Exceptions came from two mildly radiometric boulders (~ 400 cps) located further west and down-ice of the western magnetic anomaly. This observation is sufficiently intriguing to the author to recommend more follow-up work to the south-west of these two magnetic anomalies. Attention should be paid particularly on the eastern one which seems to be related to a SSW to SW spread of high magnetic linears likely reflective of mafic dykes. A reconnaissance Mag-VLF survey is proposed over these features to better understand their mineralization potential. If favourable results are established, a survey grid should cover this area.

No outcrop was recognized from the air within the extreme SW of the SW Otish 1 claim block. However, this area offers a particular geological setting. It is located very close to or at the contact between the Archaean basement and the sedimentary rocks of the Otish Basin. Genest (1989) interpreted locally this contact as a fault contact filled with a NNE trending diabase dyke. A narrower NE trending magnetic dyke is also interpreted in the same area (see Fig. 9) and a possible associated fault is suspected by the radiometric contrast observed between the south-eastern and the north-western side of this magnetic feature (see Fig. 14). Being possibly at the crosscutting of two sub-orthogonal faults filled with mafic lithologies and very close to the unconformity, this area offers a favourable metallotect for uranium mineralization. It should a place for of ground radiometric prospecting with reconnaissance Mag-VLF survey. Positive results should conduct to a survey grid and more systematic works.

16.REFERENCES

BAPE (Bureau d'audiences pupliques sur l'environnement), 2006 – Rapport 224 : Projet de création du parc national Albanel-Témiscamie-Otish ; Rapport d'audience public, Mars 2006, 57p.

BERNIER, L., MOORHEAD, J., 2000 – Contrôles structuraux, caractéristiques pétrographiques et minéralogiques de la Kimberlite d'Otish; Ministère de l'Énergie et des Ressources, Québec ; MB 2000-14, 55 p.

BISSON, Y., CAILLAT, C., DELORME, Y., RAYNAL, M., SOLARI, A., YASSA, A., 1983 – Seru Nucléaire (Canada) Limitée, Projet Otish, Rapport de fin de campagnes, année 1983, volume 1 de 10 ; Ministère des Ressouces naturelles, Québec, GM 57708, 134 p, 27 cartes.

CAILLAT, C., FOUQUES, J.-P., 1983 – Projet Monts Otish, Évaluation des Réserves de la Partie Orientale de la zone « L », Raport #8352-25, Seru Nucléaire (Canada) Ltée ; Ministère des Ressources naturelles, GM 57680, 18 p., 19 cartes.

CAILLAT, C., RAYNAL, M., 1984 – Rapport de Fin de Campagne, Ete 1984, Vol 1 de 15, Cogema (Canada) Ltee ; Ministère des Ressources naturelles, Québec, GM 57517, 50 p, 30 cartes.

CATY, J.-L., 1976 – Région du lac Mistassini, Québec ; Stratigraphie et sédimentologie de la Formation de Papaskwasati ; Ministère des Richesses Naturelles, Québec ; DPV-423, 269 p.

CHOWN, E.H., 1971a – Région de Tichegami ; Ministère des Richesses Naturelles, Québec ; RG-144, 64 p.

CHOWN, E.H., 1971b – Région de la rivière Savanne ; Ministère des Richesses Naturelles, Québec ; RG-146, 37 p.

CHOWN, E.H., CATY, J.-L., 1973 – Stratigraphy, Petrography and Paleocurrent Analysis of the Aphebian Clastic Formations of the Mistassini-Otish Basin; Geological Association of Canada, Special Paper 12, pp 49-71.

COOK, R.B., ROSS, D.A., 2007 – Technical Report on the Matoush Uranium Project, Central Quebec, Canada., NI 43-101 Report ; Strateco Ressources Inc. (website www.stratecoinc.com), 130 p.

DAVIES, W.J., MACHADO, N., GARIEPY, C., SAWYER, E.W., BENN, K., 1995 – A U-Pb geochronology of the Opatica tonalite-gneiss belt and its relationship to the Abitibi greenstone belt, Superior Province, Canada ; Canadian Journal of Earth Sciences, vol.32, pp 113-127.

GATZWEILER, R., 1987 – Uranium Mineralization in the Proterozoic Otish Basin, Central Quebec, Canada ; *In* : Uranium mineralization, new aspects on geology, mineralogy, geochemistry and exploration methods ; Monograph series on mineral deposits 27, Gerbruder Borntraeger, Berlin-Stuttgart, pp 27-48.

GEHRISCH, W., JENKINS, C., LEPPIN, M., 1979 – Report on exploration works with 14 DDH logs, Uranez Exploration and Mining Ltd. Ministère des Ressources naturelles, Québec, GM 34787, 82 p., 10 maps.

GENEST, S., 1989 – Histoire géologique du Bassin d'Otish, Protérozoïque inférieur (Québec) ; Thèse de Doctorat (Ph. D.), Université de Montréal, Département de géologie, Faculté des Arts et des Sciences ; 277 p.

GIRARD, R., 1999 – Évaluation et échantillonnage de l'indice "S", Propriété Epsilon, Monts Otish ; Private report for Boreale Exploration Ltée

GIRARD, R., 2006 – Matoush Project, Uranium Exploration in the Lac De l'Hippocampe Area, Otish Mountains, 2006 Technical Report ; Strateco Resources Inc., filed on SEDAR, Oct.5, 2006 (www.sedar.com), 63 p.

HASHIMOTO, T., 1961 – Rapport préliminaire sur la région du lac Hippocampe, District de Mistassini ; Ministère des Mines, Québec ; 5 p.

HEAMAN, L.M., 1994 – 2.45 Ga global mafic magmatism : Earth's oldest superplume? 8th International Conference on Geochronology and Isotope Geology, Program with Abstracts, U.S. Geological Survey, Circular 1107, p. 132.

HOCQ, M., 1985 – Région des lacs Campan et Cadieux, Territoire du Nouveau-Québec ; Ministère de l'Énergie et des Ressources Naturelles, Québec ; ET 83-05, 178 p.

HOCQ, M., 1994 – La Province du Supérieur ; *In* : Géologie du Québec ; Les publications du Québec ; Ministère des Ressources naturelles, Québec ; MM 94-01, pp 7-20.

HOEVE, J., 1984 – Host rock alteration and its application as an ore guide at the Midwest Lake uranium deposit, northern Saskatchewan ; CIM Bulletin, vol. 77, n° 868, pp 63-72

JENKINS, C., 1979 – Otish Mountains J.V., Otish Mountains West, Project 71-85 ; Ministère des Ressources naturelles, Québec, GM 34301, 204 p., 26 maps.

JENKINS, C., 1980 – Yearly Report 1979, Project 71-85, Beaver-Zoran / Otish West, Report No 7185-32, December 1979 ; Ministère des Ressources naturelles, Québec, GM 57735, 16 p.

JENKINS, C., 1984 – Uranerz Exploration and Mining Limited, Assessment Report, Project 71-90, Lac Matoush, September 1984 ; Ministère de l'Énergie et des Ressources, Québec, GM 41931, 45 p. 13 maps.

JENKINS, C., GEHRISCH, W., 1978a – Beaver-Zoran / Otish West, Project No 71-85 (Report No 7185-16), Quaterly Report, September 1978 ; Ministère des Ressources naturelles, GM 57730, 154p., 41 maps.

JENKINS, C., GEHRISCH, W., 1978b – Beaver-Zoran / Otish West, Project No 71-85 (Report No 7185-17), Annual Report 1978 ; Ministère des Ressources naturelles, GM 57731, 26 p. 7 maps.

JENKINS, C., GEHRISCH, W., 1979 – Beaver-Zoran / Otish West, Seasonal report, June to October; 1979; Ministère des Ressources naturelles, GM 57734, 40 p., 8 maps.

LAMBERT, G., 2008a – Consolidated Pacific Bay Minerals Ltd, Otish Project, Interpretation report on airborne geophysical investigations, Helicopter-borne Magnetometer, Radiometric and Electromagnetic surveys, 17 p. 2 appendices, 25maps *(submitted as assessment report)*.

LAMBERT, G., 2008b – Consolidated Pacific Bay Minerals Ltd, Otish project (Matoush Basin Area), Interpretation report on airborne geophysical investigations, Helicopter-borne Magnetometer and Radiometric surveys, 7 p. 2 appendices, 24 maps *(submitted as assessment report)*.

LAVOIE, S., 1981 – Projet Monts Otish, Sommaire des résultats de la campagne 1980, Programme et budget 1981 ; Seru Nucléaire (Canada) Ltée ; ministère des Ressources naturelles, Québec, GM 57678, 46 p., 6 cartes.

MADON, Z., 1983 – Uranerz Exploration and Mining Limited, Assessment report, Project 71-90-04, Lac Hippocampe Area (March 1983) ; Ministère de l'Énergie et des Ressources, GM 40357, 94 p., 31 maps.

MADON, Z., 1984 – Assessment report 1983, Project 7190-04, A.A. Matoush area; Ministère de l'Énergie et des Ressources, Québec, GM 40864, 52 p., 10 maps.

MADON, Z., LEPPIN, M., LAMBERT, G., 1981 – Otish V, Project 71-90, Seasonal Report No 7190-6, January 1 to May 31, 1981. Ministère des Ressources naturelles, Quebec, GM 57682, 15 p, 5 maps.

MOORHEAD, J., BEAUMIER, M., LEFEBVRE, D.L., BERNIER, L., MARTEL, D., 1999 – Kimberlites. linéaments et rifts crustaux au Québec ; Ministère des Ressources naturelles, Québec, MB 99-35, 50 p.

PAUWELS, A. M., 2005 – Evaluation Report, Otish Mountain Property, Quebec, Canada ; Xemplar Energy Corp (www.xemplar.ca) ; filed on SEDAR, May 9, 2006 (www.sedar.com), 60 p.

PEZZOT, E.T., 2007 – Geophysical Report on an Airborne Magnetic, Electromagnetic and Radiometric Survey on the Otish Project, Quebec, Consolidated Pacific Bay Minerals, Ltd; *In* : Consolidated Pacific Bay Minerals Ltd, Otish Project, Interpretation report on airborne geophysical investigations, Helicopter-borne Magnetometer, Radiometric and Electromagnetic surveys (G. Lambert, 2008), Appendix 2, 59p *(submitted as assessment report)*

RUZICKA, V., 1995 – Unconformity associated uranium ; *In* Geology of Canadian Mineral Deposit Types, (ed) O.R. Eckstrand, W.D. Sinclair, and R.I Thorpe ; Geological Survey of Canada, no. 8, pp197-210.

SOLARI, A., CHAINEY, D., 1983 – Rapport final sur la campagne d'exploration 1982 sur l'indice "G", Projet Monts Otish, Annexe 9, rapport 8244-25, Seru Nucléaire (Canada) Ltée ; Ministère des Ressources naturelles, Québec, GM 57704, 213 p., 8 cartes.

SMITH, G., 2006 – Report on a Helicopter-Borne IMPULSE System Electromagnetic, Radiometric and Magnetic Survey for Consolidated Pacific Bay Minerals Ltd, Aeroquest Job # 07041, Otish Property; *In* : Consolidated Pacific Bay Minerals Ltd, Otish Project, Interpretation report on airborne geophysical investigations, Helicopter-borne Magnetometer, Radiometric and Electromagnetic surveys (G. Lambert, 2008), Appendix 1. 20p., 25 maps *(submitted as assessment report).*

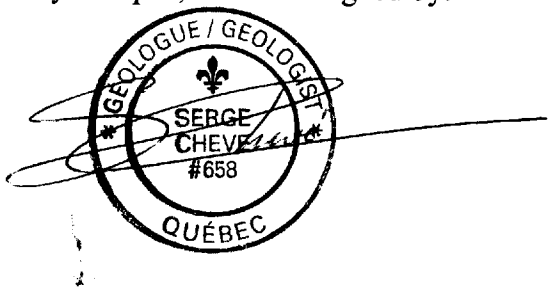
ST-HILAIRE, C., 2007 – High Resolution Aeromagnetic and Gamma-ray Spectrometric Survey, Papaskawasati and Matoush Basin Projects for Consolidated Pacific Bay Minerals Ltd ; Final Technical Report, GeoData Solutions Inc., 28p., 24 maps.

17.DATE AND SIGNATURE PAGE

Respectfully submitted,

Per Exploration Esbec Inc.

Dated this 21st day of April, 2008 and signed by:



Serge Chevé, Geologist, Ph.D

OGQ member n°658

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TABLE LIST

Table 1: South-West Otish Property - outcrops location and description

19. APPENDIX 1 – STATEMENT OF QUALIFICATIONS

I, Serge Chevé, do hereby certify that:

1. I reside at 3357 Boucherville street, Quebec (Quebec), Canada, G1W 2R6

2. I graduated from the Ecole Polytechnique of Montreal with a Bachelor of Applied Science Degree in geological engineering in February 1974 and with a Philosophiae Doctor Degree (Ph. D.) in mineral engineering in march 1991; I have practiced my profession for over 25 years since my B.Sc.A graduation;

3. I am a registered member of the *Ordre des Géologues du Québec* (membership number 658);

4. I am presently employed as senior geologist with:
   Exploration Esbec Inc.
   239, Ave Jolliet
   Sept-Îles (Québec), Canada, G4R 2A8 ;

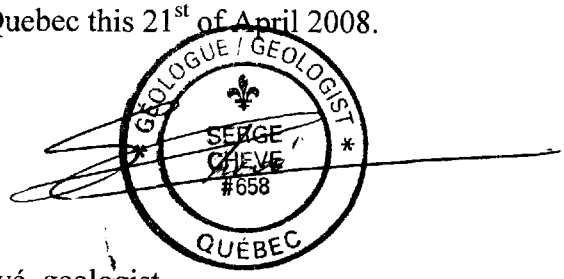
5. I am a Qualified Person for the purposes of National Instrument 43-101 with regard to the Pac Bay Otish Mountains Project;

6. I surpervised continuously the 2007 field work from July 12th to October 29th, 2007 on the Otish Mountains Project on behalf of Consolidated Pacific Bay Minerals Ltd;

7. I have not received nor expect to receive any interest, direct or indirect, in the properties of Consolidated Pacific Bay Minerals Ltd or beneficially own, directly or indirectly, any securities of this company.

8. I am not an insider of a company having an interest in the subject property nor in any other property in the immediate area.

Dated in Quebec this 21st of April 2008.
Signed by:



Serge Chevé, geologist
OGQ number 658

20. APPENDIX 2 – RECORD OF REGISTERED CLAIMS

Claim Block	NTS Sheet	Row	Col.	Title Type	Title N°	ha.	Reg. Date	Expiry Date	Individual Name
SW Otish	32P16	10	2	CDC	2005920	53.26	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	10	3	CDC	2005921	53.26	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	10	4	CDC	2005922	53.26	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	11	2	CDC	2005923	53.25	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	11	3	CDC	2005924	53.25	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	11	4	CDC	2005925	53.25	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	12	2	CDC	2005926	53.24	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	12	3	CDC	2005927	53.24	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	12	4	CDC	2005928	53.24	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	12	5	CDC	2005929	53.24	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	13	3	CDC	2005933	53.23	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	13	4	CDC	2005934	53.23	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	13	5	CDC	2005930	53.24	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	14	1	CDC	2025508	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	14	2	CDC	2025509	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	14	3	CDC	2025510	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	14	4	CDC	2005931	53.23	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	14	5	CDC	2005932	53.23	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	1	CDC	2025511	53.21	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	2	CDC	2025512	53.21	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	3	CDC	2025505	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	4	CDC	2025506	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	5	CDC	2025507	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	6	CDC	2005935	53.22	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	7	CDC	2005936	53.22	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	8	CDC	2005937	53.22	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	9	CDC	2005938	53.22	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	10	CDC	2005939	53.22	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	11	CDC	2005940	53.22	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	15	12	CDC	2005941	53.22	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD

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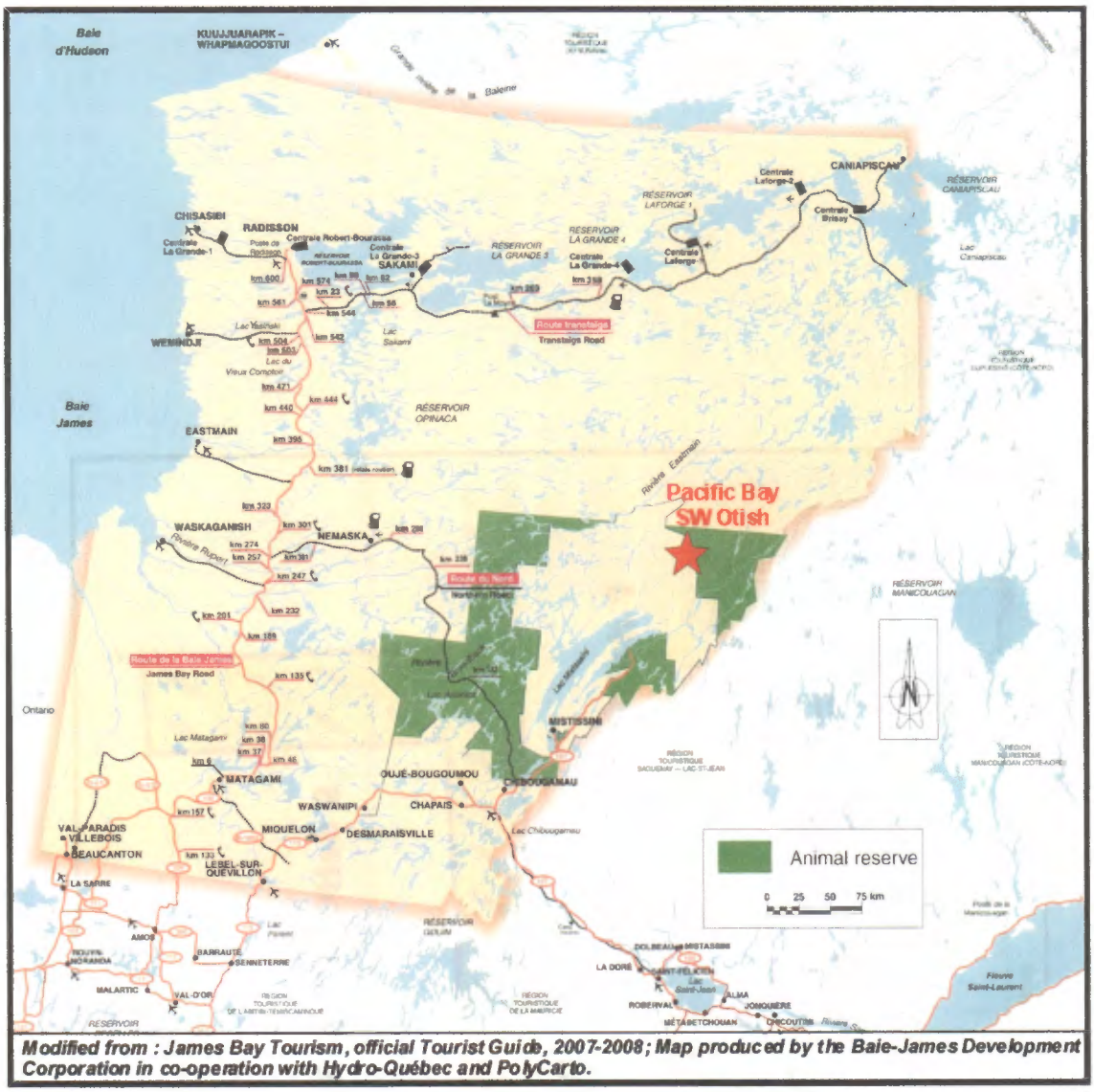
Claim Block	NTS Sheet	Row	Col.	Title Type	Title N°	ha.	Reg. Date	Expiry Date	Individual Name
SW Otish	32P16	15	13	CDC	2005942	53.22	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	16	1	CDC	2025516	53.20	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	16	2	CDC	2025517	53.20	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	16	3	CDC	2025513	53.21	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	16	4	CDC	2025514	53.21	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	16	13	CDC	2005943	53.21	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	16	14	CDC	2005944	53.21	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	17	1	CDC	2025518	53.19	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	17	2	CDC	2025515	53.20	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	17	13	CDC	2005945	53.20	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	17	14	CDC	2005946	53.20	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	18	13	CDC	2005947	53.19	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	18	14	CDC	2005948	53.19	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	19	13	CDC	2005949	53.18	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P16	19	14	CDC	2005950	53.18	April 26, 2006	April 25, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	12	57	CDC	2025519	53.24	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	12	58	CDC	2025520	53.24	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	13	57	CDC	2025521	53.23	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	13	58	CDC	2025522	53.23	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	13	59	CDC	2025523	53.23	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	13	60	CDC	2025524	53.23	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	14	57	CDC	2025525	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	14	58	CDC	2025526	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	14	59	CDC	2025527	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	14	60	CDC	2025528	53.22	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	15	57	CDC	2025529	53.21	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	15	58	CDC	2025530	53.21	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	15	59	CDC	2025531	53.21	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	15	60	CDC	2025532	53.21	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	16	57	CDC	2025533	53.20	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	16	58	CDC	2025534	53.20	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	16	59	CDC	2025535	53.20	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD
SW Otish	32P15	16	60	CDC	2025536	53.20	September 21, 2006	September 20, 2008	CONS. PACIFIC BAY MINERALS LTD

Figure 1: Location of the Pac Bay Otish Mountains Project in Quebec.



Modified from : James Bay Tourism, official Tourist Guide, 2007-2008; Map produced by the Baie-James Development Corporation in co-operation with Hydro-Québec and PolyCarto.

Figure 2: Location of the SW Otish Property in the James Bay Municipality territory.

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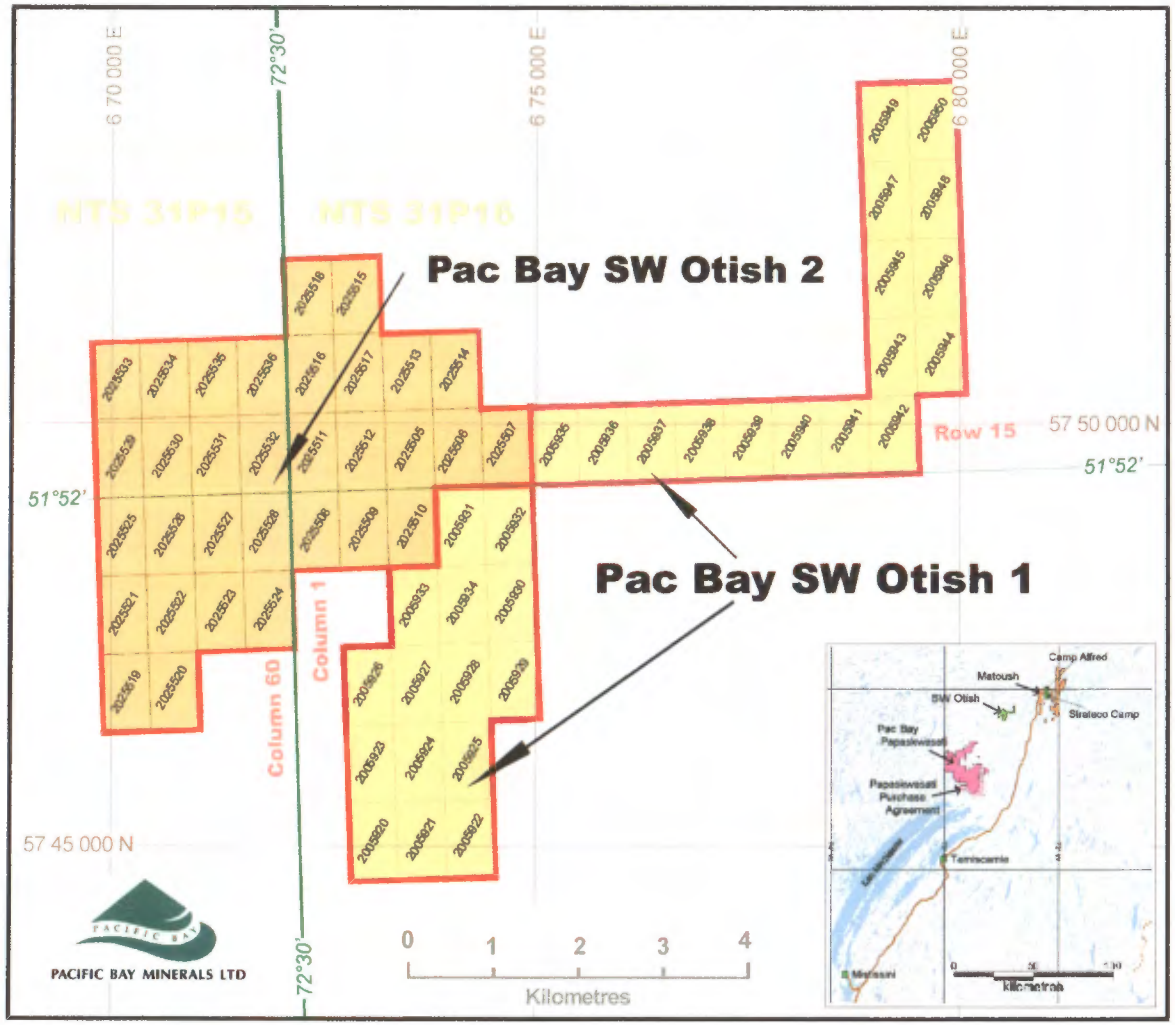

Figure 3: Claim map of the Pac Bay SW Otish Property

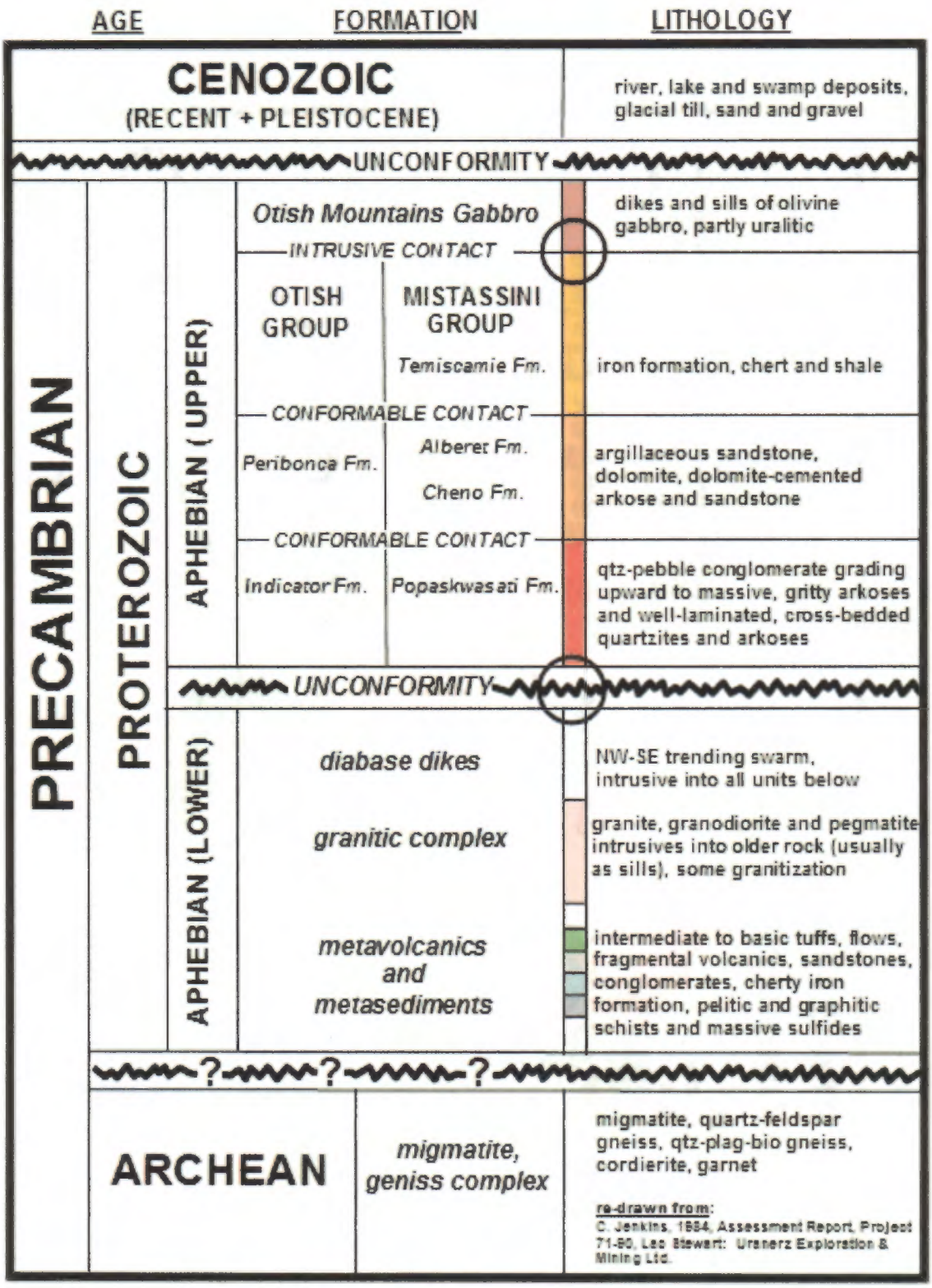

Figure 4: Geological units of the Otish Mountains area (modified from Caty (1976) and redrawn from Madon (1983) and Jenkins (1984)).

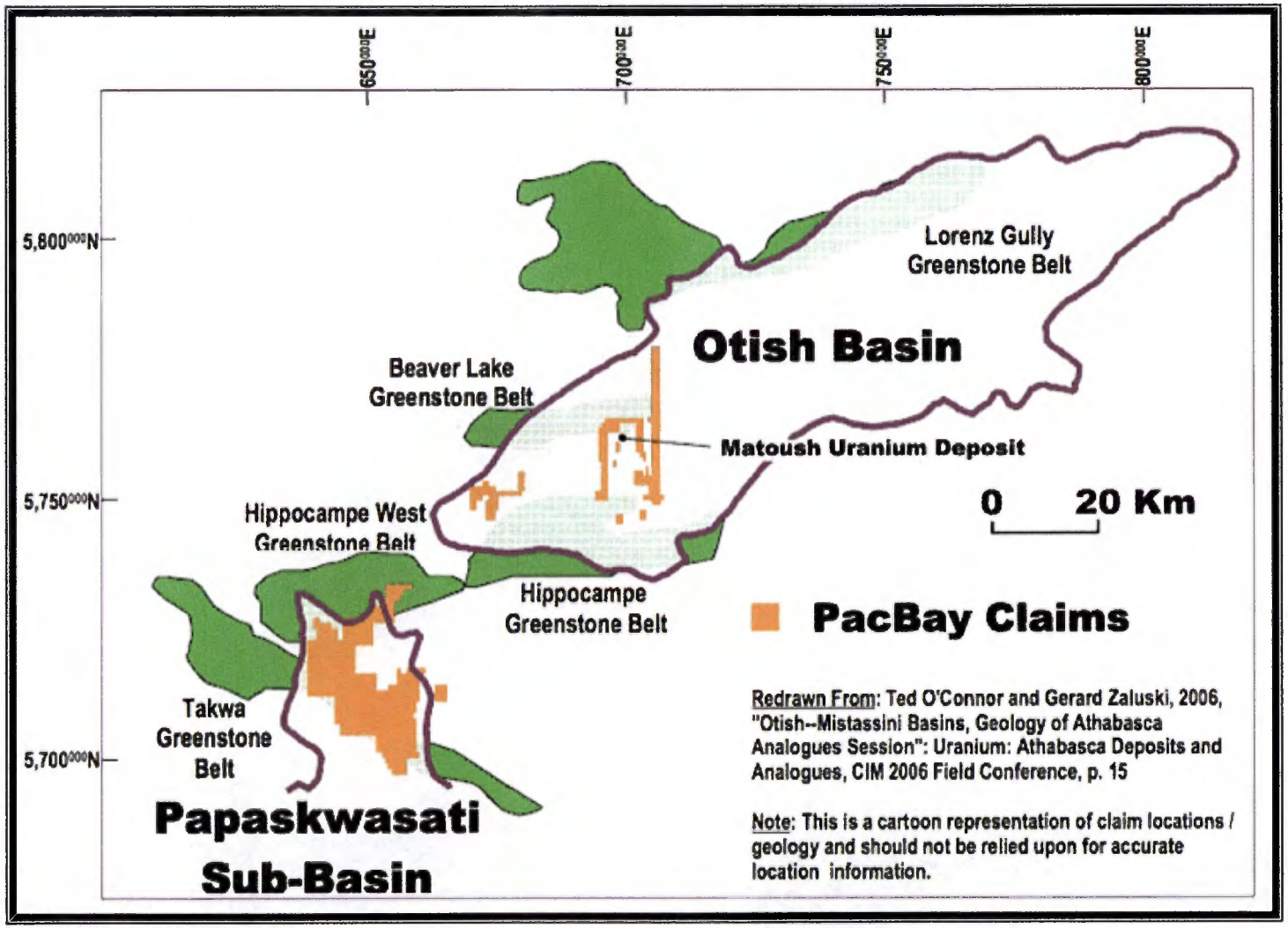

Figure 5 : Basement Greenstone belts and their possible extensions below the Otish Basin.

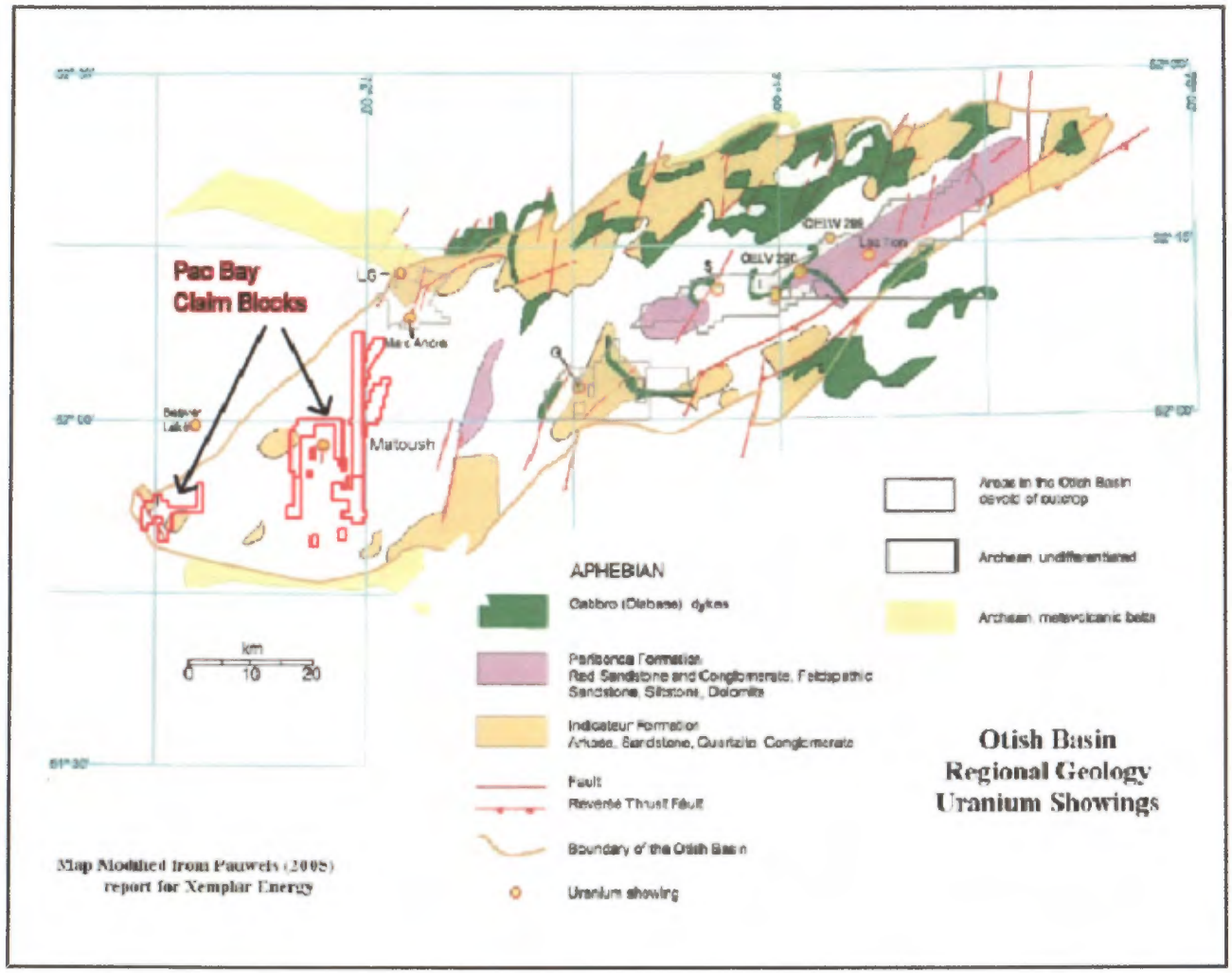

Figure 6: Otish Basin geology map (modified from Cogema assessment reports by Lavoie (1981) and Solari and Chainey (1983)). Pac Bay claim groups are outlined in red

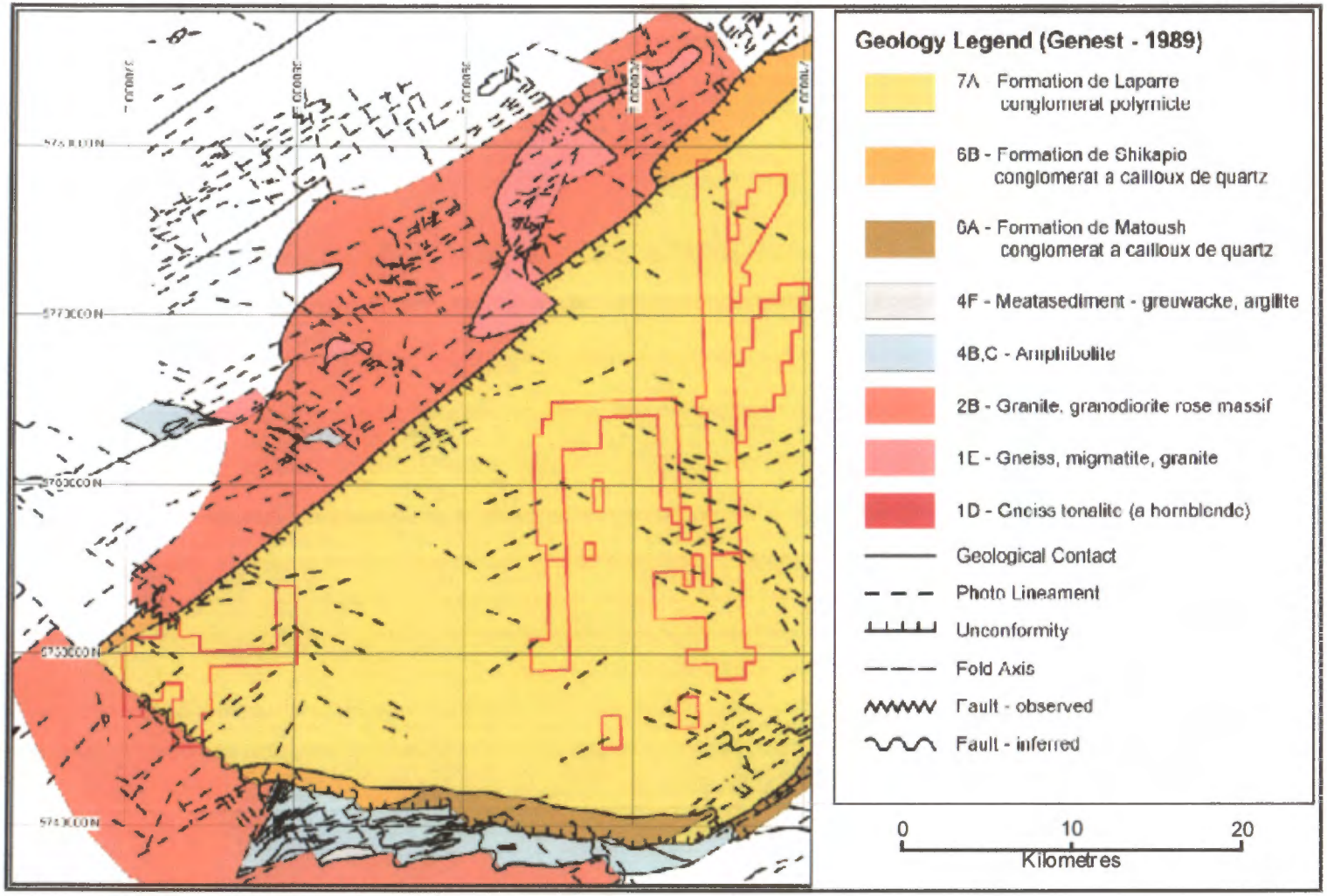

Figure 7: Geology of the south-western Otish basin (after Genest, 1989). Pac Bay claim groups outlined in red.

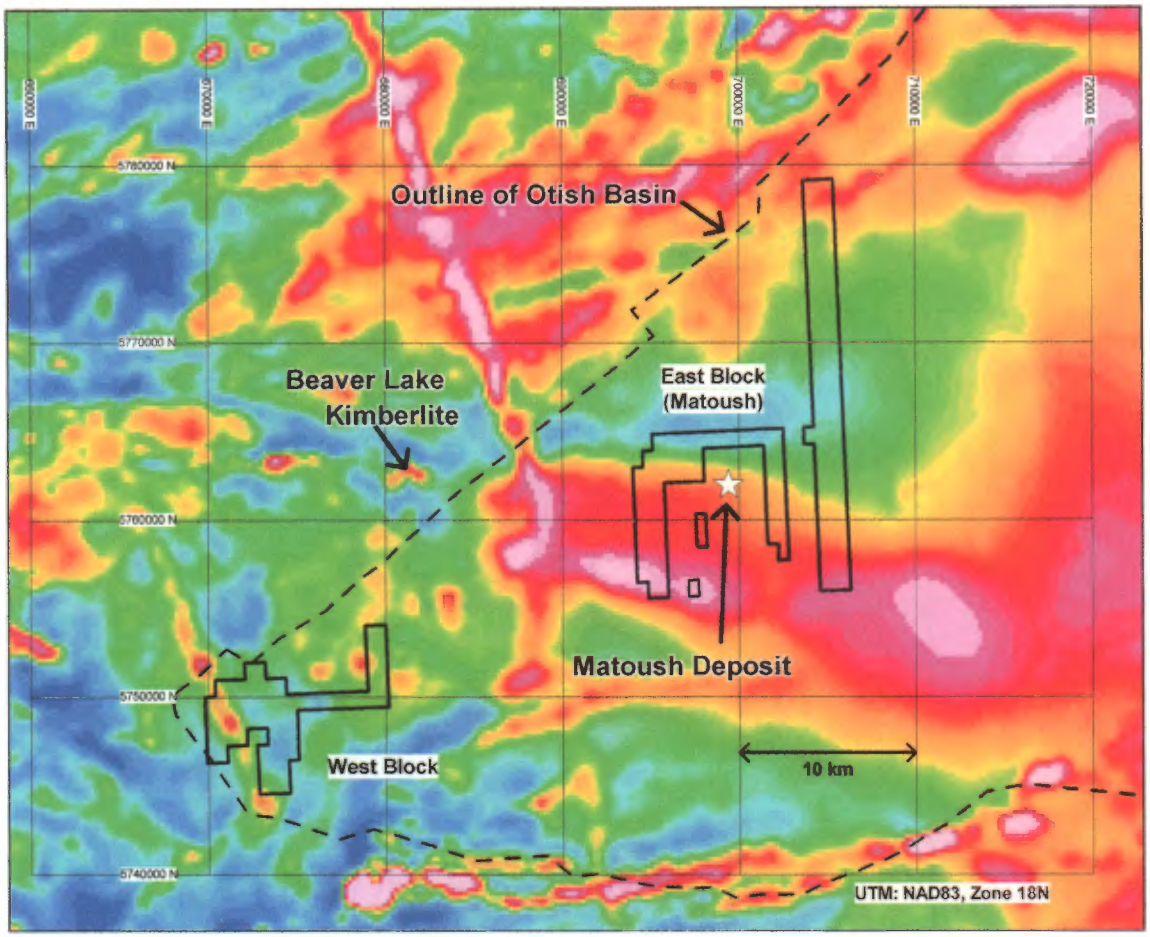

Figure 8: Residual Magnetic Field Intensity –Regional High Altitude Survey (Pezzot, 2007).

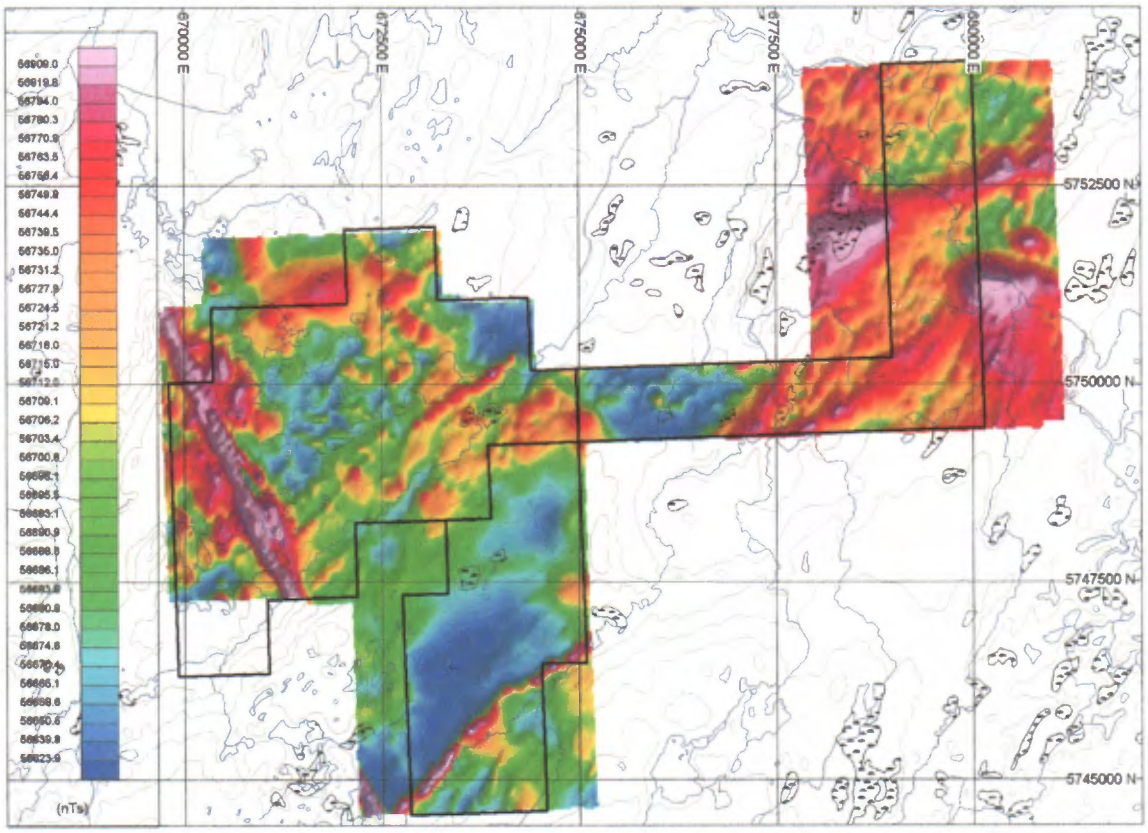

Figure 9: South-West Otish Property - Total magnetic field intensity (equal distribution colour display; shadow enhanced illumination from southeast - Pezzot, 2007).

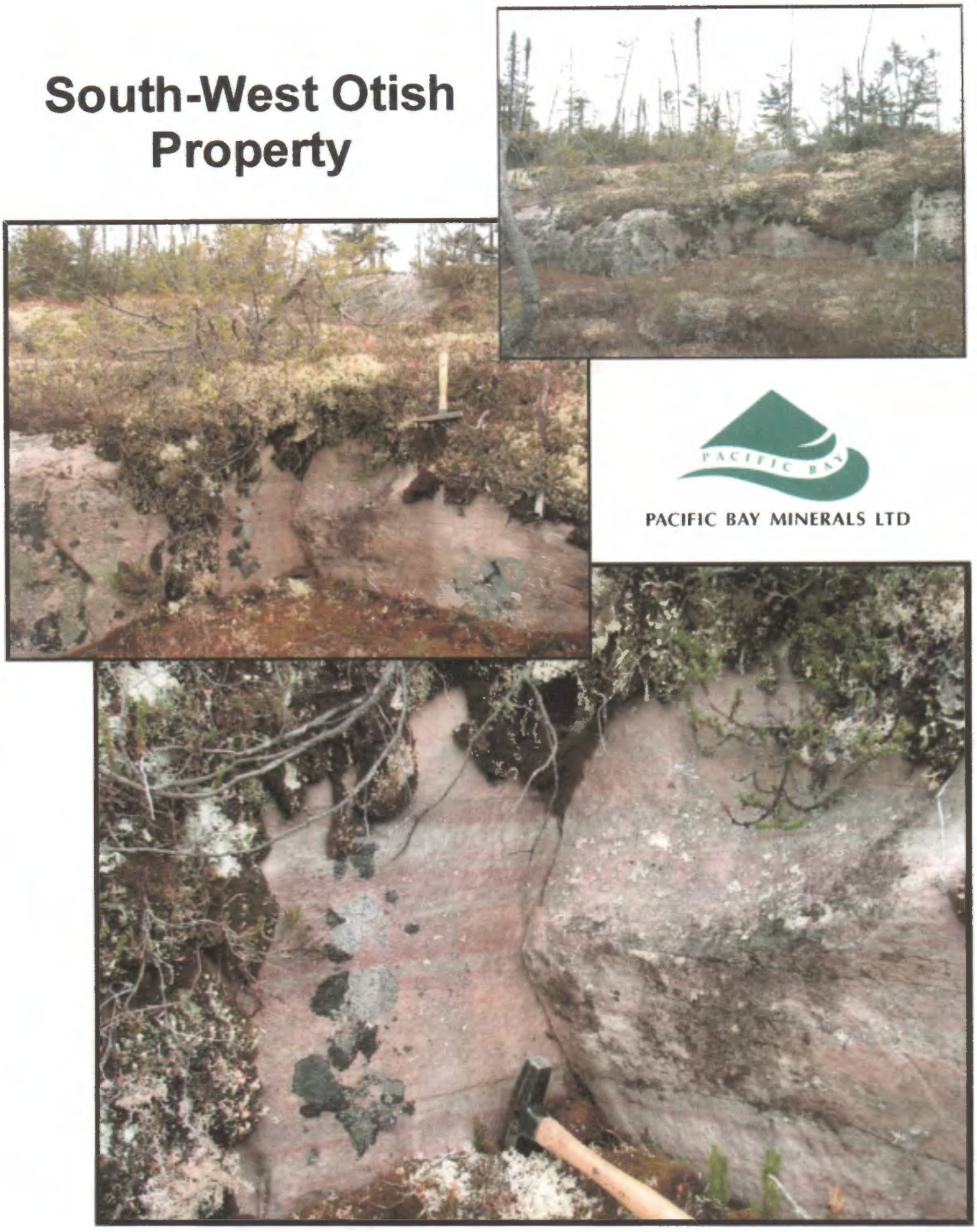

Figure 10:General and detail views of the SC-102 outcrop area (see Table 1).

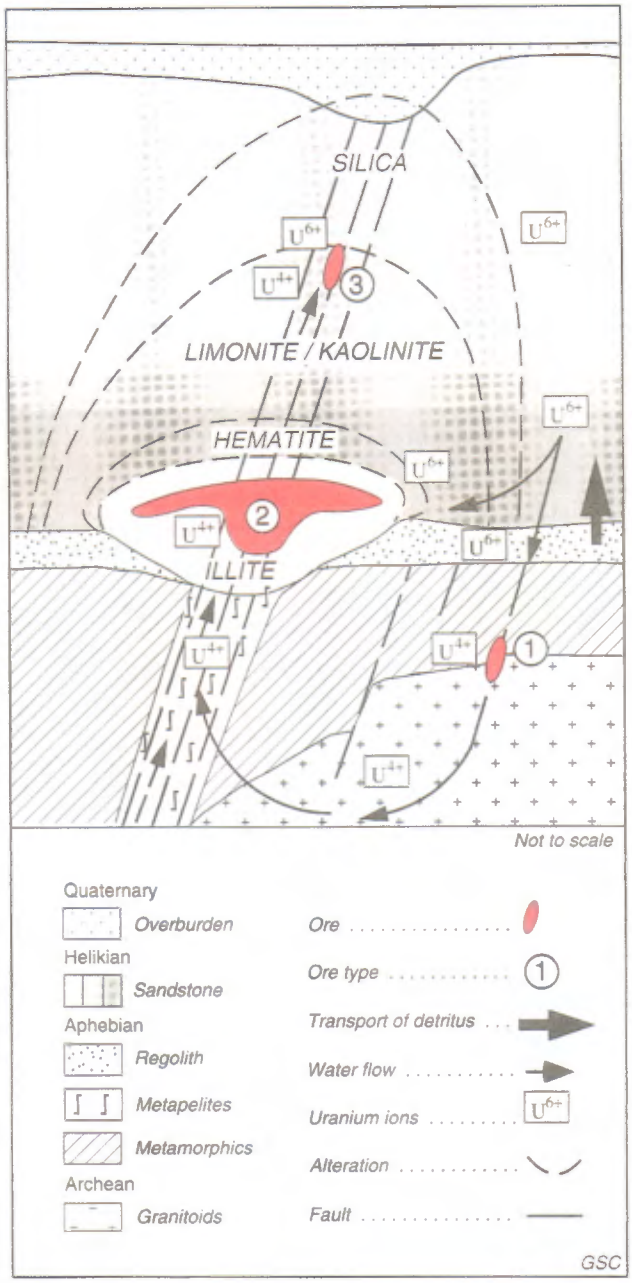

Figure 11 : Conceptual model of unconformity-associated uranium deposits (from Rudzica, 1995, figure 7-7, p. 207) – A generalized vertical cross-section. Arrows indicate paths of oxidized and reduced convective waters. Circled numbers indicate locations of various styles of mineralization : (1) medium grade monometallic mineralization below the unconformity, (2) high grade polymetallic mineralization at the unconformity, (3) low grade monometallic mineralization in sedimentary cover rocks above the unconformity.

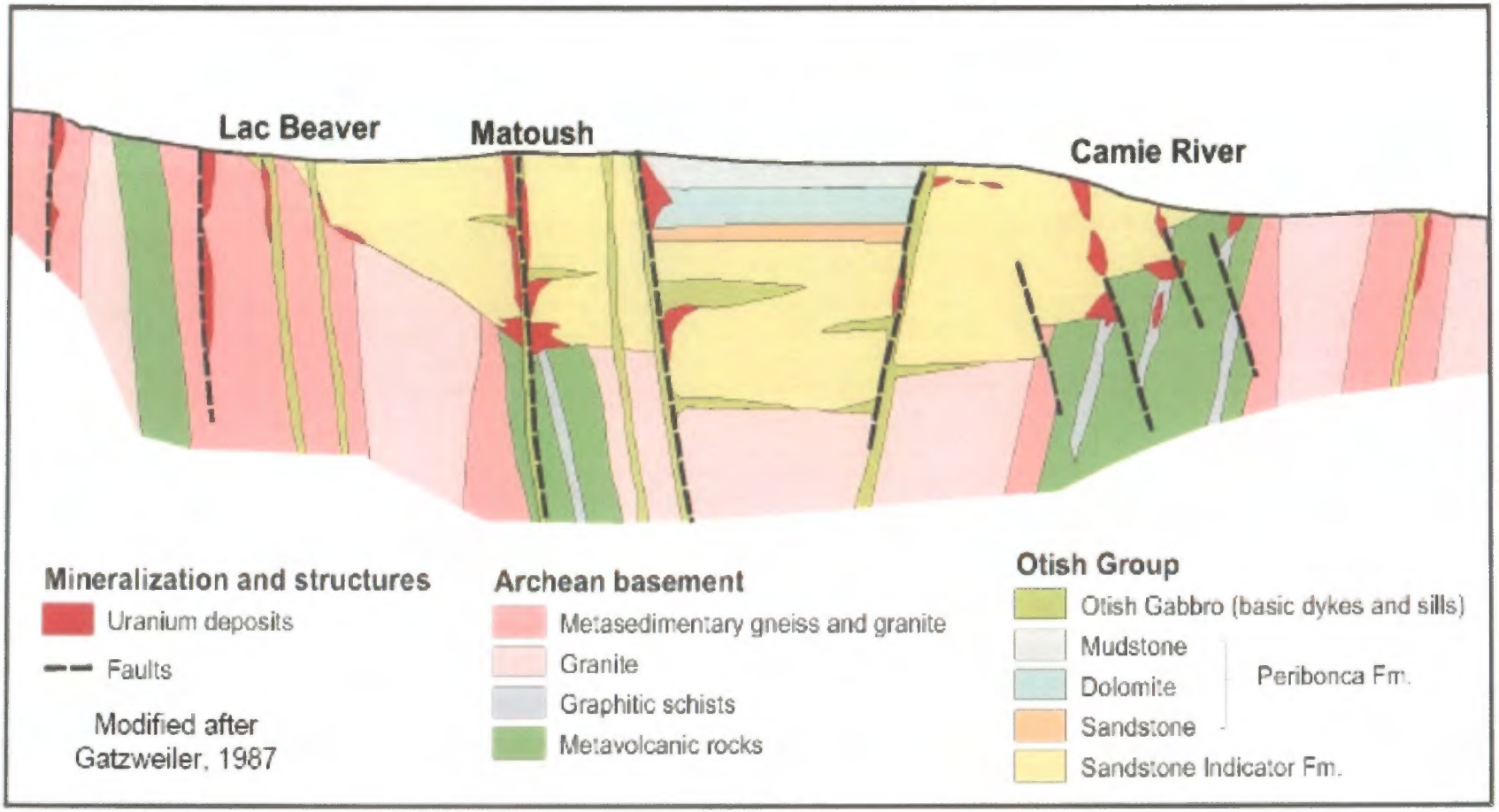

Figure 12: Setting of vein/fault and replacement styles of uranium deposits in the Otish Basin (modified from Gatzweiler, 1987).

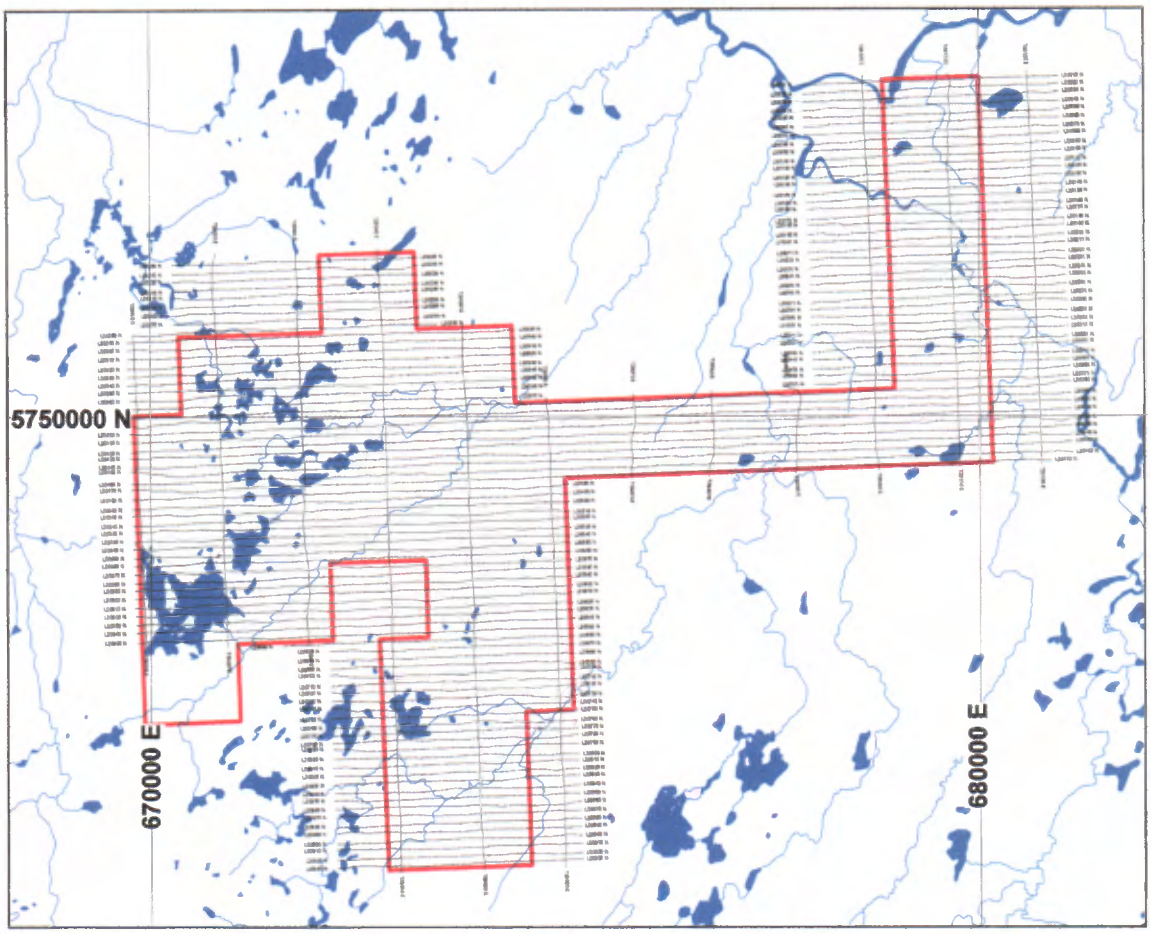

Figure 13: Aeroquest helicopter-borne Survey - Pac Bay South-West Otish Property (red: claim outline; black: survey lines).

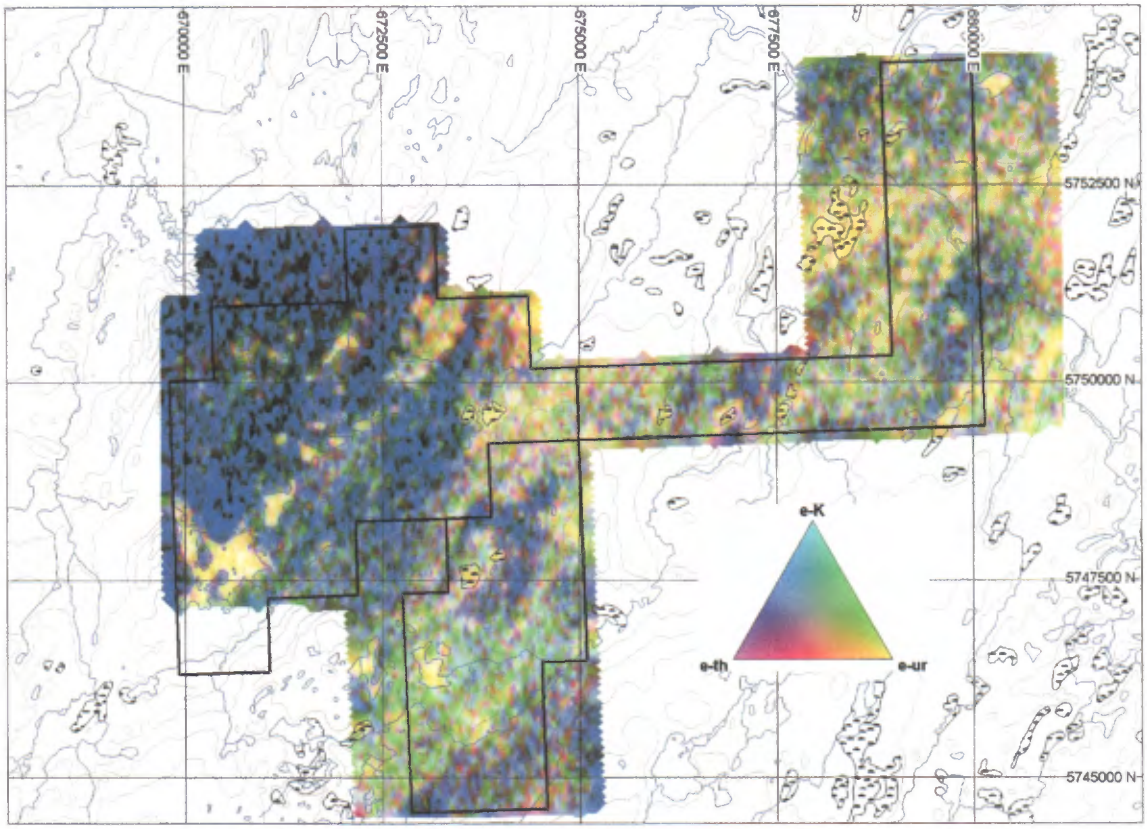

Figure 14: Ternary Image of Potassium (cyan), Thorium (magenta) and Uranium (yellow).

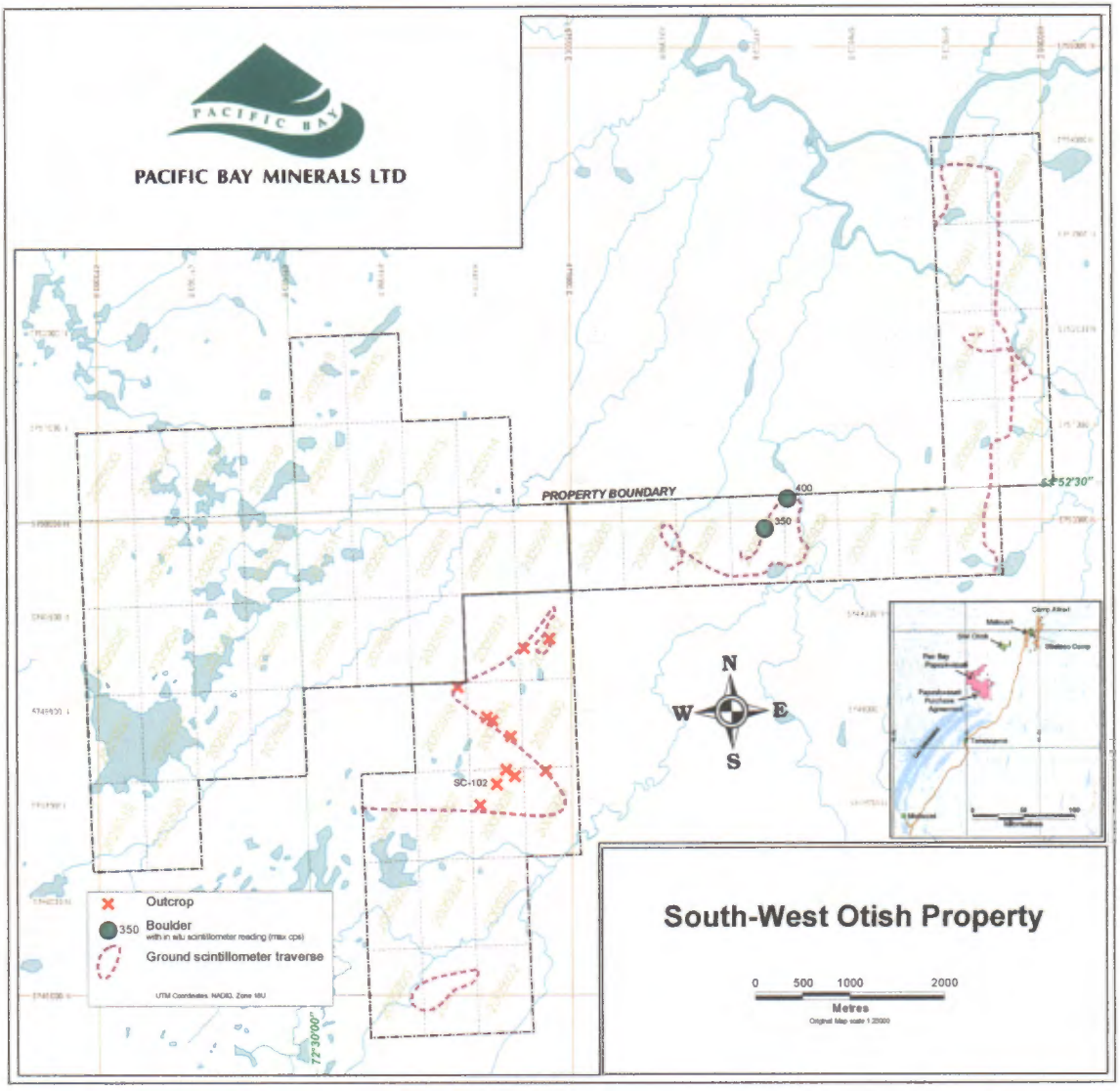

Figure 15: Outcrops location and ground radiometric prospecting.

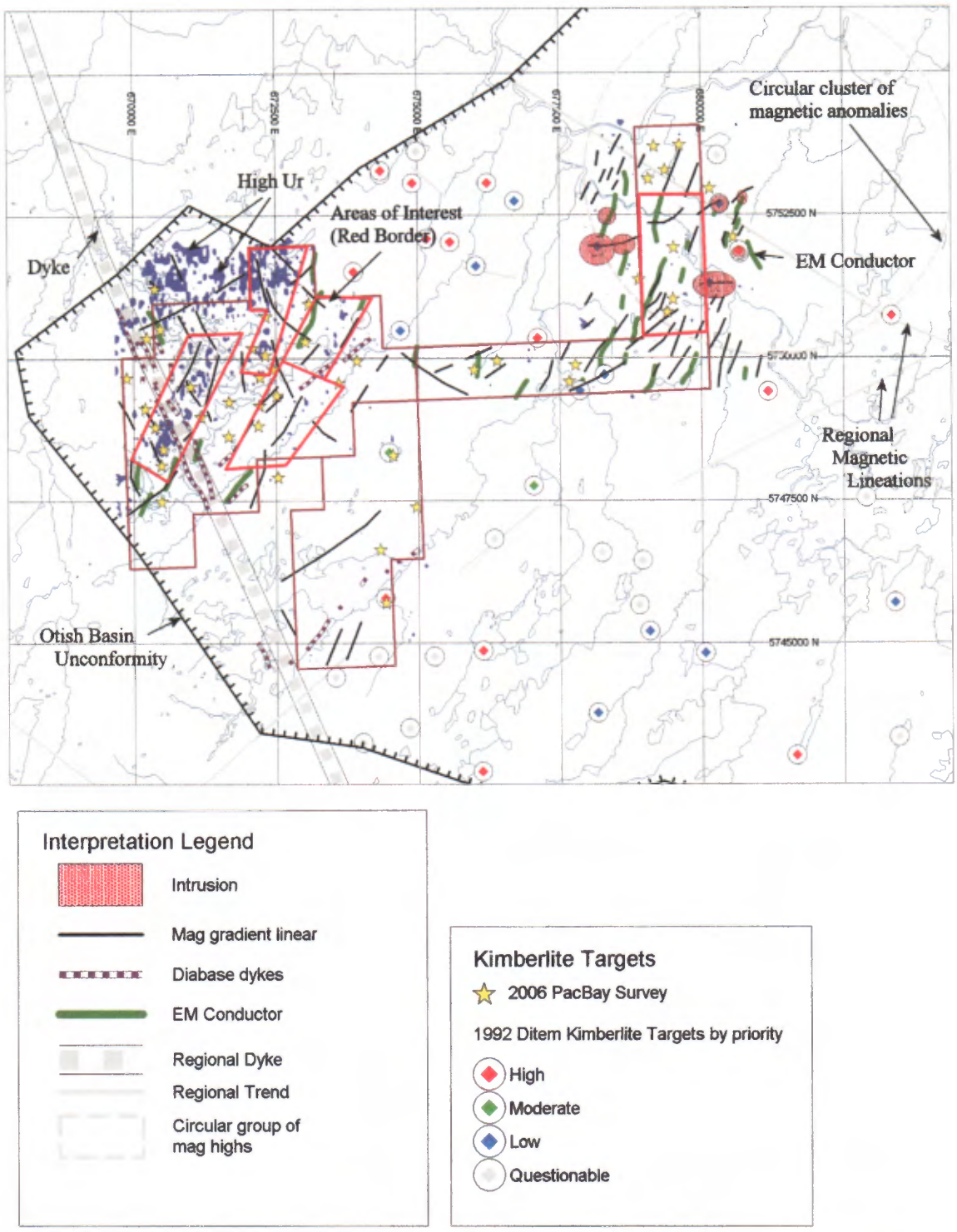

Figure 16: Recommended areas of interest of the South-West Otish Property (Pezzot, 2007).