

# **NI 43-101 Technical Report: Evaluation of the Porcupine Property in central New Brunswick: Cu, Pb, Zn, Ag and Rare Earth Elements.**



**Prepared for:  
Explorex Capital Ltd.**

**Rudolf R. Stea, Ph.D., P.Geo.**



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### Acknowledgments

The author would like to acknowledge the invaluable assistance and advice from Don Black, Exploration Manager of GreenLight Resources. Mike Donnelly and Dave Raymond from Map Atlantic Geomatic Services completed data preparation and mapping for GreenLight Resources and some of their work is featured in this report.

Front Photo: Gorham Road looking north in the south grid area. (Inset- chalcopyrite, galena, sphalerite bearing float-10cm across)

**Report prepared by: Rudolf R Stea Ph.D P.Geo.**  
**Stea Surficial Geology Services**  
**851 Herring Cove Road**  
**Halifax, Nova Scotia, B3R 1Z1**

**For:**  
**Explorex Capital Ltd.**  
**214-1118 Homer Street**  
**Vancouver, BC, V6B 6L5**

## 1.0 SUMMARY

The Porcupine Property is located in Northumberland County, New Brunswick about 14 km NW of the village of McGraw Brook. It includes the Tozer float occurrence, found in 1961, with a published assay of 0.24% Cu, 10.15% Pb, 7.6% Zn and 1.9 oz/t Ag. Cu-Pb-Zn soil geochemical anomalies and coincident geophysical anomalies have been reported in ensuing exploration in the vicinity of the sulfide float. Prospectors Frank Ross and Ole Kristiansen discovered highly anomalous rare earth element levels in soils (>1000 ppm total rare earth elements) on the Property in 2008-2009. GreenLight Resources Ltd. optioned the Porcupine Property from Ross and Kristiansen in 2010, and conducted prospecting, IP surveys, and a 971 sample soil geochemical survey in 2011. In late November, 2011, Explorex Capital Ltd. completed an option agreement with GreenLight Resources Ltd. and acquired an 85% interest in the Porcupine Property.

The main features to emerge from the GreenLight 2011 exploration program on the Porcupine Property are strong, east-west trending Cu, Pb, Zn anomalies (>300 ppm Pb, >700 ppm Zn), coincident with an enhanced chargeability horizon, and spatially distinct, REE anomalies (>1300 TREE). Some of the REE anomalies are near foliated granite, found in a linear north-trending zone between two resistivity highs that could represent a fault. Prospecting has uncovered new base metal mineralized boulders in the vicinity of the Tozer occurrence and beyond but claim areas have not, as yet, been fully prospected.

On the southern part of the property REE values form an east-west trending anomalous area on the till-covered slopes of the southern part of the gird with TREE values >800 ppm. This westward trending attenuated anomaly appears to have an aspect of glacial dispersal, parallel to eastward ice flow trends. Two other anomalous areas are found in low ground coincident with historical soil surveys. Several significant element groupings in the soil geochemical data set are apparent. REE are grouped with granophile elements U, Ti, Be, and Mg and base metals form another group with Fe and Cr. These groupings suggest primary bedrock control of element associations and mechanical dispersion rather than weathering and chemical redistribution processes in the secondary environment.

Industry mapping has identified four main lithological units on the property including felsic and mafic volcanics, metasediments, and foliated granite. Structure is complex and poorly understood. It is clear from the compiled exploration data that a massive sulphide (VHMS) model is a possible scenario. REE soil anomalies appear to have a different genesis and host rock association. Finding REE bedrock sources or mineralogical evidence for REE anomalies in till/soil is essential to move this property forward.

GreenLight has concluded its exploration activities on the property and Explorex has not yet commenced any exploration. In this report the author proposes a two phase exploration program including bedrock mapping, reconnaissance till sampling, prospecting, soil and IP surveys, and trenching followed by diamond drilling. At the present time there are no mineral resource estimates for the Porcupine Property.

## 2.0 INTRODUCTION

Rudolf R Stea, Ph.D., P.Geo. (“The Author”) was commissioned by Explorex Capital Ltd to prepare a technical report on the economic potential of the Porcupine Property in central New Brunswick (Figs. 1, 2). The Porcupine claim groups cover the area which features the Tozer Cu-Pb-Zn-Ag mineralized boulder occurrence found by prospector George Tozer in 1960 (Watson, 1961). Strong Cu-Pb-Zn soil geochemical anomalies and coincident geophysical anomalies have been reported in ensuing exploration over the years in the vicinity of the sulfide float (Table 1). **Up to this point in the exploration history of this property there has been no definitive bedrock source discovered to account for these base metal mineralized boulders and soil anomalies.** Based on an examination of the nature of the glacial drift cover the author believes that the float boulders are local (<1 km from source) in origin so undiscovered mineralized bedrock is likely present on the property.

GreenLight Resources Ltd (Vancouver, B.C.) is the most recent owner of the Porcupine Property and their interest was triggered by the discovery of anomalous levels of rare earth elements (REE) in soil samples on the property. In 2011 GreenLight conducted extensive prospecting and geophysical/geochemical surveys on the property which will be described in detail in this report. In late November, 2011 Explorex Capital Ltd., Vancouver, British Columbia completed an option agreement with GreenLight Resources Ltd. and acquired an 85% interest in the Porcupine Property.

Most of the data used in this report has been summarized from assessment reports (Table 1) available from the New Brunswick Department of Natural Resources, Minerals and Petroleum section web site (<http://www.gnb.ca/0078/minerals/FTP-e.aspx>). The author has conducted a site visit in October of 2011. During this visit geological mapping was conducted near the location of mineralized boulders and samples were obtained of mineralized float.

**The goals of this report are:**

- 1. Evaluate previous geochemical surveys and prospecting on the Porcupine Property and help define potential sources of base metal mineralization using this historical data and an understanding of the glacial history and surface processes of the area.**
- 2. Assess the significance of REE soil anomalies on the Porcupine Property and the potential for REE mineralization in the area based on these soil anomalies.**
- 3. Provide recommendations for further exploration.**

### 3.0 RELIANCE ON OTHER EXPERTS

Rudolf R Stea Ph. D., P. Geo. is an independent mining consultant and holds no interest in Explorex Capital Ltd. The author has used previously published assessment work by other geoscientists and prospectors in the preparation of this report as well as unpublished data from GreenLight Resources Ltd. A site visit to the Porcupine Property was conducted on October 13-14, 2011, hosted by Don Black, GreenLight Resources, to examine the geology and previously mapped Cu-Pb-Zn boulder occurrences.

### 4.0 PROPERTY DESCRIPTION AND LOCATION

The Porcupine Property is located in Northumberland County, about one mile west of the confluence of the North Branch Little SW Miramichi and the main Little Southwest Miramichi Rivers (NTS map sheet 21 J 16) about 14 km NW of the village of McGraw Brook, New Brunswick. The claims are bounded by geographic co-ordinates (NW- LONG -66.324945° LAT 46.926717°; SE-LONG -66.262724 ° LAT46.878410 ° (Figs. 1, 2).

The type of mineral tenure in the Porcupine Property are claims held under New Brunswick Department of Natural Resources mineral rights license numbers 4510, 4742 and 5491. The area under license 4510 comprises 816.2 hectares and a total of 37 claims (Fig. 2; Table 2). This portion of the property is termed Porcupine North. The area under license 4742 comprises 617.9 hectares and a total of 28 claims (Fig. 2; Table 2) and is called Porcupine. The area under license 5491 comprises 463 hectares and a total of 21 claims (Fig. 2; Table 2) and is called Porcupine East.

As defined under the Mining Act of New Brunswick most minerals are owned by the crown except ordinary stone, building stone, aggregates (both crushed and granular), peat, peat moss or ordinary soil, oil or natural gas. Crown-owned minerals are property separate from the soil; that is, a landowner owns the surface rights but does not own minerals unless some minerals were granted with the land and each conveyance since the granting has preserved the ownership of those minerals. Prospectors (persons or companies who hold prospecting licences), holders of claims and holders of mining leases have the right to prospect, explore, mine and produce those minerals, whether they are on Crown-owned or privately-owned lands. They also have the right of access to the minerals; however, are liable for any damage caused.

Mineral rights in New Brunswick are acquired and located by means of a map staking system. Exploration licenses are renewed annually with the requirement to conduct work upon the ground held and to report the results. The minimum amount of work that must be carried out in the evaluation of the mineral potential of a claim ("assessment work") is between \$100 and \$250 per year during the first 4 years of the license increasing to \$300 per year for years 5 to 10 to a maximum of \$800 per claim after year 26 and beyond.

The Porcupine Property is entirely within Crown lands. Prior to commencing work that would cause actual damage to or interference with the use and enjoyment of Crown lands, a completed notice of planned work on Crown land must be submitted on behalf of the Department of Natural Resources for the work to proceed. If work is to be done on a Crown land lease, the consent of the lessee is required. In this case the land is not under a prior land lease arrangement. A lease or a right to occupy as issued under the Crown lands and Forests Act is required before erecting any permanent camp, building or other structure on Crown lands. GreenLight Resources Ltd. had acquired all the necessary Crown land work permits along with the exploration licenses to conduct exploration on the Porcupine Property.

A potential environmental liability is harm to the lucrative sports and commercial salmon fishery in the Miramichi River system. The Porcupine Property slopes towards the Little Southwest Miramichi River which hosts a summer fishing camp leased on Crown land. Care will have to be taken during drilling and trenching programs to minimize silt run-off into this river system which has the potential of damaging fish spawning grounds. Standard conditions for mineral exploration required by the New Brunswick Department of Natural Resources stipulate buffers around watercourses for drilling and trenching and the creation of settling ponds and silt barriers. These procedures are summarized on their website ([www.gnb.ca/0078/minerals/Mineral\\_Rights\\_StandardRequirements-e.aspx](http://www.gnb.ca/0078/minerals/Mineral_Rights_StandardRequirements-e.aspx)). A prospector, a holder of a claim, a holder of a mining lease or an operator of a mine is liable for any actual damage to or interference with the use and enjoyment of property caused by him/her or anyone acting on his/her behalf. Crown land mining and exploration permits can be revoked if environmental damages are incurred.

A summary of potential environmental liabilities for the Porcupine Property are as follows, largely a consequence of proximity to a major watercourse.

- Proximity to the Southwest Miramichi River (siltation runoff).
- Possibility of acid runoff related to sulphide bearing strata if stripping and bulk testing commence.

According to the Porcupine Option Agreement (POA), (Nov 28, 2011) GreenLight Resources Inc. (Optioner) is a 100% owner of the Porcupine Property excepting a 2% smelter royalty payable to Frank Ross and Ole Kristiansen. There is an additional \$100,000 dollars owed by the Optioner to the previous owners. The POA granted Explorex Capital Inc (Optionee) an 85% legal and beneficial interest to the Porcupine Property. The Optionee agreed to maintain the Property in good standing according to the Mining Act and provide a series of payments starting with \$25,000 on the date of the agreement, \$30,000 before the first anniversary, followed by \$50,000 and \$75,000 on the subsequent anniversary dates. Along with cash payment 850,000 shares of Explorex Capital Inc. will be issued to the Optionor over the first three years or the POA. The option agreement stipulates that work on the Property by the Optionee shall be carried out with a minimum value of \$250,000 in the first year, \$300,000 in the second year and a further \$450,000 in the third year for a total of \$1,000,000.

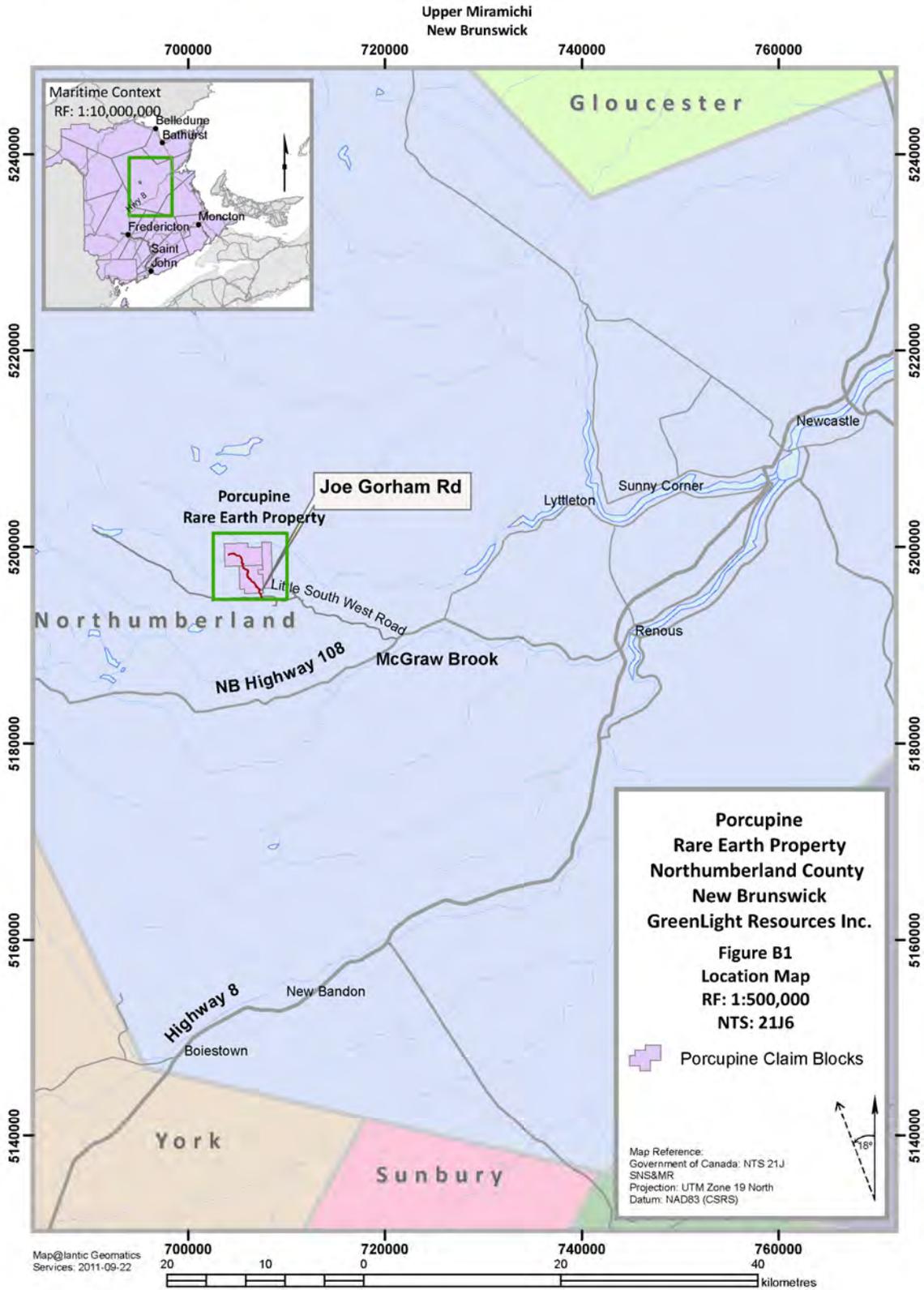


Figure 1. Location of the Porcupine Property, central New Brunswick.

## **5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

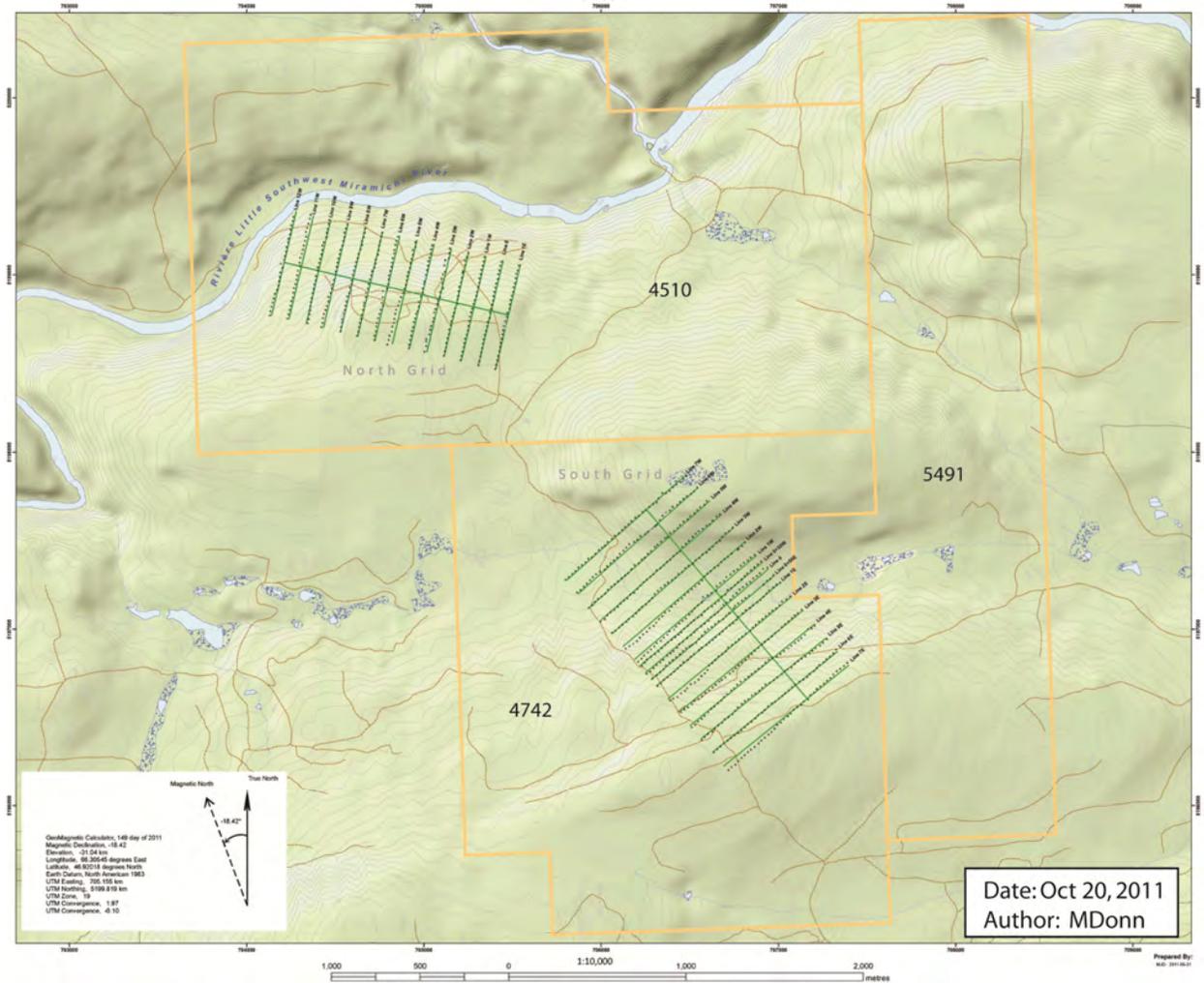
The Porcupine Property can be accessed by truck via the Little Southwest River road which runs northwestward from the Plaster Rock-Renous Highway (#108) from a point just east of the village of McGraw Brook. The LSR Road leads to the intersection with the Joe Gorham Road which runs through the central portion of the claim group (Fig. 1). Many overgrown trails are depicted on topographic maps of the claim area which are no longer suitable for truck access, but new logging roads have been constructed in the past 5 years and these are readily accessible by 4 wheel drive trucks (Fig. 2). The NB power grid can be accessed from McGraw Brook, 14 km southeast of the property on the Plaster Rock highway.

The Porcupine Property is approximately 95 km and a one hour drive east along the Plaster Rock-Renous Highway (#108) from the town of Miramichi, population ~18,000, the largest town in northeastern New Brunswick. The port of Bathurst and the Brunswick lead smelter in Belledune are an additional ~90 km north from Miramichi along highway (#8).

New Brunswick lies in the Appalachian physiographic region of Canada (Bostock, 1970) consisting largely of flat topped rolling highlands and adjacent lowlands. The highlands and uplands form a semicircle around the vast New Brunswick Lowland or Maritime Plain underlain by easily eroded Carboniferous rocks. The Maritime Plain is for the most part, below 120m in elevation, while the surrounding uplands range between 150 and 820m. Mount Carleton in the Northern Miramichi Highlands sub region is New Brunswick's highest peak at an elevation of 820m (Fahmy et al., 2010).

The Porcupine Property is part of the Miramichi Highlands peneplain on the transition between the Miramichi Highlands and the Maritime Plain. It is covered by stands of spruce, fir and pine trees interspersed with many recent and decades old cut areas. The local drainage is northward into the Little Southwest Miramichi, and from this tributary river eastward into the Miramichi River (Fig. 2). Several large eastward-trending hills, likely rock-cored drumlins, are prominent landscape features on the property attaining elevations of over 300m. These hills are oriented along the major trend of glacial flow in the region. The topography slopes moderately to steeply away from these hills to the Little Southwest Miramichi River. Many swamps and "seeps" are located along these slopes where groundwater is issuing from permeable layers in the rock or at the rock/soil interface. Enclosed basins are common which are ideal for processing mining waste and tailings storage (Fig. 2). Another important factor for future mining is the isolated nature of the property, with no permanent residents within 10 km.

Central New Brunswick is in a transition zone between continental and maritime climates. The further inland the lesser the impact of the oceans moderating effect. The interior of New Brunswick typically experiences temperatures of 25°C and greater during the summer. The afternoon temperatures along the Gulf of St. Lawrence often reach



**Figure 2. Map of the Porcupine Property, exploration licenses, and grid locations for 2011 exploration work done by GreenLight Resources Ltd.**

24°C and there have been occasions in the province when the temperature extremes have risen above 37.8°C. Average wintertime temperatures drop considerably from south to north. Interior New Brunswick, where elevations rise above 600 m has very cold winters with an average temperature in January of -12.2°C. New Brunswick has mean annual precipitation ranging from around 1000 mm in the northwest, with the heaviest precipitation normally occurring during the late autumn and early winter months. Two hundred and fifty to 300cm of snow generally fall on the northwestern half, starting in late November early December and extending until mid April. The snow free season generally extends from June to November and this time is suitable for prospecting, bedrock mapping and geochemical surveys. Drilling can be conducted during winter months with access to the sites enabled by ploughing logging roads for trucks and drill rigs. Skid or track mounted drill rigs can be easily moved to prepared winter drill pads.

NE New Brunswick has a long and illustrious mining heritage and mining personnel and support are available locally. A mineral deposit has yet to be outlined on the Porcupine

Property, so detailed discussion of mining scale and construction and mineral processing is premature.

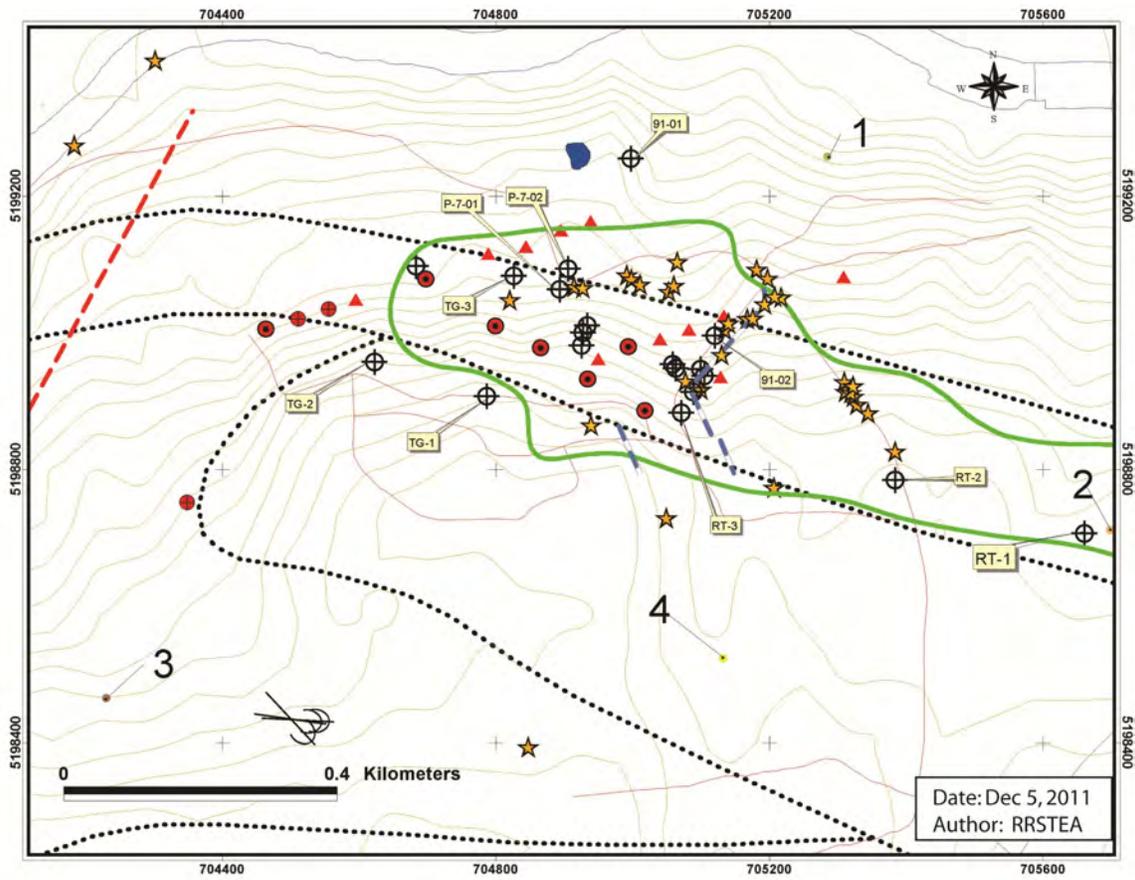
## 6.0 PROPERTY HISTORY

Since the 1960's a number of companies and prospectors have worked the Porcupine Property including Rio Tinto, Noranda Exploration, TexasGulf, Kerr Addison, Brunswick Mining and Smelting, BHP Minerals, Eastmain Resources, and Asarco Exploration Ltd. Ownership changes and assessment reports submitted for the Porcupine Property are summarized in Table 1.

In 1961 Rio Tinto acquired 24 claims from George Tozer, a prospector, who discovered a float boulder with high grade Cu-Pb-Zn mineralization. Rio proceeded to cut a grid and conducted geological, geochemical and IP surveys over the property (Watson, 1961; Seigel, 1966). They also reported a boulder from the property grading **0.24% Cu, 10.15% Pb, 7.6% Zn and 1.9 oz/t Ag** (Table 3) as well as the locations of many other mineralized float boulders (not assayed; Fig. 3). The company conducted a B-horizon soil geochemical survey over the region and outlined an irregular but extensive area of elevated-anomalous copper, lead and zinc levels around mineralized float occurrences (Fig. 2). An IP survey run during the same exploration program revealed a long NW-SE striking, linear trend of moderately enhanced chargeability. This anomalous IP response was to be repeated in subsequent geophysical surveys up to the present day. On the property Rio Tinto geologists mapped a sequence of quartzites, arkoses; schistose and gneissic metamorphic equivalents, and noted that outcrop was scarce (Watson, 1961). Three short drill holes (RT-1, RT-2 and RT-3; Fig. 3) were spotted along the NW-SE trending IP conductor but from the assessment work compiled the source of the float mineralization was not discovered. Although disseminated sulphide mineralization was described in the drill holes, assays were either not conducted or not reported on the core. All three drill holes encountered a succession of sericitized and chloritic arkoses, quartzites and schists.

Noranda picked up the ground in 1965 and conducted a major trenching operation and packsack drilling program in the vicinity of the mineralized float but, unfortunately, details of these surveys are not in the public domain. The Noranda trench remains to this day and is a landmark in the study area. Rio Tinto reacquired the ground in 1966 and conducted a deep overburden drilling program. Details of this program are sketchy but a portable drill was used to obtain till samples near the bedrock/till interface on grid lines in the vicinity of the mineralized float (Seigel, 1966). Their results show highly anomalous glacial till samples near the Noranda trench and westward from the trench in an up-glacier direction (Fig. 3)

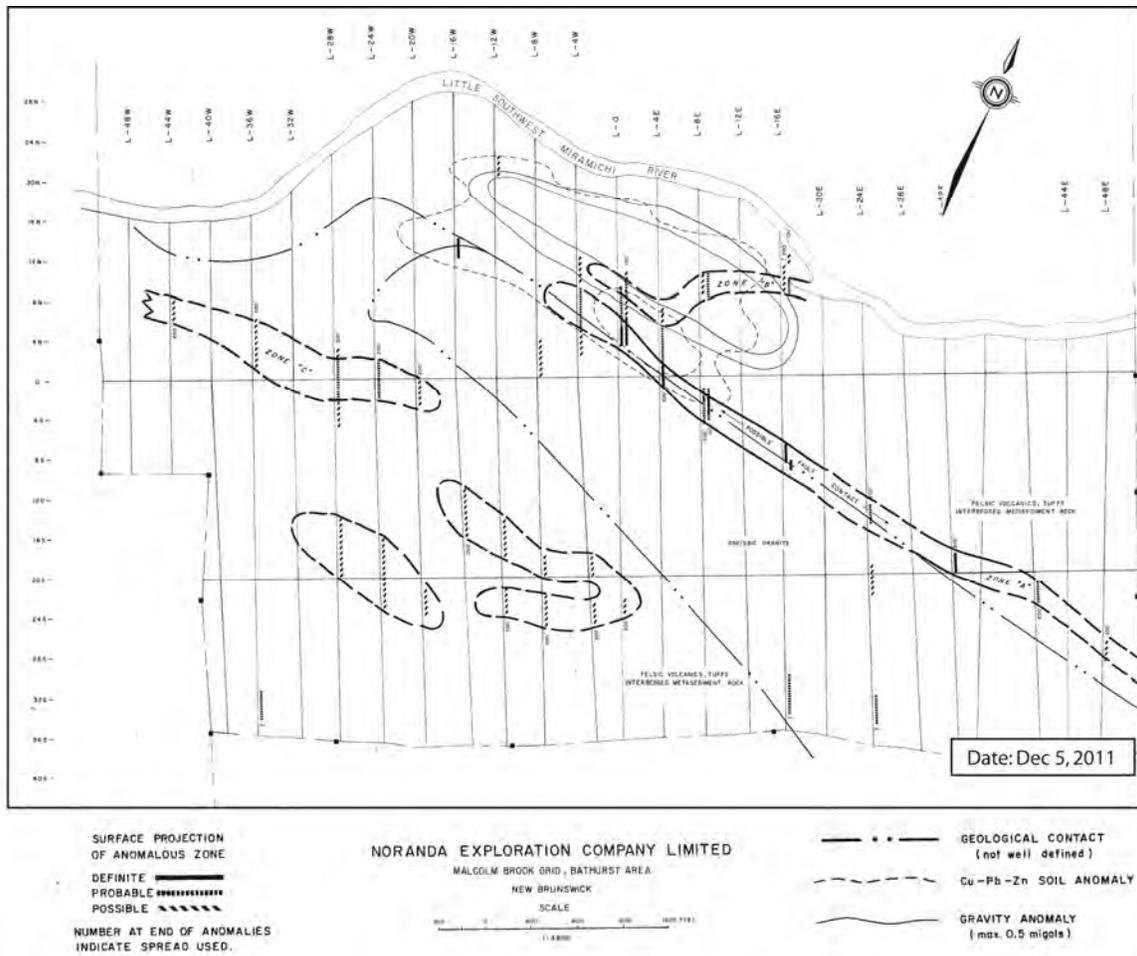
In 1974 TexasGulf staked the ground and worked on a zone slightly west of the known showing, conducting IP and ground magnetic surveys in an attempt to establish the source of the mineralized boulders (Mann, 1974). Three short vertical drill holes were



**Legend**

- Rio Tinto chargeability anomaly (1966)
  - Historical drill hole locations
  - ▲ BM BHP survey (1996) anomalies
  - CMB REE-La anomaly (>50 ppm)
  - BM Cu +Pb+Zn anomaly (>200 ppm)
  - REE CMB combination of BM and La
  - ★ Mineralized float and bedrock  
py, cpy, sp, gal
  - Noranda trench (1960)
  - Bedrock contact  
(after Watson, 1961; MacKenzie, 1981)
  - - - Fault? (Watson, 1961)
  - Cu-Pb-Zn anomaly (Ross, 2006)
- 
- 1. porphyritic felsic volcanics
  - 2. quartzite, phyllite
  - 3. chloritic mafic volcanics
  - 4. gneissic granite

Figure 3. Compilation of geology, drill hole locations, geochemistry and geophysics from assessment work on the North Grid area (Table 1).



**Figure 4. Geophysical (IP) surveys conducted by Noranda for the Bathurst Mining Co. showing major bedrock conductors, Zones A-C (modified after MacKenzie, 1981a; Table 1).**

collared in this area (TG-1, TG-2 and TG-33; Fig. 3) up-ice of the field of mineralized boulders. In all three holes a succession of quartzites and sandstones were encountered. As in the Rio Tinto drilling disseminated sulphide mineralization was reported but assays were either not conducted or not reported on the core. A weak SE-trending IP anomaly was outlined on the south half of the grid, on strike with the IP anomaly outlined by Rio Tinto in 1966. In the 1980's Bathurst Mining and Smelting Inc conducted more extensive geological, geophysical and geochemical surveys across the area now encompassed by the Porcupine Property (MacKenzie, 1981 a, b). In the most detailed bedrock mapping to date MacKenzie defined a hitherto unknown gneissic granite body within the property, and noted several areas of Cu-Pb-Zn mineralization in volcanic and metasedimentary bedrock north along the Miramichi River and west of the known mineralized float area (Fig. 3). MacKenzie (1981a, p. 4) also made this observation:

**“Sulphide mineralization was noted in angular float at several locations along the road, in trenches, and north of the base line. The mineralization varied from trace to stringer type mineralization consisting of disseminated pyrite, chalcopyrite, bornite and sphalerite. The host rock for this mineralization appears to be light**

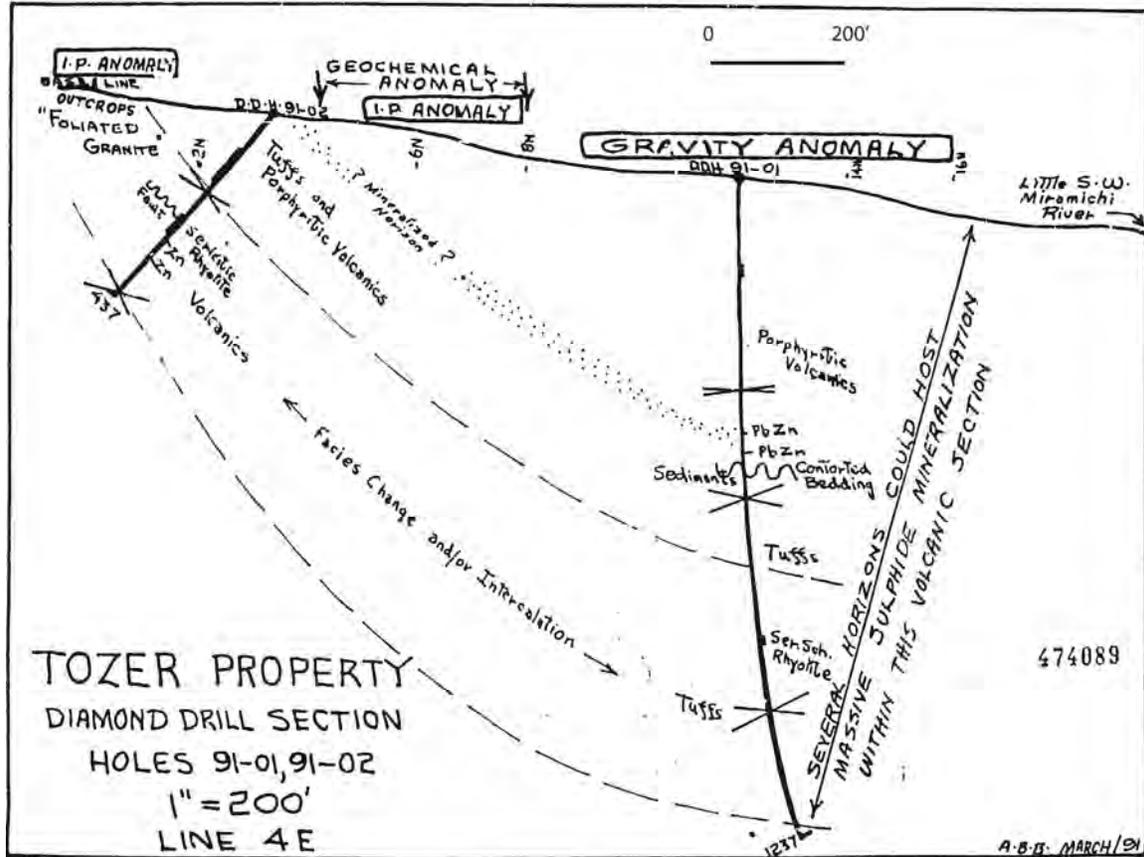


Figure 5. Baldwin's (1991) description of drill hole results (91-01; 91-02) and model of possible VHMS mineralization on the Porcupine Property

**grey-green, fine grained felsic tuff or felsic epiclastic volcanic sediment exhibiting chloritic (slightly sericitic) alteration"**

This observation is important because it relates the known float mineralization to bedrock mapped regionally. Many of these volcanic float occurrences are found over granite and metasediments so there may well be undiscovered sources in felsic volcanic rocks in an up glacier or westward direction (Fig. 3). Bathurst Mining and Smelting Inc. also defined two anomalous ground magnetic trends with responses varying from 15 to 120 gammas above background and three anomalous IP zones labeled A, B, and C (Figs. 3, 4). Zone A is an extensive NW-SE trending linear conductor that is in part coincident with a conductor defined by the previous work (Fig. 3). They also defined a positive residual gravity anomaly of 0.45 mgals outlined north of the gneissic granite with flanking a weak I. P. and HEM anomalies. Zones B and C are anomalous IP zones west and east of previous geochemical and geophysical surveys. Based on the linear nature of magnetic and IP anomalies a NW-SE trending fault was postulated (MacKenzie, 1981a).

# P-07-1

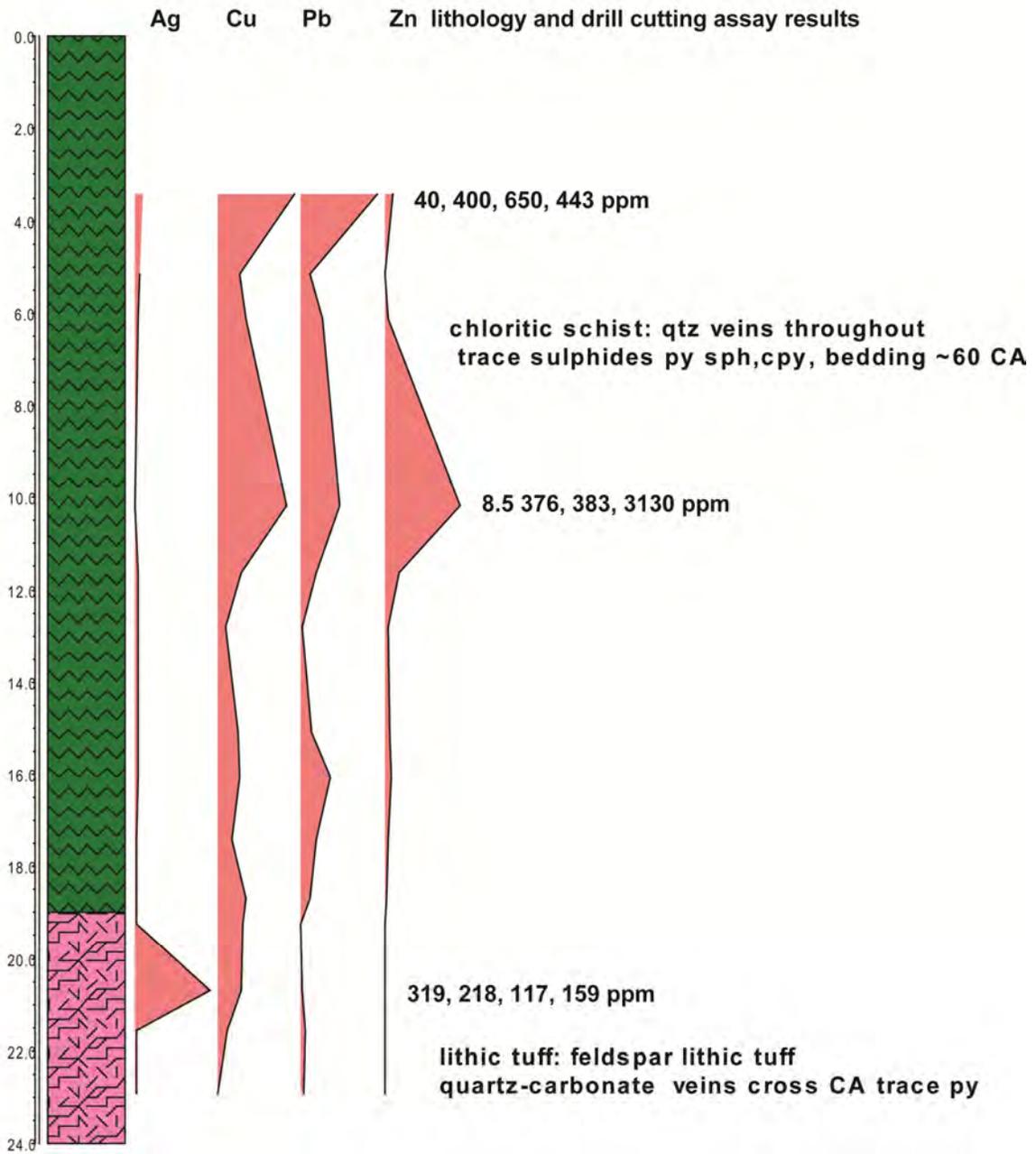
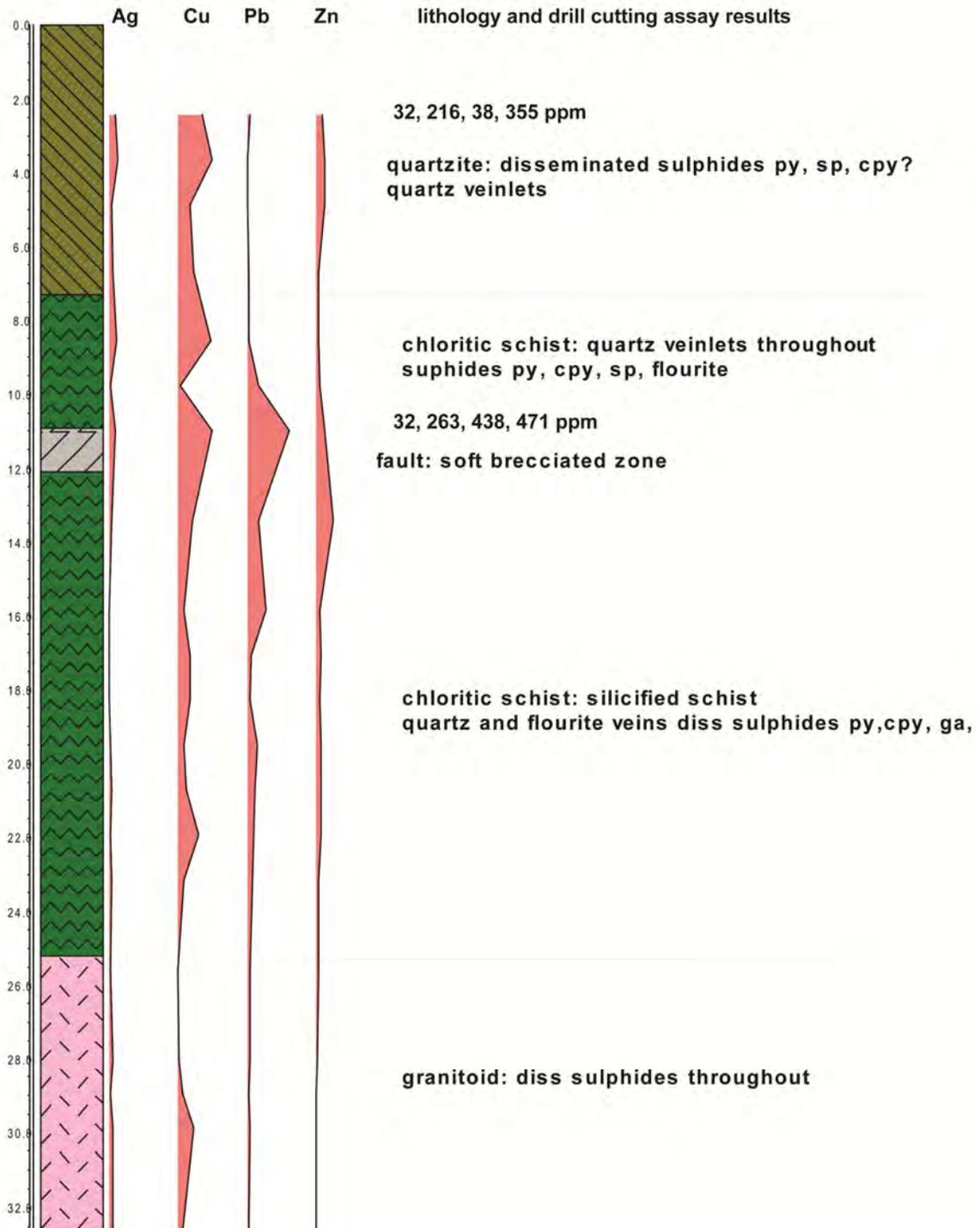


Figure 6. Drill hole P-07-1 from (Ross, 2008) with drill cutting assay values and core description. Locations on Fig. 3.

**P-07-2**



**Figure 7. Drill hole P-07-2 from (Ross, 2008) with drill cutting assay values and core description. Locations on Fig. 3.**

Baldwin (1991) reported on two drill holes collared across the major geophysical and geochemical targets defined by previous surveys (Figs. 3, 4). He described bimodal volcanic and metasedimentary sequences in the cores and also described stringer Cu-Pb-Zn sulphide mineralization but inexplicably did not report or conduct any base metal assays. Silver and gold assays were done and produced background to slightly elevated results. Baldwin (1991) however, did define a mineralization/exploration model based on an analogue of the disseminated/stringer sulphide mineralization in the Porcupine Property with the Bathurst Mining Camp (Fig. 5). He concluded (1991, p. 8) that "**the entire section is favorable for the occurrence of Bathurst-type massive volcanic hosted sulfide mineralization (VHMS).**"

In the mid 1990's a regional geochemical survey was completed on the Porcupine claim groups by BHP (Williamson, 1998). A total of 652 soil, stream sediment and seep sediment samples were collected on magnetic east west grid lines spaced 200m apart. The samples were sieved to <80 mesh and analyzed by Acme Analytical (Vancouver) using standard ICP techniques. The claim areas show some very strongly anomalous samples (especially seep sediment samples) with values as high as **7175 ppm Cu, 3894 ppm Zn, 18360 ppm Pb (Table 4)**. These anomalies coincide with the mineralized float area located by earlier workers but new areas to the southeast and south were also found (Fig. 3). Williamson (1998) reported background levels for Cu, Pb and Zn (mean values for all samples) as 29 ppm, 84 ppm and 85 ppm respectively. The author arbitrarily used levels of 200 ppm for Cu and Pb and 300 ppm for Zn as cut-off values for anomalous samples shown on Figure 3 and Table 4.

False anomalies are possible in soil and stream sediment samples from seeps, due to the leaching of metal ions from disseminated non-economic mineralization up-slope and precipitation of these cations at slope breaks due to changing Eh-pH conditions (Levinson, 1974). The BHP anomalies are to some extent verified by anomalies in standard B-horizon soil samples adjacent to seeps, but the magnitude of the soil anomalies are often diminished in the B Horizon. **Not mentioned in the BHP report were significant rare earth element (La) anomalies that in many cases were associated with base metal anomalies (Table 4). The highest La value obtained was 1145 ppm approximately 40 times the natural abundance in the earths crust.** This sample was obtained in a groundwater seep, so these values may be enhanced through some form of ion complex mobilization and re-precipitation in the secondary environment. Indeed, research has shown enhancement of REE levels in organic soils compared with podzols and other soil catenas (Lijun, 1998). Nonetheless, anomalous La-REE levels were also obtained in adjacent standard soil samples (Table 4). These La anomalies led subsequent workers to do further analyses of REE s in soils with encouraging results.

In 1998 Eastmain Resources (Kendle, 1998) reviewed some of the previous data and conducted its own 13 sample geochemical survey verifying previous survey results.

In the new millennium prospectors Frank Ross and Ole Kristiansen conducted detailed soil surveys (517 samples from 2000-2008) and prospecting on the Porcupine Property

over several years and drilled two additional short holes with assay results. They essentially verified the main historical anomaly area first defined in the 1960's by Rio Tinto (Fig. 3) but could not verify highly anomalous seep samples reported by Eastmain Resources Ltd. (Kendle, 1998). Mineralized float boulders were found in the vicinity of the Noranda trench but no bedrock source was found (Table 3). In the Ross-Kristiansen surveys soil samples were extracted using Aqua Regia and analyzed by ICP for 34 elements at Activation Labs Ltd.

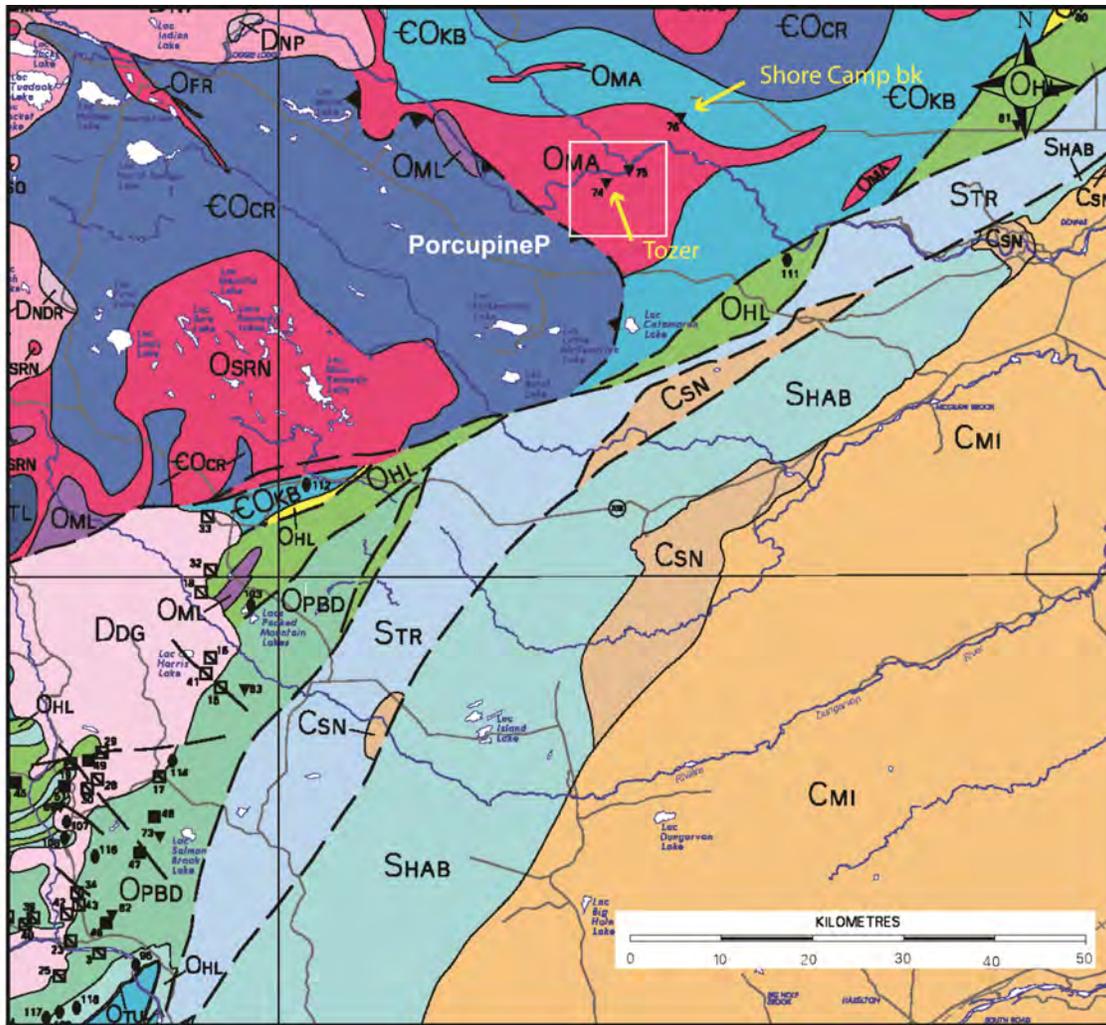
Soil surveys in 2004 -2006 were conducted over the main historical anomaly and an area to the northeast and south (Fig. 3). A new base metal anomaly was defined by several soil samples northeast of the main anomaly area on Porcupine 1 (Fig. 3). A single line of samples in Porcupine south produced anomalous Ce and La assays (258 ppm; 79 ppm).

Ross (2008) drilled two short holes (P-07-01 and P-07-02; Figs. 3, 6, 7) close to what he considered to be a mineralized bedrock outcrop located on the trail through the main target area in the north Porcupine. He used a small home made drill with EW size rods and describes difficult ground conditions and poor core recovery as a reason for the decision to analyze drill core cuttings. **At the top of Hole P-07-01 chloritic schist was encountered and within that unit a silicified section was intersected with elevated Cu Pb and Zn values assaying 400, 650 and 3130 ppm respectively and also with a maximum value of 408 ppm W.** Drill hole P-07-01 bottomed in silicified feldspar crystal-lithic tuff containing minor disseminated sulphides and a zone assaying 329 ppm (9 oz per ton) Ag (Fig. 6). Drill hole P-07-02 encountered quartzite, then schist and bottomed in granite containing very fine grained sulfides (Fig. 7). Elevated levels of Cu, Pb and Zn were found in drill hole P-07-02 along with W anomalies (Fig. 7).

A suite of samples obtained on the Porcupine south grid property by O. Kristiansen (2008) was assayed for a full suite of REE elements by Activation Labs Inc. in Ancaster Ontario using AR-Mass Spec and INAA (Neutron Activation). One sample (P-8-10) produced a highly anomalous TREE (total sum of REE levels) value of 1978 ppm (Table 5). Kristiansen (2008) noted that the sample was taken from a swampy area unlike many other background samples which were obtained from regular b-horizon soils. Mixing of sample media can produce a much higher variability in geochemical results and unfortunately has been done in all previous surveys. Follow up work on the same area produced similar anomalous REE levels in soils numbers but Kristiansen (2008) admits to sampling only the organic A-horizon in follow up sampling. Studies have shown the REES can be concentrated preferentially in organic soils (Lijun, 1998).

GreenLight Resources Inc. optioned the Porcupine Property from Kristiansen and Ross in 2010 and conducted exploration on the Property in 2010-2011 (described in detail in Section 9). The following expenditures were incurred by GreenLight during that period.

FS Date	Financials	Amount	Cumulative
28-Feb-11	2010 Year End	\$ 18,500	\$ 18,500
31-May-11	2011 Q1	\$ 25,360	\$ 44,810
31-Aug-11	2011 Q2	\$ 93,005	\$ 137,815



- 
 ENDOGRANITIC AND OTHER GRANITE-RELATED GREISENS OR SHEETED VEINS, STOCKWORKS, PEGMATITES, BRECCIAS, AND QUARTZ AND/OR CARBONATE
  
- 
 CONTACT METASOMATIC (SKARN) DEPOSITS
  
- 
 VOLCANIC HOSTED VEIN, DISSEMINATED, BASE METAL-GOLD
  
- 
 Bathurst Mining Camp

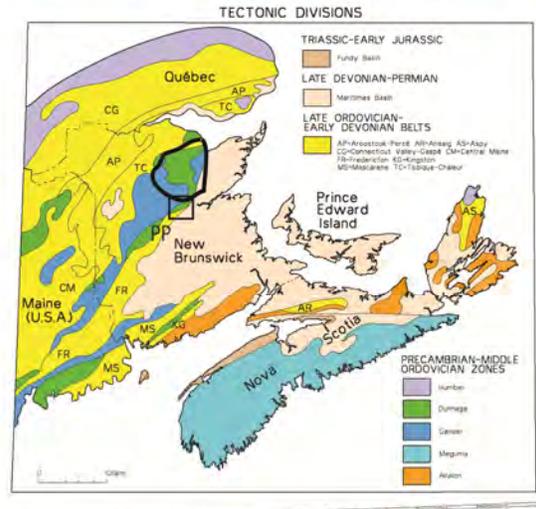


Figure 8. Bedrock geology and mineral deposits of central New Brunswick (after Smith and Fyffe, 2006). Bedrock unit legend next page.

## Fig. 8 UNIT DESIGNATIONS

### LATE CARBONIFEROUS PICTOU GROUP

CMI Minto Formation

### EARLY CARBONIFEROUS MABOU GROUP

Csn Shin Formation

### KINGSCLEAR GROUP

SHAB Hayes Brook Formation

STR Taxis River Formation

### LATE ORDOVICIAN - EARLY SILURIAN MATAPEDIA GROUP

OSWH White Head Formation

### ORDOVICIAN GROG BROOK GROUP

OBO Boland Brook Formation

### TETAGOUCHE GROUP

OPBD Push and Be Damned Formation

OHL Hayden Lake Formation

### CAMBRIAN - EARLY ORDOVICIAN MIRAMICHI GROUP

KB Knights Brook Formation

CR Chain of Rocks Formation

### ORDOVICIAN-LATE DEVONIAN granitoid rocks

DDG Dungarvon Granite

### EARLY DEVONIAN BIG BALD MOUNTAIN PLUTONIC SUITE

DNDR North Dungarvon River Granite

DNP North Pole Stream Granite

OMA Malcolm Brook Porphyry

## 7.0 GEOLOGICAL SETTING AND MINERALIZATION

New Brunswick forms part of the northern Appalachians and comprises three of the five tectonostratigraphic zones recognized in this orogen (Williams, 1979). These are, from south to north, respectively, the Avalon, Gander and Dunnage zones (shown on inset in Fig. 8), which are mainly defined on the basis of their pre-Silurian geology. The Gander and Dunnage zones are commonly combined into the Central Mobile Belt (CMB) and are generally thought to represent the vestiges of a Lower Palaeozoic west facing passive margin and an oceanic (Iapetus) or back-arc basin (Williams 1979; Rogers et al., 2007).

The Miramichi Highlands (Fig. 8) is the principal area where Cambro-Ordovician rocks of the Gander and Dunnage zones are exposed in New Brunswick. In the northern part of the province these rocks have been separated into four groups: 1) Miramichi Group, 2) Tetagouche Group, 3) Fournier Group and 4) Balmoral Groups. The Miramichi Group (Fig. 8) dominates the area around the Porcupine Property and comprises a monotonous sequence of quartz wacke and pelite of unknown thickness. Pelite becomes more abundant and graphitic towards the stratigraphic top. The Miramichi Group is Arenigian in age and older (Smith and Fyffe, 2006) and comprises the Gander Zone in northern New Brunswick. The Tetagouche Group conformably (locally disconformably) overlies the Miramichi Group, and consists mainly of a suite of Middle Ordovician felsic and mafic volcanic rocks (Fig. 8). It is the Tetagouche Group that hosts most of the massive sulphide deposits of the Bathurst Mining Camp.

The bedrock geology and mineralization of the Porcupine Property is poorly understood. Regional government bedrock mapping has been cursory and somewhat contradictory. For example (Anderson, 1969) mapped the Little SW Miramichi River section within the Porcupine Property as metasedimentary rocks whereas Irrinki's open file map (1977) shows the section as comprised of felsic volcanic rocks, foliated granite and metasedimentary rocks. The most recent regional compilation (Smith and Fyffe, 2006) shows that the area is underlain by the Ordovician Malcolm Brook porphyry, an intrusive body. Industry mapping on the Property, although thorough, has been conducted close to the showing and has failed to establish any regional correlations. The importance of a regional outlook is to establish whether the volcanic rocks in whole or in part could belong to the Ordovician volcanic rocks that host the Bathurst Mining Camp massive sulphide deposits. Complex deformation, with thrusting and transpressive faulting has affected the rocks of the Miramichi Highlands so it is conceivable that the property could represent a faulted outlier of Tetagouche Group rocks.

Industry mapping (Watson, 1961; MacKenzie, 1981a) has established that four main lithological units comprise the property area (Fig. 3).

1. Porphyritic (quartz-feldspar) felsic volcanics.
2. Highly contorted quartzite and phyllite (metasediments).

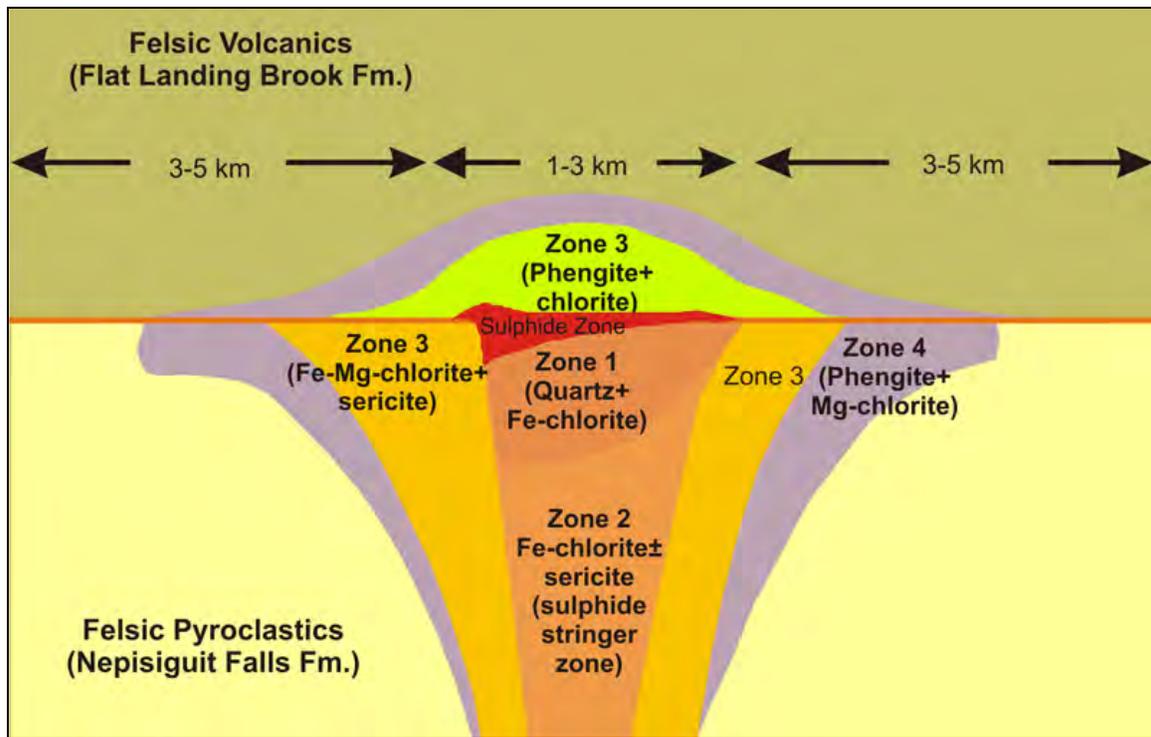


Figure 9. Schematic model of VHMS mineralization in the Bathurst Camp (after Galley et al., 2007).

3. Gneissic (foliated) granite.
4. Mafic metavolcanics.

Structure within the metasediments is complex and poorly understood. The sequence appears to be dipping shallowly to the southwest in the southern and eastern parts of the Property but sections along the Little SW Miramichi River are highly deformed and indicate faulting in the western part of the Property (Watson, 1966; MacKenzie, 1981a).

**This inferred fault appears to coincide with REE anomalies in the most recent surveys by GreenLight Resources.** A granite intrusion has been mapped by MacKenzie (1981a) based on a few outcrops (Fig. 3), but TexasGulf drill cores (TG-1; TG-2; Fig. 3) within his inferred granite area revealed feldspathic quartzites.

All rocks have undergone regional greenschist metamorphism. Sulphide mineralization was noted in angular float and outcrop at many locations along the main access road, in the Noranda trenches and along the Little Southwest Miramichi River (Watson, 1966; MacKenzie, 1981; Ross, 2006). The mineralization varies from trace amounts to stringer type consisting of disseminated pyrite, chalcopyrite, bornite and sphalerite. One type of host rock for this mineralization in the Porcupine Property appears to be light grey-green, fine grained felsic tuff or felsic epiclastic volcanic sediment exhibiting chloritic (sericitic) alteration (MacKenzie, 1981a).

Baldwin (1991) suggested that the styles of mineralization of the boulders and outcrop and geology at the Porcupine Property have some affinities to VHMS deposits. Most of

the area is buried under a thick cover of glacial drift and with only a few drill holes little is known about the property geology. Petrogenetic interpretation of base metal mineralization must await location of the source of mineralized boulders and more robust geological data with a description of the type, character and distribution of the mineralization.

REE soil anomalies found in past work and in the recent exploration by GreenLight Resources (D. Black pers. comm., 2011) have not as yet been verified by bedrock or float assays. As stated earlier it is possible that some of these elevated REE numbers may be hydromorphic anomalies. If these soil anomalies are sourced in rocks with elevated or anomalous REE content then either the VHMS hydrothermal system is contributing to elevated REE content (Galley et al., 2007) or another mineralization event or process is responsible. Hard rock REE deposits are known in carbonitites, peralkaline intrusions and pegmatites as well as granitoid-related hydrothermal vein deposits and are often associated with Th, U and F (Castor and Hedrick, 2006). **Finding hard rock or mineralogical evidence in glacial till for REE mineralization in the vicinity of soil anomalies is essential to move this property forward.** There are numerous granite-related mineral showings including U and F along the Miramichi Highlands to the south of the Porcupine Property although REE mineralization has not been reported (Fig. 8). The granite outcropping on the property may therefore play a role in potential REE mineralization.

## 8.0 DEPOSIT TYPES

It is clear from the nature of rocks present on the Porcupine Property and the types of mineralization present that a volcanic hosted massive sulphide (VHMS) mineralization model is one possible scenario that should be followed up in further exploration (Fig. 9). VHMS deposits are a type of metal sulfide ore deposit, mainly Cu-Zn-Pb which are associated with and created by volcanic-associated hydrothermal events in submarine environments. They are predominantly layered accumulations of sulfide minerals that precipitate from hydrothermal fluids on or below the seafloor in a wide range of ancient and modern geological settings. In modern oceans they are synonymous with sulfurous plumes called black smokers. These deposits occur within environments dominated by volcanic or volcanic-derived (e.g., volcano-sedimentary) rocks, and the deposits are contemporary and coincident with the formation of associated volcanic rocks. As a class, they represent a significant source of the world's Cu, Zn, Pb, Au, and Ag ores.

### 8.1. Bathurst Mining Camp

The Miramichi Highlands of NE New Brunswick host the Bathurst Mining Camp (BMC) comprising a roughly circular area of approximately 70 km diameter with 45 volcanic-sediment hosted massive sulphide deposits and over 100 occurrences, including the super-giant Brunswick No. 12 deposit with published reserves of 230 Mt grading 7.66

wt. % Zn, 3.01 wt. % Pb, 0.46 wt. % Cu, and 91 g/t Ag (Goodfellow, 2007; Fig. 8). The Porcupine Property is partially encompassed within this broad suite of volcanic rocks and sulphide mineral occurrences **but the mineralization described in the BMC is not necessarily indicative of the mineralization on the Porcupine Property.**

BMC deposits formed in a sediment-covered back-arc continental rift, referred to as the Tetagouche-Exploits backarc basin, during periods when the basin was stratified with a lower anoxic water-column. The basin was subsequently intensely deformed and metamorphosed during multiple collisional events related to east-dipping subduction of the basin. Felsic magmatism not only supplied heat to the hydrothermal system but also fluids enriched in several metals, including Sn, In, Au, As, and Sb (Goodfellow and McCutcheon, 2003). The vent complexes that host the massive sulphides are typically underlain by sulfide stringer zones that are highly deformed and locally offset by low-angle faults. A chloritic phyllite with variable amounts of disseminated pyrite-pyrrhotite-chalcopyrite (>0.5 %Cu) typifies the footwall of the Halfmile Lake deposit whereas the footwall of the Brunswick-type generally consists of chlorite and/or sericite-chlorite schists that locally contain minor amounts of volcanic (dark) quartz. Pyrite, pyrrhotite, magnetite and apatite are locally important accessory minerals. Chloritic and sericitic alteration zones are widespread within individual deposits (1–5 km laterally and hundreds of meters vertically; Goodfellow, 2007).

Most deposits in the Bathurst Mining Camp are characterized by coincident, circular to oval positive magnetic and apparent conductivity anomalies of variable intensity. This is particularly true in the northwest part of the Camp where the host rocks are dominated by weakly magnetic and poorly conductive felsic volcanic rocks. The magnetic response reflects magnetite and pyrrhotite that are concentrated in most massive sulfide deposits in the Camp. The magnetite occurs in vent complexes where it forms a magnetite-pyrite assemblage (Goodfellow and McCutcheon, 2003).

A classic VHMS model includes a “feeder” zone of mineralized quartz stockwork veins and stringer mineralization surrounded by regional alteration haloes (Galley et al., 2007). The salient features of the proposed mineralization model are presented in Figure 9. In the Bathurst Camp these feeder zone includes Fe-chlorite-quartz-sulphide±sericite± talc mineral assemblages commonly associated with the core of stockwork vein mineralization, which becomes increasingly quartz- and sulphide-rich towards the lower contact of the massive sulphide lens. The core zone is cloaked in a wider zone of Fe-Mg-chlorite-sericite, including phengite, in the part of this zone that encompasses the immediate hanging wall to the massive sulphide lens. **Petrographic and whole rock geochemical data are required to establish if mineralization on the Porcupine Property conforms to the Bathurst Camp VHMS model or some other hydrothermal system.**

## 9.0 EXPLORATION

Explorex Capital Ltd and GreenLight Resources Ltd. interest in the property was triggered by the presence of strong rare earth element anomalies in soils collected on the adjoining property to the south (License 4742; Fig. 2) by BHP (Williamson, 1996) and Kristiansen (2009). In the BHP survey several samples with values >1000 ppm La occurred both as isolated highs and in conjunction with the known base metal anomalies. These anomalous zones occur along the northern contact between the gneissic granite and silicified wacke/meta-argillite sequence (Fig. 3). The 2011 GreenLight exploration effort was focused on verifying BHP (1996) La and Kristiansen (2009) REE soil anomalies by carrying out a soil geochemistry survey specifically for rare earth elements but with a multi-element package including base metals.

### 9.1. Exploration Methods

The exploration program at Porcupine was primarily focused on establishing a soil sampling grid to cover the area of historic soil geochemical anomalies and conducting boulder and outcrop prospecting. Seventeen ~1km long flagged grid lines were cut across the Joe Gorham Road on the Porcupine South Property (4742) in a NE-SW direction spaced about 100m apart except for closely spaced lines across REE anomalies in the Kristiansen (2009) survey (Fig. 3). Only 8 of these lines were used in the IP survey (Fig. 11). On the Porcupine North Property (4510) 13 0.5-0.6 km long lines spaced 100m apart were cut across the main historical anomaly area running NNW-SSE.

Nine hundred and eighty soil samples were taken along these cut lines at 25m intervals. The “B” zone soil was found to be well developed across the grid area and all samples were taken from this horizon. To the authors knowledge QA/QC procedures were instituted by Activation Labs (described later) and not as an integral part of the initial sampling design. The grid was prospected by a two man crew. Twelve mineralized rock (float boulder) samples were obtained from prospecting along grid lines in the south (Gorham Road) and north Properties (in the vicinity of the Noranda trench-Table 6). These mineralized or apparently mineralized rock samples were visually described in the field then sent to Activation Labs for assay.

In 2011 GreenLight Resources Ltd. undertook induced polarization/resistivity (IP) surveys over the north and south grid areas (Figs. 2, 10, 11). A total of 15.4 line km of IP were conducted; 7.8 km on the north and 7.6 km on the south grid. Induced polarization is the capacitance effect, or chargeability, exhibited by electrically conductive materials. Measurement of IP and resistivity is done by pulsing an electric current into the earth at

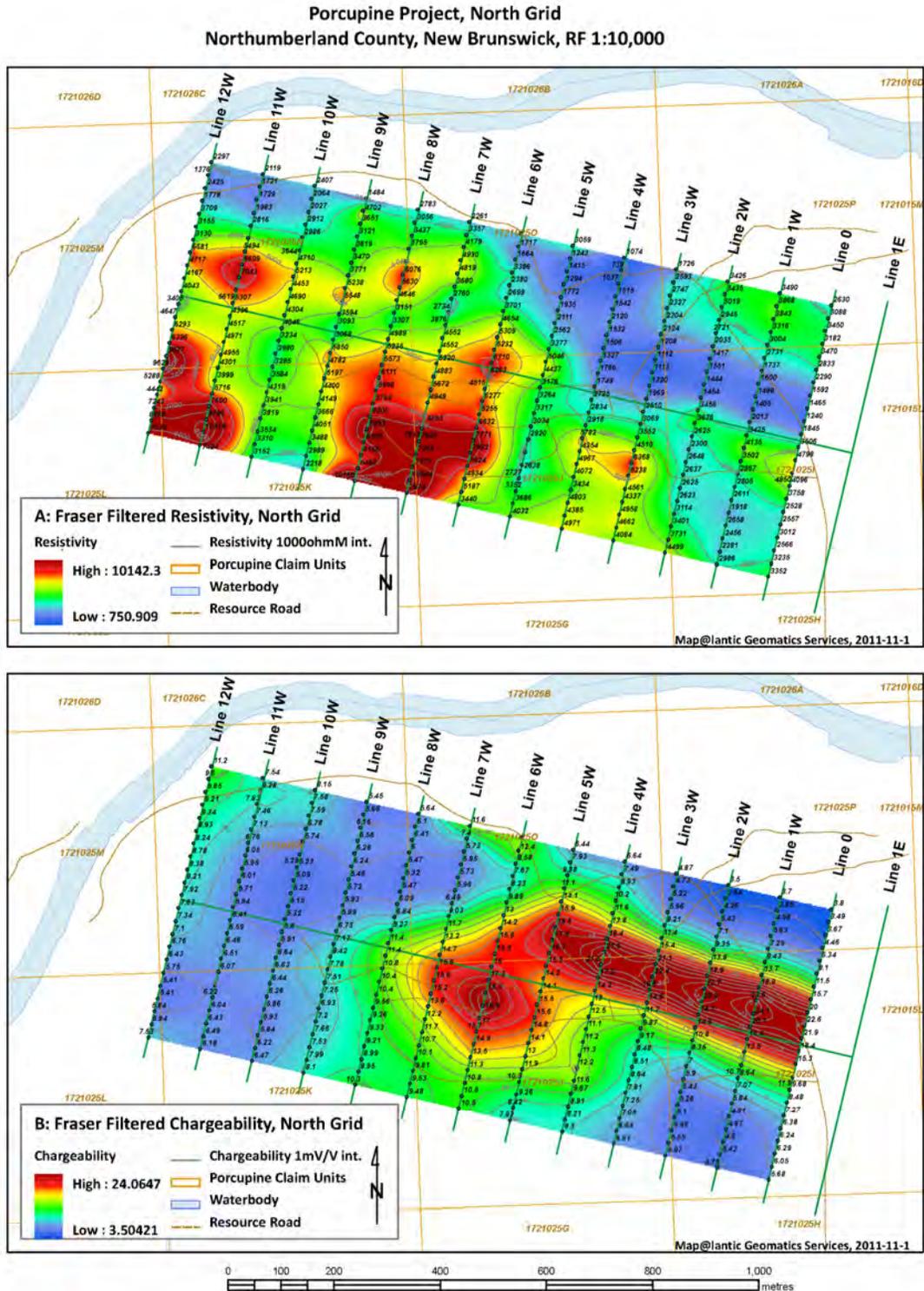
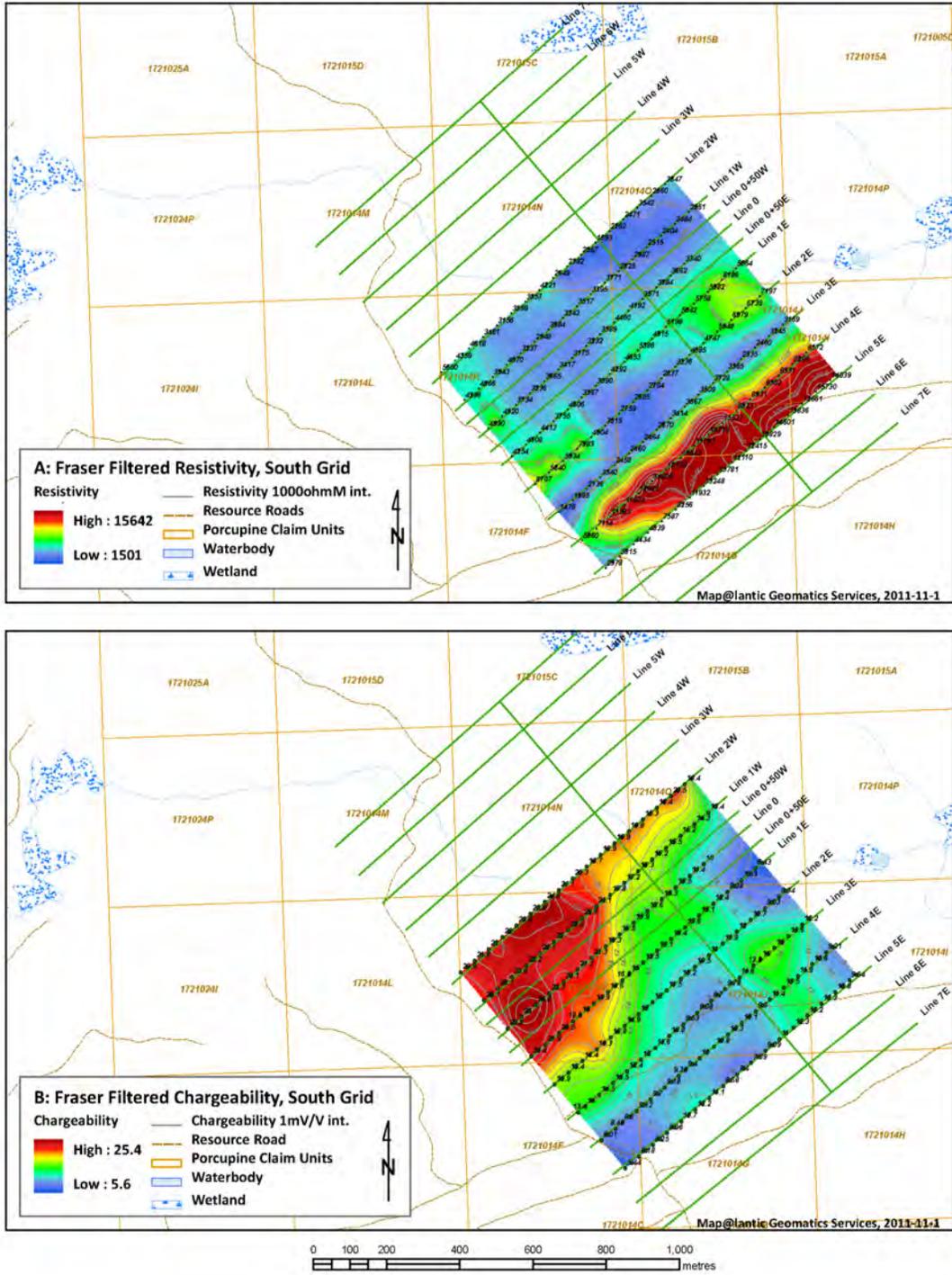


Figure 10. GreenLight Resources Ltd. resistivity (A) and chargeability (B) plots, North Grid, Porcupine Property

**Porcupine Project, South Grid**  
**Northumberland County, New Brunswick, RF 1:15,000**



**Figure 11. GreenLight Resources Ltd. resistivity (A) and chargeability (B) surveys, South Grid Porcupine Property.**

two second intervals through metal electrodes. Disseminated, conductive minerals in the ground will discharge the stored electrical energy during the pause cycle. The decay rate of the discharge is measured in milliseconds by the IP receiver. Resistivity geophysical surveys measure variations in the electrical resistivity of the ground, with a low frequency current applied across the outer electrodes and the voltage measured across the inner electrodes. The voltage is converted into a resistivity value in ohms/meter representing average ground resistivity between the electrodes.

Eastern Geophysics Ltd (NS-NFDL) was contracted by GreenLight Resources Ltd. to complete the work. The survey was conducted using a “moving setup” with five person crew moving continually along grid lines at an electrode (a) spacing of 25m for “n” (depth) of 1 to 6. The IP system used for this survey was the ELREC IP-6 receiver, the Phoenix IPT-1 transmitter and the Phoenix MG-2, 2.5 KVA motor generator.

## 9.2. Exploration Results

Prospecting by GreenLight Resources Ltd. in 2011 produced a number of mineralized boulders mainly in the vicinity of the main historical anomaly in Porcupine North (Table 6). The assays are given in Table 6 and several samples with disseminated visible chalcopyrite, and galena had concomitant anomalous base metal content (e.g. **Cu-1.56%; Pb-7.34%; Zn- 4.94% and Ag-73 g/t**). Cu-Pb-Zn and Ag mineralization is hosted by a variety of rock types including mafic tuffs, metasediments and sheared granite. These rock type designations are based on visual identification alone and therefore given the difficulty in establishing petrography and origin of foliated granitoid and volcanic rocks a more rigorous approach is required. Ross (2008) described a mineralized outcrop in the historical anomaly area of Porcupine North but the author and Don Black (Exploration Manager of GreenLight Resources; pers. comm., 2011) could not verify the location of this mineralized outcrop in field visits. **The source of these anomalous boulders is still uncertain, but given the variety of mineralized rock types and soil/geophysical anomalies a large area of subcropping mineralization is implicated (Table 6).**

A basic statistical summary for all elements of the 2011 geochemical survey is given in Table 7. Cu values in the soil data sets produce a mean value of 16 ppm and standard deviation of 16 ppm with a maximum value of 191 ppm (Table 7). Zn has a mean value of 76 ppm and standard deviation of 66 ppm with a maximum value of 764 ppm. Pb has a mean value of 30 ppm, a standard deviation of 28 ppm and a maximum value of 378 ppm. Ag has a mean value of 0.23 with a standard deviation of 0.20 ppm and a maximum value of 5.4 ppm. These base metal levels are somewhat lower than in previous surveys (eg. Williamson, 1996) where trace element levels in organic soils and seep samples appear to be considerably enhanced. The lower mean and maximum base metal values between the GreenLight 2011 survey and historical work described earlier can be attributed in part to differences in analytical technology but mostly are a result of consistent sampling of the B soil horizon and avoiding mixing of organic A- horizon soils and seeps with B-Horizon soils as was done in earlier surveys (D. Black, pers. comm., 2011).

The main feature to emerge from the GreenLight Resources Ltd. soil sampling survey on the Porcupine North Property are strong, coincident east-west trending Cu, Pb, Zn and Ag soil anomalies lying between L0 and L9W on the north side of the grid base line (Figs. 12a, b; 13a). The Zn anomaly is the most coherent with a strike length of ~ 1km and width of ~200m. The Cu anomaly (Fig. 13a) is coincident with Pb and Zn anomalies up to line 4W. At this point a series of Cu peaks appear aligned in a NW-SE trend which may indicate a linear fault or shear zone control. The eastward anomaly trends are roughly parallel to strike (Fig. 3), but also parallel to ice flow directions (eastward).

Anomaly contour plots show abrupt (westward) up-ice cutoffs and attenuated eastward-trending down-ice tails characteristic of glacial dispersal fans (Shilts, 1976; Miller, 1984; Fig. 14). The distinctive glacial dispersal morphology can be used as a model to site trenches for follow-up work. **The most likely source of the anomalies, if glacially dispersed, would be some distance up-ice of the major peaks and along strike of the contoured anomaly.** The distance up-ice of the source to the first peaks depends largely on till thickness (Fig. 14). Soils developed on a thin till (<1m) will generally reflect the composition of immediately underlying bedrock. As the glacial dispersal model suggests (Fig. 14) dispersed soil anomalies in thicker overburden can be displaced tens to hundreds of meters from their bedrock source. The thickness of glacial drift in the area is known from drill holes to vary from <1m to 5m in thickness.

Niobium and tantalum levels may indicate the presence of evolved granitic rocks important in a REE exploration model. In the northern grid area niobium values show a marked increase in levels from <1 to 20 ppm on Lines 2 and 3W over the mapped granite area but not of a magnitude to suggest the abundance of tantalite minerals. Ta levels are uniformly low throughout the study area.

The GreenLight chargeability plots for the north grid area show a high conductivity zone seemingly confined to the metasedimentary (schist/quartzite) horizon that historical drilling has shown to be characterized by disseminated sulphide mineralization (Figs. 6, 7, 10a). These data are a confirmation of historical geophysical surveys which have demonstrated a NW-SE linear conductivity trend along the metasedimentary unit or possible fault (Fig. 4; MacKenzie, 1981a). What is different from previous surveys is a bulls-eye chargeability anomaly over the mapped gneissic granite (Fig. 10b). This anomaly may be in fact situated over metasedimentary rocks given the uncertainty of contacts and TexasGulf drillhole data (Fig. 3) which indicate metasedimentary rocks at this location. The north grid resistivity plots shows a roughly circular anomaly in the southern portions of Lines 6W to Line 8W that may correspond to the actual subcropping granite body (Fig. 10a).

Base metal values in the Porcupine South grid area were generally of background levels with some sporadic, slightly anomalous peaks. The anomalies did not produce a coherent pattern of coincident anomalies as in the north grid areas and are therefore considered insignificant from an exploration point of view.

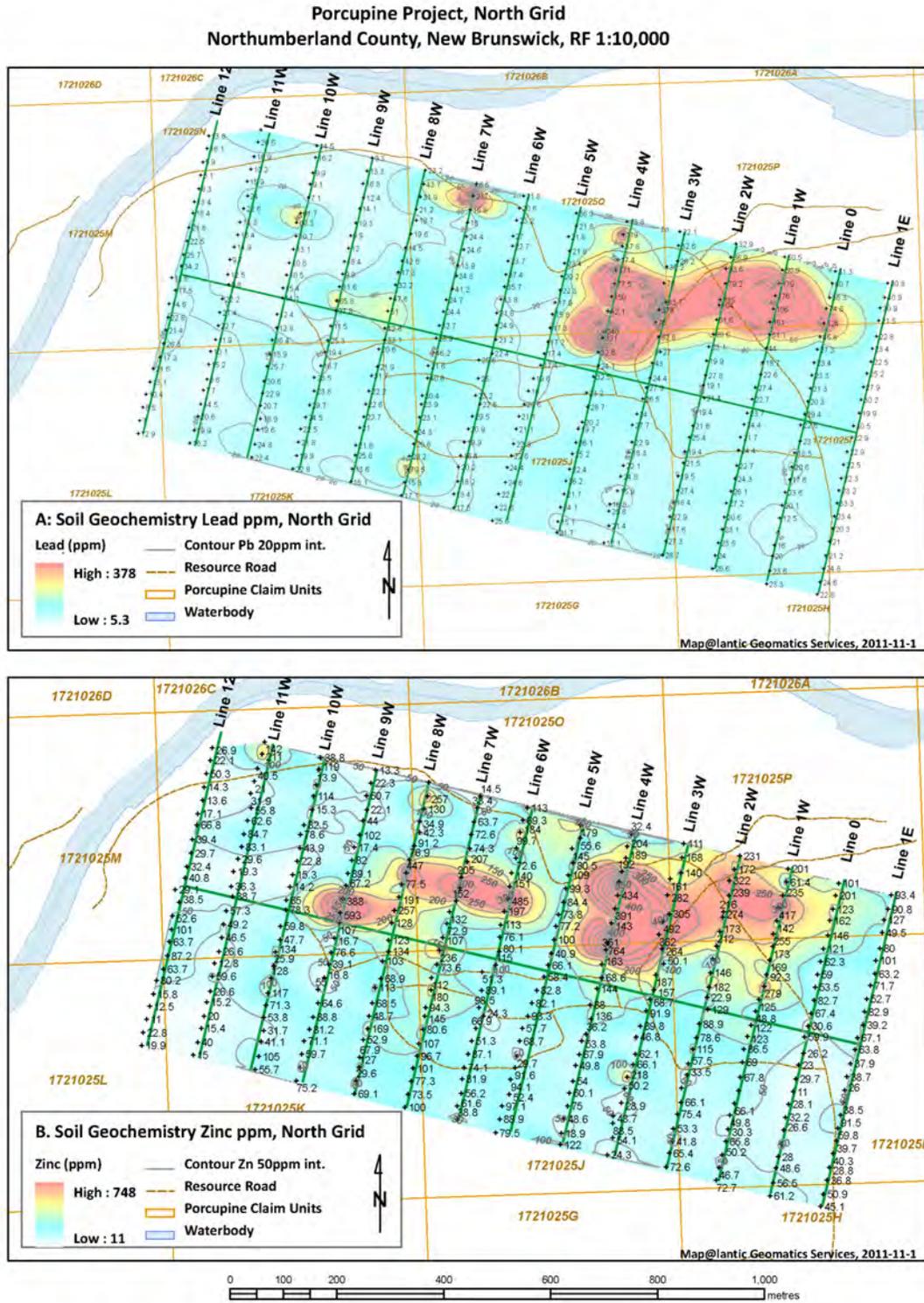


Figure 12. Pb and Zn geochemical contours, Porcupine North grid

**Porcupine Project, North Grid**  
**Northumberland County, New Brunswick, RF 1:10,000**

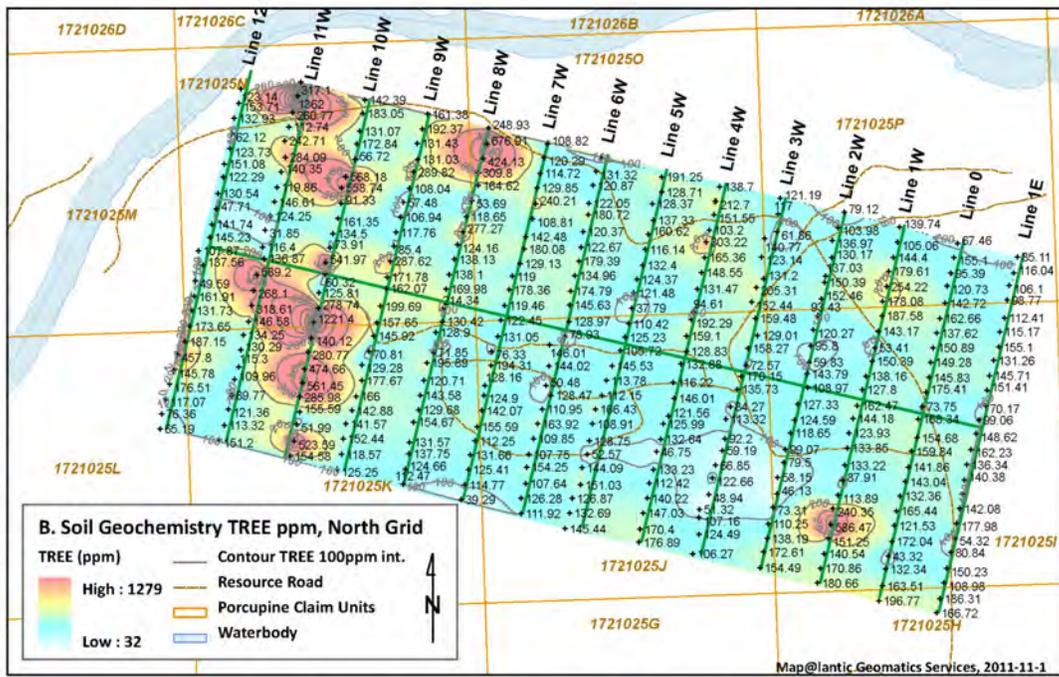
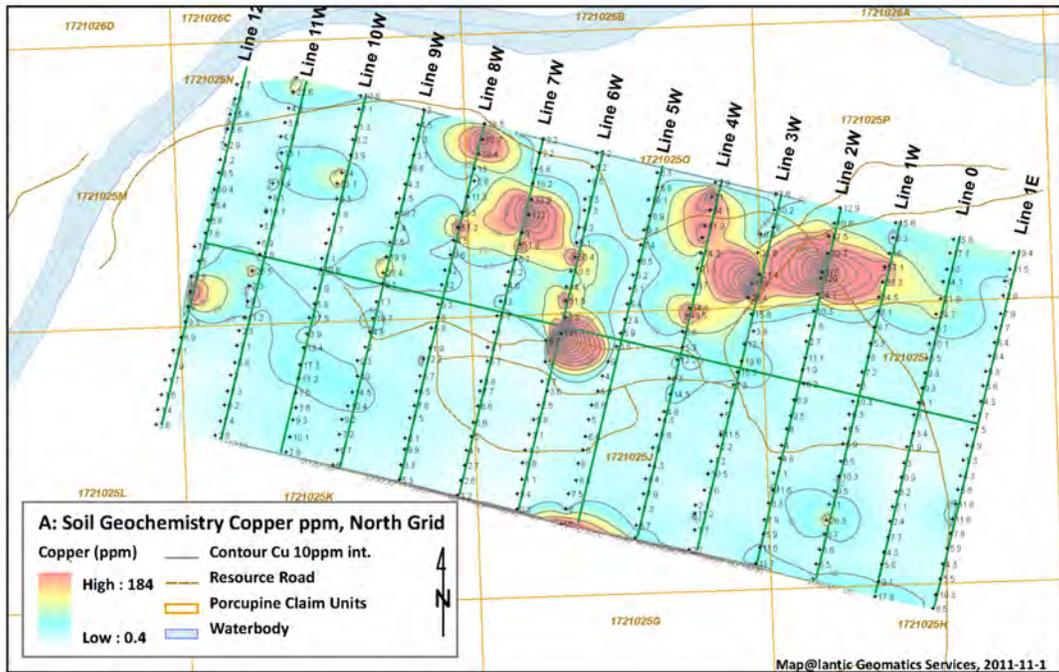


Figure 13. Cu and TREE geochemical contours, Porcupine North grid.

The Lanthanide series of elements traditionally have been divided into two groups: the light rare earth elements (LREEs- La, Ce, Pr, Nd, Eu), and the heavy rare earth elements (HREEs –Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu). Although Yttrium (Y) is the lightest REE, it is usually grouped with the HREEs to which it is chemically and physically similar. The values of rare earth elements are often summed as total (TREE) element levels or the sum of light and heavy rare earth elements. The similarity of chemical properties of the Lanthanide series of elements makes this sum simplification feasible. LREE values in the soil data sets produce a mean summed value of 155 ppm and standard deviation of 112 ppm with a maximum value of 1263 ppm (Fig. 15; Table 7). HREE have a mean summed value of 10 ppm and standard deviation of 6 ppm with a maximum value of 99 ppm. These values are significant anomalies roughly 10 time crustal abundances of 132.28 (LREE) and 35.9 (HREE) (Taylor and McClelland, 1985) and are similar to those values obtained in previous work (Ross, 2008; Table 5). Pertinent questions for further mineral exploration based on these geochemical data are:

1. **Are these anomalous REE levels due largely to mineralized resistant REE-bearing minerals in the soil (monazite? allanite? apatite?).**
2. **Are REE element levels in soils enhanced from background levels in bedrock by precipitation or adsorption of rare earth elements on clays or Fe\Mn hydroxides (i. e. “false” anomalies).**

The mobility of REE's in the secondary environment is considered to be low (Levinson, 1974), and lithophile elements like REE's are often contained in resistant silicate and oxide minerals. These factors would tend to suggest that hypothesis 1 is more likely, an advantageous exploration scenario. If these elements are present as resistant minerals then it is also likely that they could be at higher levels than measured in the soils as the analytical method employed does not fully digest these minerals. A total lithium borate fusion digestion is preferred for rare earth minerals.

La anomalies recorded during the BHP soil geochemical survey (Williamson, 1996) were associated with base metal anomalies in the historical anomaly area and also clustered in an area to the west of the north grid as stand alone anomalies (Fig. 3). The GreenLight soil survey produced REE anomalies in the western portion of the grid area in the same region as the BHP La anomalies (Fig. 13b) but did not reproduce any of the La anomalies that were coincident with base metal elevated and anomalous levels in the main historical area. TREE values of up to >1300 ppm were found along L11W on the northern grid and another cluster of TREE highs occurs at the northern ends of Lines 8W and 9W with TREE values up to 675 ppm. These somewhat spotty highs have a roughly northward trend but are surrounded by background samples. **REE anomalies do not appear to be associated directly with the granite as presently mapped, but are found in a north-trending zone between two resistivity highs that could represent a fault.** A fault in the western part of the north grid was indeed suspected by Watson (1961) based on geological mapping of strata along the Little SW Miramichi River (Fig. 3).

On the southern grid TREE anomalies form two distinct areas. They form an east-west trending coherent anomalous area on the till-covered slopes of the southern part of the

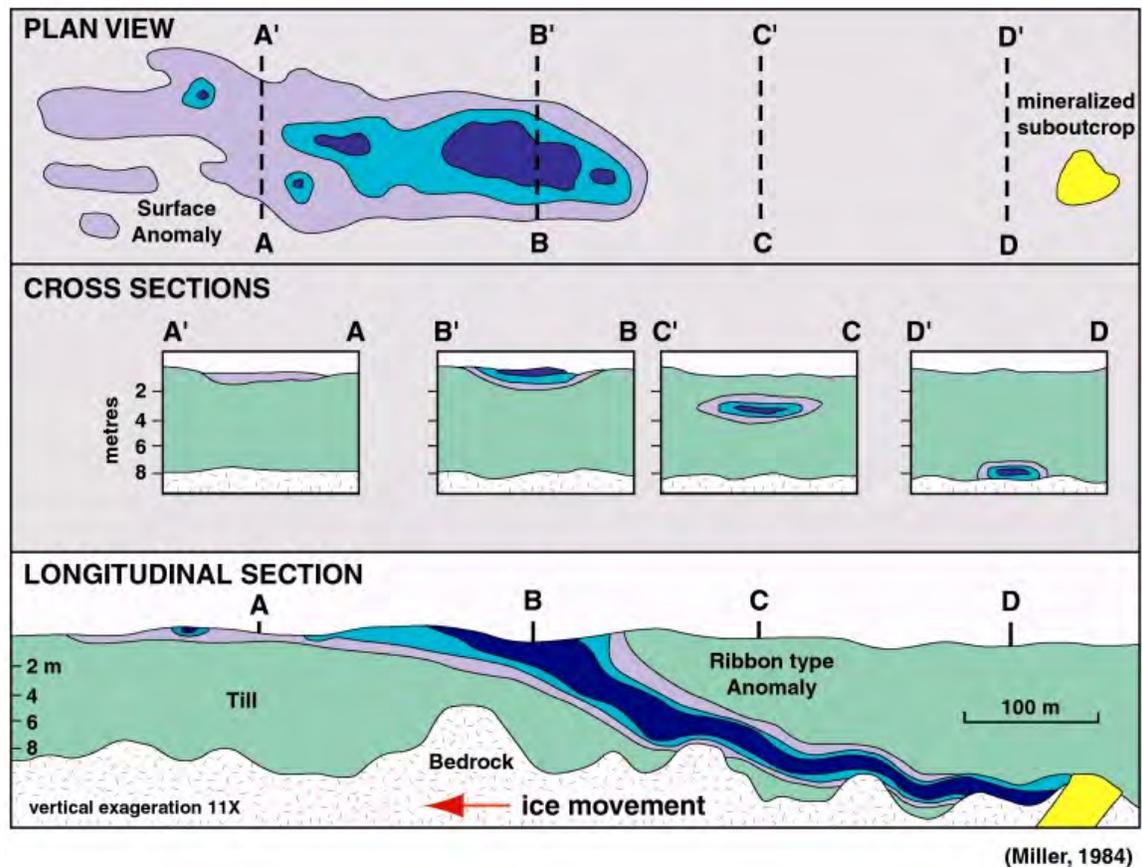


Figure 14. Model of a glacially dispersed geochemical anomaly in plan and cross section.

grid (Anomaly 1; Fig. 16) with TREE values up >800 ppm. This westward trending attenuated anomaly appears to have an aspect of glacial dispersal, parallel to eastward ice flow trends. Two other anomalies (Anomalies 2, 3; Fig. 16) are found in low ground coincident with the Kristiansen (2009) organic soil anomaly P-8-10 and also many La anomalies found during the BHP (1996) surveys (Fig. 16). The author suspects that in some fashion these anomalies may be related to groundwater seepage, but the lack of mobility of REE in the secondary environment would tend to negate this hypothesis (Levinson, 1964).

In the southern grid a strong resistivity contrast is found between Lines 3 and 4 W and parallel to the lines (Fig. 10a). It is strongly suggestive of a granite/metasediment contact and granite appears to outcrop along the Gorham Road within this anomalous resistivity area. TREE anomalies are parallel to but downslope of the resistivity contact. A chargeability high is found on the NE corner of the southern grid but doesn't correspond with significant base metal or TREE anomalies (Fig. 10b).

The GreenLight soil geochemical survey shows that REE anomalies are spatially distinct from base metal anomalies across the property in spite of some correspondence indicated by the BHP geochemical surveys in 1996 (Fig. 3). Cu-Pb-Zn mineralized rock samples taken by GreenLight in 2011 show only slightly elevated REE levels (Table 6). So if the REE soil anomalies are not caused by some form of hydromorphic redistribution of

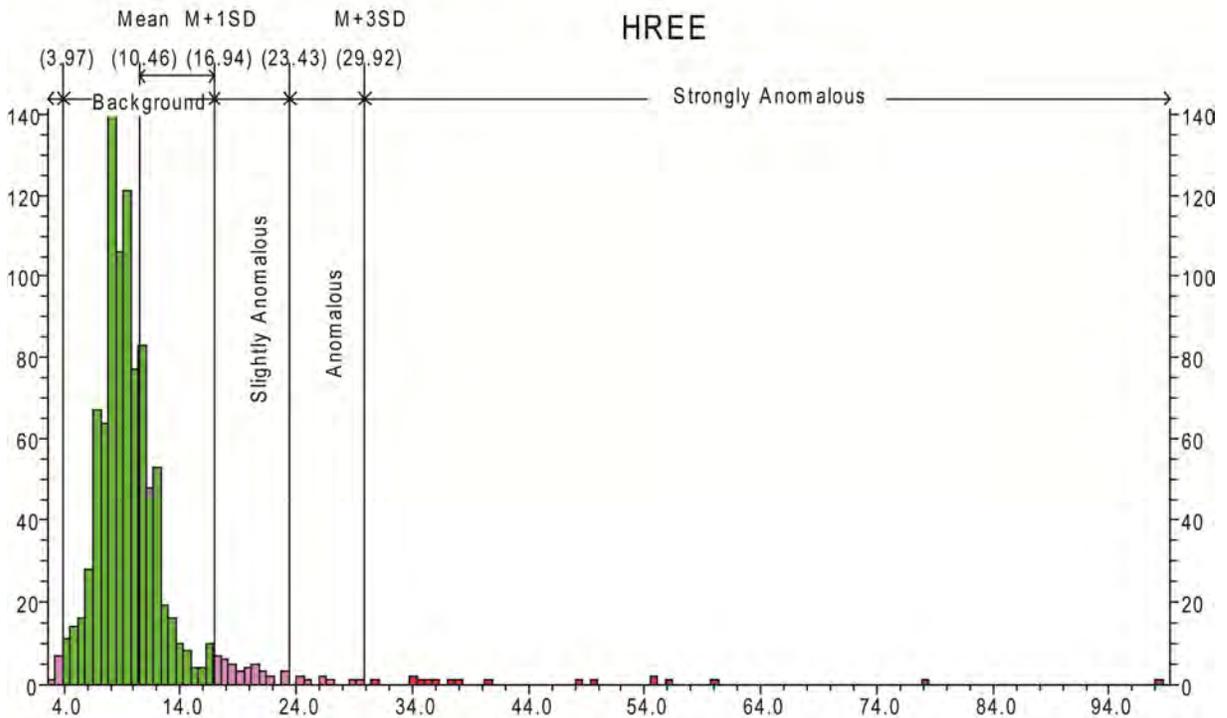
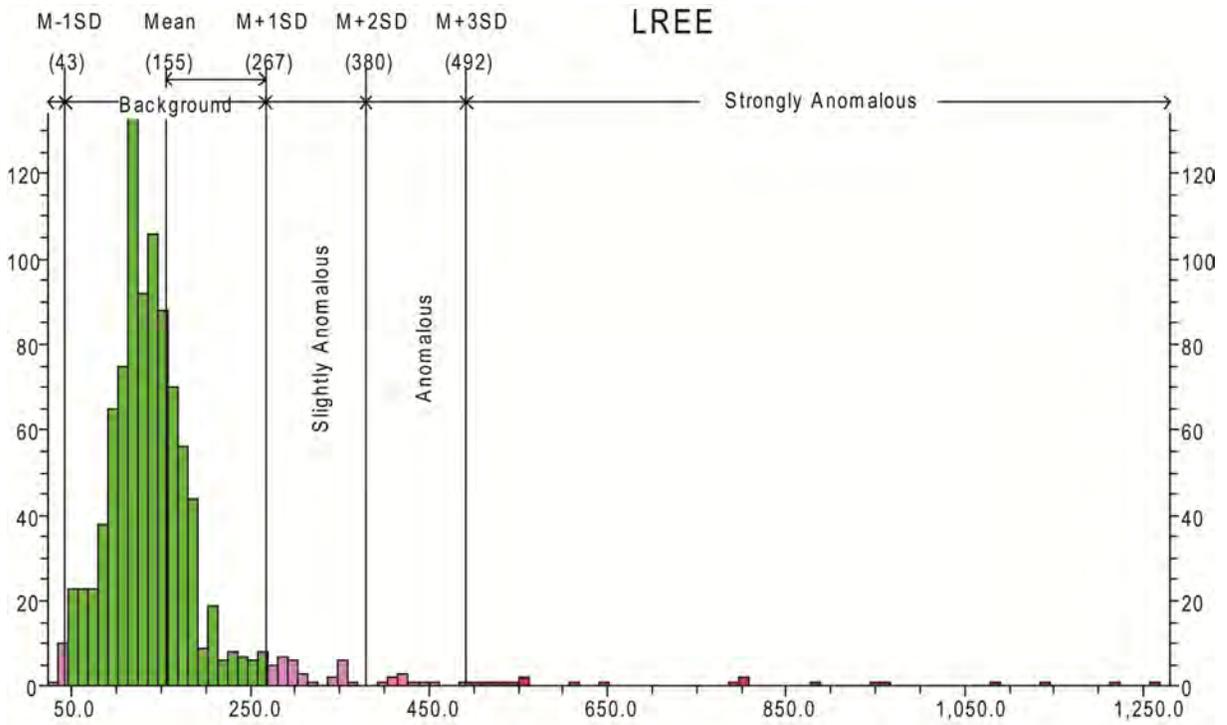
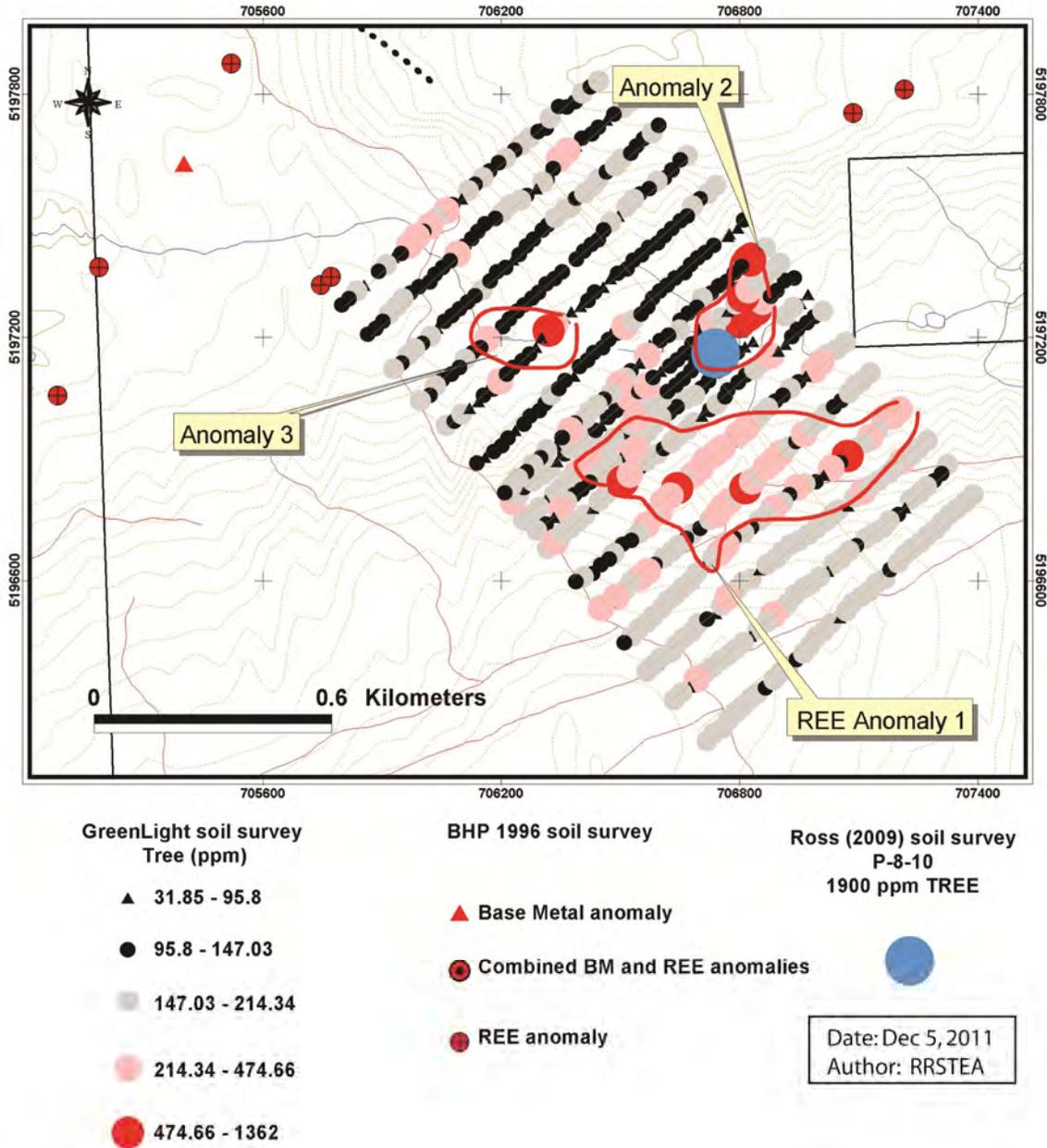
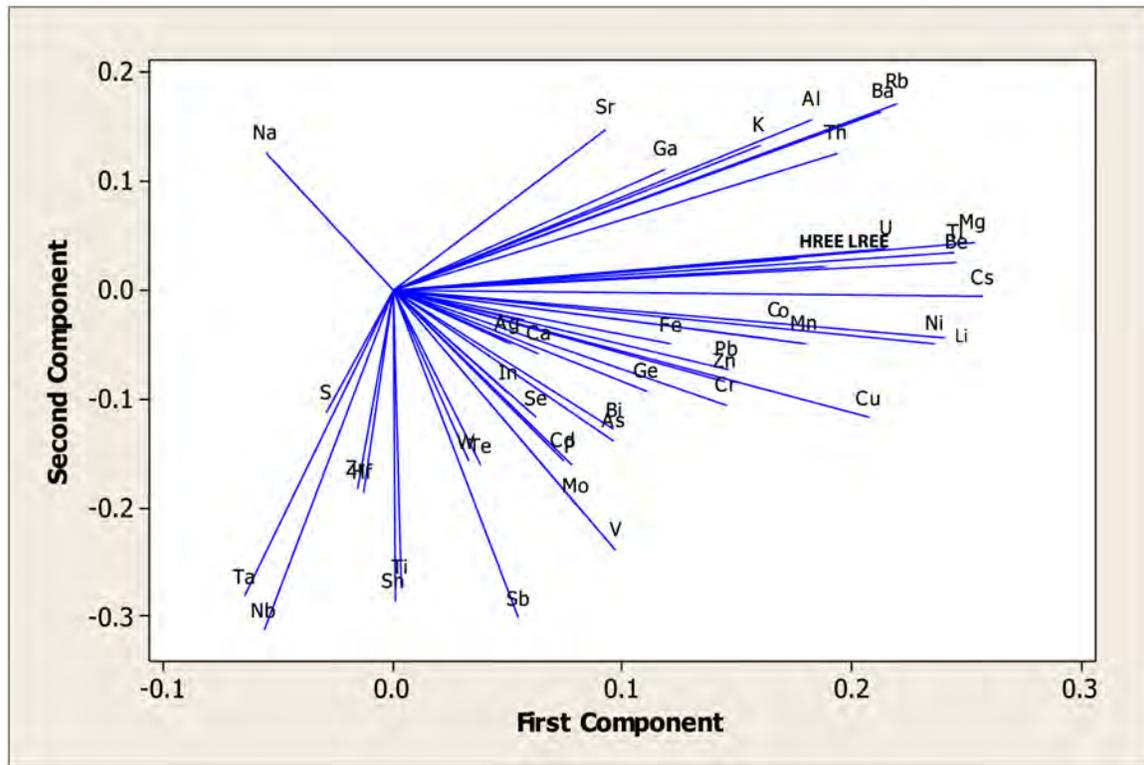


Figure 15. Summary statistics for REE's in the 2011 Porcupine Soil survey.



**Figure 16. TREE levels in the southern grid area of the Porcupine Property compared to historical data.**

REE's then two possible mineralization environments may be present in the Porcupine Property. Cu-Pb-Zn-Ag mineralized boulders and disseminated sulphides in bimodal volcanic and metasedimentary rocks of the north grid area suggest a VHMS system (Fig. 9). Superimposed on this system may be a later intrusion-related mineralizing event responsible for the REE anomalies. Faulting on the property may have localized hydrothermal fluids and exocontact alteration may also be contributing to silicification and sericitization of rocks. Little is known about the geology of the Porcupine Property and the relationship of soil anomalies to bedrock, so hypotheses on REE mineralization must be considered speculative at best.



**Figure 17. Principal Component Analysis of the GreenLight Resources Ltd. 2011 soil survey**

The author decided that for such a large data set it is necessary and useful from a mineral exploration point of view to synthesize the relationships between trace elements using correlation procedures and principal component analysis. Principle component analysis (PCA) is a method of ordination that reduces multivariate data to a smaller number of variables by creating linear combinations of the original variables (Gotelli and Ellison, 2004). These methods are used for data exploration and pattern generation. With the GreenLight geochemical data set it is necessary to understand which elements vary in concert giving clues to the origin of multielement anomalies. Minitab™ statistical software was used to create a PCA of the element data set using a correlation matrix and also used to obtain summary statistics of the data (Table 8). R (freeware) statistical software was used to complete a Spearman Rank correlation matrix of the data (Table 8).

Figure 17 shows the results of the PCA analysis. Several significant element groupings in the data are apparent. REE are grouped with U, Ti, Be, and Mg. The base metals form another group with Fe and Cr. Nb and Ta exhibit a strong coherence. These element groupings suggest primary bedrock control of element associations rather than redistribution processes in the secondary environment. The combination of Be and U with REE suggests a granite association whereas the base metals Fe and Ag are clearly chalcophile and related to sulphide mineralization. The U-REE element correlation is exceptionally strong as indicated by Spearman Rank Correlation coefficients of >0.7 (Table 8). The north-trending REE anomaly pattern on the west part of the north grid also has concomitant elevated U levels.

## 10.0 DRILLING

Historical drilling was described in Chapter 6. GreenLight Resources Ltd, the most recent owner of the Porcupine Property, did not conduct diamond drilling.

## 11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Soil and rock samples taken in 2011 by GreenLight were securely sealed in the field and taken by staff to a secure storage shed in the field camp. GreenLight staff transported the samples by truck to Activation Laboratories Ltd. sample preparation lab in Fredericton, NB. After processing in this facility rock and soil powders were sent to Activation Laboratories Ltd. in Ancaster, Ontario for analysis of a suite of 60 trace elements (Ultratrace 6 method). Activation Laboratories Ltd is an independent accredited laboratory with no affiliation to GreenLight Resources Inc. or Explorex Capital Ltd.

Soil samples were first dried and screened to-80 mesh (fine-sand+silt+clay fraction). Then a 0.25 g aliquot of powdered sample was digested with HF, then HClO<sub>4</sub>-HNO<sub>3</sub>, heated to 260°C and diluted with dilute aqua regia. It is important to note that this leach is only partial for magnetite, chromite, barite, spinels, zircon and massive sulphides. The solutions are read on a Varian 735ES ICP. **Rare earth resistate minerals such as monazite and allanite are not fully digested by this procedure.** Rock samples were reduced to a fine powder using a series of jaw crushers and ball mills then analysed using the Ultratrace 6 technique described earlier.

Activation Labs is accredited to international quality standards through the International Organization for Standardization /International Electrotechnical Commission (ISO/IEC) 17025 (ISO/IEC 17025 includes ISO 9001 and ISO 9002 specifications) with CAN-P-1758 (Forensics), CAN-P-1579 (Mineral Analysis) and CAN-P-1585 (Environmental) for specific registered tests by the SCC. The accreditation program includes ongoing audits which verify the QA system and all applicable registered test methods. The lab is also accredited by the National Environmental Laboratory Accreditation Conference (NELAC) program and Health Canada ([www.actlabs.com](http://www.actlabs.com)).

Activation Labs employed a series of certified reference samples for quality assurance and control (QA/QC) of analytical results along with duplicate testing of samples (analytical duplicates) and repeat analyses of blank standards. A portion of this QA/QC data is summarized in Table 9.

Activation Labs QA/QC procedures are adequate but further procedures should have been instituted at the field stage by GreenLight Resources Ltd. to ensure the best quality data. These procedures include duplicate sampling of field sites to assess field geochemical variability and where applicable insertion of blind blank and reference

samples in twenty sample batches. The geochemical survey stations and data were documented in field notes but standardized field sheets are preferable which describe the surveys, the materials and depths sampled, and the conditions that may affect the geochemical results. These data can be easily merged with the analytical results for a complete geological synthesis. The occurrence of seeps or swamps near or on sampling sites, for instance, are important field conditions to be documented as historical data shows that seeps are often sites with anomalous element concentrations. GreenLight staff avoided sampling these swamps and sampled B-Horizon soils exclusively (Don Black, pers. comm., 2011). Standard field geochemical QA/QC procedures should be instituted by Explorex Capital Ltd. in any subsequent exploration work.

## **12.0 DATA VERIFICATION**

Historical soil geochemical data (~4500 samples) and geophysical data are voluminous and substantial data has also been collected by the present license holder GreenLight Resources (~1000 samples). All these varied historical data sources (Table 1) were compiled and interpreted by the author. Cross-checking of historical and GreenLight 2011 results confirms the presence of the main Cu-Pb-Zn anomaly near the Noranda trenches in the Porcupine North grid area (Fig. 3) as well as REE soil anomalies in the western part of the northern property and in the southern part of the Property. A field visit during the fall and sampling of surface float boulders by the author confirmed the presence of mineralized boulders throughout the property as described in historical literature. It is the opinion of the author that the abundance and strong correlation of historical and recent geochemical and geophysical data provides adequate verification of results.

## **13.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

## **14.0 MINERAL RESOURCE ESTIMATES**

Not applicable. The Porcupine Property is at a preliminary exploration stage. Resources estimates, mineral processing and metallurgical testing analyses have not been carried out.

## **23.0 ADJACENT PROPERTIES**

A view of the New Brunswick Department of Natural Resources claim maps on their website (<http://nbeclaims.gnb.ca/nbeclaims/>) shows that there are no adjacent claims to the Porcupine Property. A volcanic sulphide mineral occurrence (Shore Camp Brook

occurrence) located ~10km NE of the Property (Fig. 8) and is tentatively placed within the previously described Bathurst Mining Camp. The mineralization at this occurrence includes disseminated galena concentrated along the contact of Ordovician rhyolite and interbedded sedimentary rocks, associated with disseminated to massive pyrite. This occurrence is situated adjacent to the boundary of the underlying (Cambro-Ordovician) Lower Tetagouche Group meta-sedimentary rocks which host many of the productive Bathurst Mining Camp deposits. Mineral resources have not been defined for this occurrence. The author did not verify information on these and other properties not on the Porcupine Property and the information presented for these occurrences is not necessarily indicative of the mineralization on the Porcupine Property.

## **24.0 OTHER RELEVANT DATA**

It is important to reiterate that historical drilling has been conducted on this property but assays were either not done or not reported with the exception of small bore drilling done in 2008. The source of the mineralized boulders found in the Porcupine North area has not yet been found but the geophysical and geochemical data collected by GreenLight in 2011 provides new insights into possible source areas.

## **25.0 INTERPRETATIONS AND CONCLUSIONS**

The main features to emerge from the GreenLight 2011 exploration program on the Porcupine Property are strong, east-west trending Cu, Pb, Zn anomalies (>300 ppm Pb, >700 ppm Zn), coincident with an enhanced chargeability horizon, and spatially distinct, REE anomalies (>1300 TREE). Some of the REE anomalies are near foliated granite, and are found within in a linear north-trending zone between two resistivity highs that could represent a fault. Prospecting has uncovered new base metal mineralized boulders in the vicinity of the Tozer occurrence and beyond but claim areas have not, as yet, been fully prospected.

On the southern part of the property REE values form an east-west trending anomalous area on the till-covered slopes of the southern part of the grid with TREE values >800 ppm. This westward trending attenuated anomaly appears to have an aspect of glacial dispersal, parallel to eastward ice flow trends. Two other anomalous areas are found in low ground coincident with historical soil surveys. Several significant element groupings in the soil geochemical data set are apparent. REE are grouped with granophile elements U, Ti, Be, and Mg and base metals form another group with Fe and Cr. These groupings suggest primary bedrock control of element associations and mechanical dispersion rather than weathering and chemical redistribution processes in the secondary environment.

Cu-Pb-Zn-Ag mineralized boulders and disseminated sulphides in bimodal volcanic and metasedimentary rocks of the north grid area suggest a VHMS system (Fig. 9).

Superimposed on this system may be a later intrusion-related mineralizing event responsible for the REE anomalies. Faulting on the property may have localized hydrothermal fluids and exocontact alteration may also be contributing to silicification and sericitization of rocks. Little is known about the geology of the Porcupine Property and the relationship of soil anomalies to bedrock, so hypotheses on the genesis of mineralization must be considered speculative at best.

### 25.1. Risks and Uncertainties

Continued viability of the Porcupine Property depends ultimately on macroeconomic factors and within that larger framework the economic prospects of silver, base metals and rare earth elements. The fact that more than one mineralization environment and commodity is implicated by the geological data is a positive factor. However, as stated clearly before, the discovery and documentation of a mineralized bedrock source with anomalous Cu, Pb, Zn, and Ag levels (as found in surface boulders and implicated by geophysical surveys) is required. It is also imperative to discover bedrock REE sources to explain highly anomalous REE levels in soils. Further reconnaissance exploration and trenching/drilling may not yield significant results if the bedrock source of the mineralized boulders is not local or the size of the bedrock deposit is small. Furthermore REE soil anomalies may be “false anomalies” defined by Levinson (1974) as anomalously high concentrations of elements unrelated to mineralized sources. These scenarios present a measure of risk to the exploration effort.

## 26.0 RECOMMENDATIONS

The author recommends a two phase approach to further exploration on the property. A clear imperative for understanding mineralization environments on the Porcupine Property is a program of bedrock mapping and sampling. The last detailed bedrock mapping was conducted by MacKenzie (1981a) and he noted sulphide mineralization in volcanic rocks along the Little Southwest Miramichi River that were never fully documented or assayed (Fig. 3). This river section may be a key for understanding the structure and alteration of rocks in the area, vital for establishing whether these rocks are of the right age or nature to host VHMS deposits. Rock samples should be assayed for a full suite of elements and also thin-sectioned for petrographic analysis.

As a follow up on the soil anomalies and geophysical targets a program of trenching and sampling is suggested. The maximum drift thickness on the north grid area from drill hole data appears to be 5m which is within the range of a large excavator. The author recommends a 12 trench program on the northern grid with trench locations situated on the up-ice cut-offs and within the anomalous fans of the major base metal and REE anomalies, as well as across the chargeability conductors (Fig. 18). The trenches can be 50-150m in length, but don't have to be dug as a single large unit. A series of 10m trenches separated by 20m spacing would be best for keeping environmental damage to a

minimum. The key is to profile sample till to bedrock and map and sample the underlying bedrock. Likewise on the south grid a program of 5 trenches can help define the 3 dimensional extents of the REE anomalies in that area (Fig. 19). **The key to this phase of exploration is to establish bedrock targets for various Cu-Pb-Zn soil anomalies and specifically mineralogical evidence for REE anomalies in surface tills or bedrock.** All till samples should be large volume (10-15 kg) to allow for separation of a heavy mineral concentrate for chemical analysis and pebble fractions for lithological analyses. REE minerals are generally present in resistant mineral phases such as monazite or allanite and should be found in the heavy concentrates. A portion of the large till sample should be retained for standard silt+clay fraction (<63  $\mu$ ; matrix) analysis in case the REE's are present in finer fractions or adsorbed onto clay minerals and/iron/manganese hydroxides. The soil geochemical surveys should be extended to define the extent of the known REE anomalies north, west and south on the north grid area and east of Lines 2 and 3 on the south grid (Fig. 2). Further IP surveys may be warranted to cover areas to the south and west of the northern grid over previous conductors (Zone "C") mapped by MacKenzie (1981a; Fig. 4). It is assumed that exploration over the rest of the property, not covered by any previous surveys, will be required. The best method for an initial reconnaissance survey is a grid of till samples (1 per 500 sq m) involving a two-man crew and a prospector working together to obtain till samples for geochemical analyses and search for mineralized float. Till samples would be preferred to soils in a reconnaissance survey because till represents a first derivative of bedrock and comprises a larger target area of eroded and dispersed rock (Shilts, 1976).

**Advancing to Phase 2 work on the Porcupine Property is contingent on positive results from Phase 1.** When the mapping/sampling is complete and analyses are in hand then the major portion of Phase 2 diamond drilling should begin. The number, depth and orientation of the drillholes will depend on how many significant bedrock targets are defined by the bedrock and float mapping, trenching and sampling surveys together with the historical and collected geophysical data. Because of the voluminous work done over the historical anomaly area several drill holes could be spotted during the Phase 1 summer season work within the north grid. Target areas could be the location of proposed trench 3 (Fig. 18) across the concomitant chargeability and Cu-Pb-Zn soil anomaly horizon and the location of Ross (2008) drill holes where interesting base metal and W results were obtained (Figs. 3, 6). It is recommended, however, that drilling should be put off until mapping and trenching can better define bedrock targets and structure. A cost estimate of a summer field mapping and sampling program (Phase 1) and 20 diamond drill hole program (Phase 2) is presented in Table 8. The total cost (~1,000,000) dollars) is of course dependent on results and the company can scale up or down the exploration effort as it sees fit.

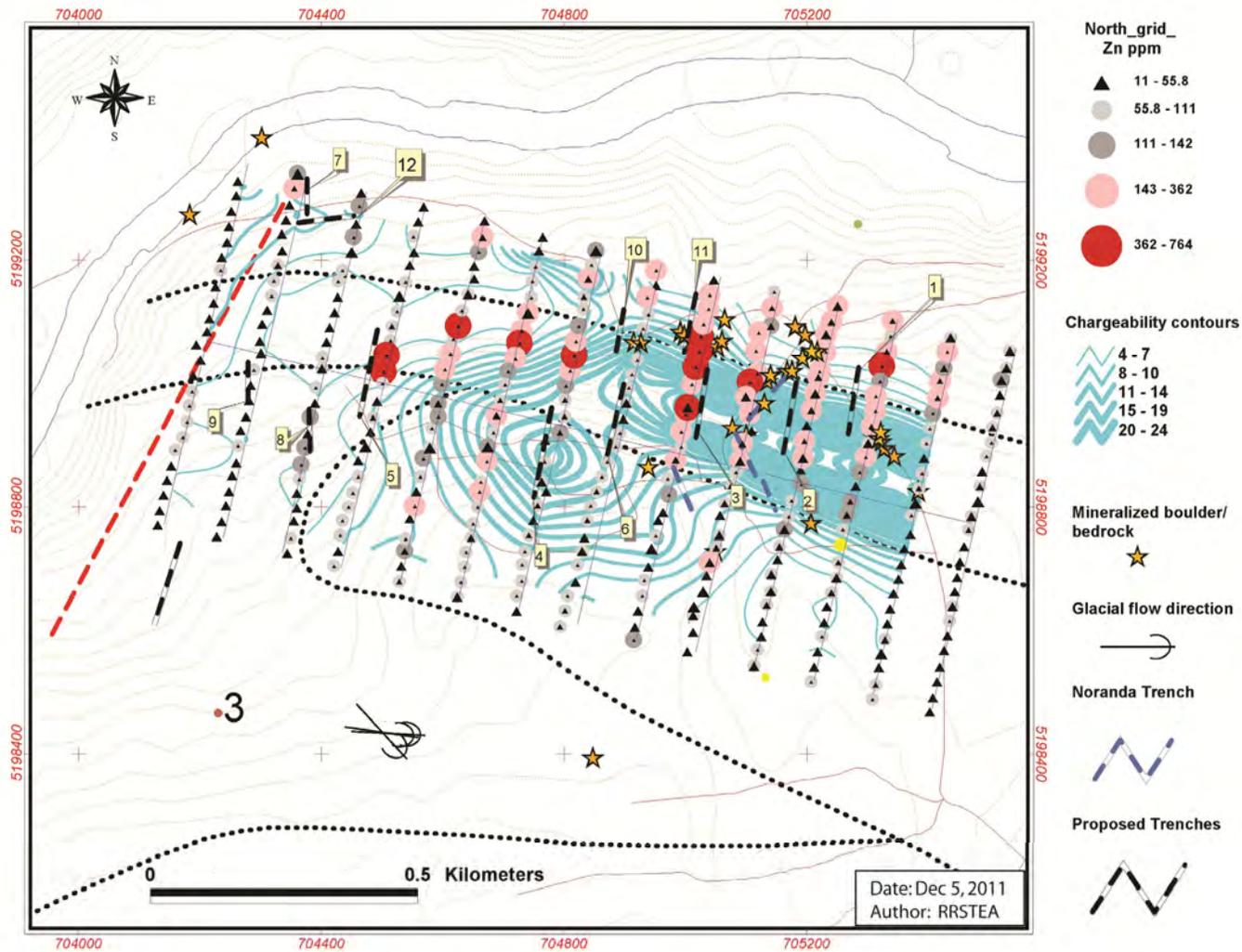


Figure 18. Trench locations for Phase 1 exploration in 2012-2013 on the north grid area Porcupine Property.

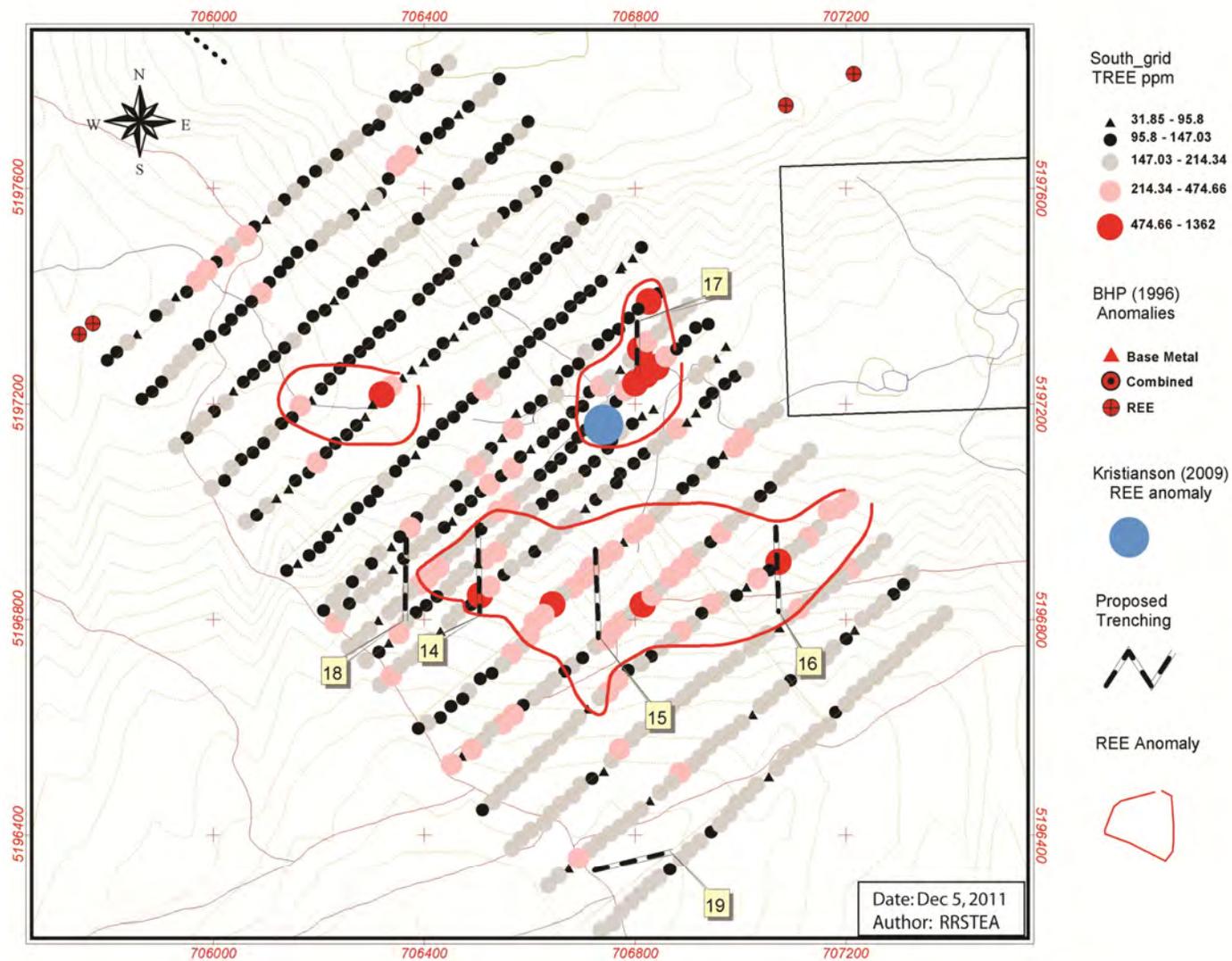


Figure 19. Trench locations for Phase 1 exploration in 2012-2013 on the south grid area Porcupine Property.

## 27.0 REFERENCES

Anderson, F. D., 1969. Geology McKendrick Lake, New Brunswick; Geological Survey of Canada Map14-1969.1:50,000.

Baldwin, A. B., 1991. Assessment Report Southwest Claim Group; New Brunswick Department of Natural Resources, Mineral Assessment Report 474089, 13p

Bostock, H.S., 1970. A provisional physiographic map of Canada, Geological Survey of Canada, Paper 64-35 and map1245A (1964).

Castor, S.B. and Hedrick, L.B., 2006. Rare earth elements; in Kogel, J.E, Trivedi, N.C., Barker, J.M., and Krukowski, S.T., ed., *Industrial Minerals* volume, 7th edition: Society for Mining, Metallurgy, and Exploration, Littleton, Colorado, p. 769-792.

Constable, D. W., 1976. Kerr Addison Mines Ltd. Tozer detailed grid; New Brunswick Department of Natural Resources, Mineral Assessment Report 470449, 26p

Fahmy, S. H., Hann, S. W. R., and Jiao, Y., 2010. Soils of New Brunswick: The Second Approximation; Eastern Canada Soil and Water Conservation Branch Center, Agriculture Canada, Technical Publication Number: NBSWCC-PRC 2010-01, 87p.

Galley, A.G., Hannington, M.D., and Jonasson, I.R., 2007. Volcanogenic massive sulphide deposits, *in* Goodfellow, W.D., ed., *Mineral Deposits of Canada: A Synthesis of Major Deposit-Types, District Metallogeny, the Evolution of Geological Provinces, and Exploration Methods*: Geological Association of Canada, Mineral Deposits Division, Special Publication No. 5, p. 141-161.

Goodfellow, W D., 2007. Source Mineral deposits of Canada: a synthesis of major deposit-types, district metallogeny, the evolution of geological provinces, and exploration methods; by Goodfellow, W D (ed.); Geological Association of Canada, Mineral Deposits Division, Special Publication no. 5, 2007; pages 449-469

Goodfellow, W.D., and McCutcheon, S.R., 2003. Geologic and genetic attributes of volcanic sediment-hosted massive sulfide deposits of the Bathurst Mining Camp, northern New Brunswick—a synthesis: *ECONOMIC GEOLOGY MONOGRAPH* 11, p. 245–301.

Gotelli, N.J. and Ellison, A. M., 2004. Chapter 12 The Analysis of Multivariate Data. In *A Primer of Ecological Statistics*. Sinauer Associate Publishing. Mass., USA pp. 384-415.

Irrinki, R.R., 1977. Geology of North Branch, Little Southwest Miramichi River, Northumberland County, New Brunswick, New Brunswick Department of Natural Resources, Open File Map.

Kendle, F.R., 1998. Report on Mineral Exploration Porcupine Property; Northumberland County, New Brunswick NTS 21 5/16 Geoscientific Compilation, Property Evaluation and Drillcore Recovery New Brunswick Department of Natural Resources, Mineral Assessment Report 475112, 17p.

Kristiansen, O., 2006. Report of work on twelve contiguous claims; from June 2006 to December 2006 New Brunswick Department of Natural Resources, Mineral Assessment Report 476288, 44p

Kristiansen, O., 2009. Report of work on twelve contiguous claims; from May 2008 to December 2008 New Brunswick Department of Natural Resources, Mineral Assessment Report 476752, 101 p.

Levinson, A.A., 1974. Introduction to Exploration Geochemistry; Applied Publishing Ltd., Wilmette, Illinois, 614p.

Lijun, W., Shen, Z., Xiaojiang, G., Shujuan L., Yuqi, W., Jingxin S., Aitang, H., Hongmin, C., Fanqing G., 1998. Geochemical Characteristics of Rare Earth Elements in Different Types of Soils in China; Journal of Rare Earths 1998, v1.16 No. 1, p. 50-58

MacKenzie, C.M., 1981a. Report of work, Project 440 Malcolm Brook, Northumberland Country, NB; New Brunswick Department of Natural Resources, Mineral Assessment Report 472684, 59p

MacKenzie, C.M., 1981b. Report of work, Project 440 Malcolm Brook Extension, Northumberland Country, NB; New Brunswick Department of Natural Resources, Mineral Assessment Report 472725, 18p

Mann, R. F., 1974. TexasGulf Inc. Assessment Work Report Year Ending March 22, 1974 on Tozer Claim Group (246006-246025 245966-245975) NTS Reference 21J/16; New Brunswick Department of Natural Resources, Mineral Assessment Report 470331, 22p

Miller, J. K., 1984. Model for clastic indicator trains in till; Prospecting in Areas of Glaciated Terrain, 1984; The Institution of Mining and Metallurgy London, p. 69-77.

Nichols, E. B., 1979. Report on geophysical surveys; southesk parish, Northumberland County, New Brunswick Department of Natural Resources, Mineral Assessment Report 4729469, 17p

Ross, F. 2004. Report of work on five contiguous claims; July to November 2004 Porcupine Claim Group; New Brunswick Department of Natural Resources, Mineral Assessment Report 475977, 16p.

- Ross, F. 2006. Report of work on twenty four contiguous claims; July 2005 to December 2005 Porcupine Claim Group; New Brunswick Department of Natural Resources, Mineral Assessment Report 476122, 27p
- Ross, F. 2007. Report of work on twenty four contiguous claims; from June 2006 to December 2006; New Brunswick Department of Natural Resources, Mineral Assessment Report 476316, 34p
- Rogers, N; van Staal, C R; Zagorevshki, I; Skulski, T; Piercey, S; McNicoll, V J , 2007 Timing and tectonic setting of volcanogenic massive sulphide bearing terranes within the Central Mobile Belt of the Canadian Appalachians; in, Proceedings of Exploration 07: Fifth Decennial International Conference on Mineral Exploration; Milkereit, B (ed.). 2007, pages 1199-1205
- Ross, F. 2008. Report of work on twenty four contiguous claims; from June to August 2007; New Brunswick Department of Natural Resources, Mineral Assessment Report 476488, 25p
- Seigel, H.O. 1966 , Report on an induced polarization survey, Tozer Property ; New Brunswick Department of Natural Resources, Mineral Assessment Report 470329, 35p
- Shilts, W.W., 1976. Glacial till and mineral exploration; *in*. Glacial Till: An Interdisciplinary Study.. Leggett, R.F., (ed) Royal Society of Canada, Special Publication No. 12, p. 205-224.
- Smith, E.A. and Fyffe, L.R., 2006. Bedrock geology of central New Brunswick (NTS 21 J). New Brunswick Department of Natural Resources, Minerals, Policy and Planning Division. Plate NR-4 (Second Edition).
- Taylor, S.R., and S.M. McClennan. 1985. The Continental Crust: Its Composition and Evolution. Oxford, UK: Blackwell Scientific Publications.
- Watson, I. M., 1961, Exploration report on the Tozer Option; New Brunswick Department of Natural Resources, Mineral Assessment Report 410328, 18p.
- Williams, H. 1979: Appalachian Orogen in Canada; Canadian Journal of Earth Sciences, v. 16, Part 2, p. 792-807.
- Williamson, T. C., 1996. BHP Minerals Canada, Ltd.. Porcupine Group, Detailed geochemical survey; New Brunswick Department of Natural Resources, Mineral Assessment Report 474724, 53p.

## DATE AND SIGNATURE

I, Rudolf (Ralph) Stea Ph.D., P. Geo. do hereby certify that:

1. I am the author of this Technical Report titled "NI 43-101 Technical Report: Evaluation of the Porcupine Property in central New Brunswick: Cu, Pb, Zn, Ag and Rare Earth Elements"
2. I graduated with a B.Sc. Geol. in 1977 from Acadia University, Wolfville Nova Scotia and obtained a Ph.D. from Dalhousie University, Halifax NS, in 1995. I am a member in good standing of the Association of Professional Geoscientists of Nova Scotia.
3. I visited the property on Oct 13-Oct 14, 2011.
4. I am responsible the preparation of all sections of the report with the exception of figures created by Mike Donnelly of Map Atlantic (acknowledged in text).
5. I have read the National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101), past relevant work experience, I fulfill the requirements to be a "qualified person" for the purpose of NI 43-101. I also certify that the technical report has been prepared in compliance with that instrument.
6. At the time of report writing I am engaged as a consultant for GreenLight Resources Inc and Explorex Capital Ltd. for the purpose of completing this report. I am independent of these companies applying the provisos of Section 1.5.
7. To the best of the author's knowledge the technical report contains all scientific and technical information that is required to be disclosed to assure the report is not misleading.

I, Rudolf Stea, consent to the public filing of the technical report dated Dec 5, 2011 by Explorex Capital Ltd. I also consent to any extracts from or a summary of the Technical Report in the news release of Explorex Capital Ltd.

Signed in Halifax, Nova Scotia, on this 5<sup>th</sup> day of December, 2011

"Rudolf Stea" "signed"

Rudolf Stea

Qualified Person

Rudolf Stea,  
Stea Surficial Geology Services  
851 Herring Cove Road  
Halifax, Nova Scotia  
B3R 1Z1

## **TABLES**

**Table 1. Summary of historical data sources for the Porcupine Property.**

Year	Owner/Operator	Property	Author	Assmt File no.	Dhole	Geochem samples	Geophysics	Summary
1961	Rio Tinto	Porcupine N	Watson I, M	470328	0	487	IP	Area of Cu-Pb-Zn mineralized float occurrences outlined by soil geochemistry..
1966	Rio Tinto	Porcupine N	Seigel, H.O	470329	3 ?		IP	Zone of high conductivity near float boulders basal till sampling- drilling encounters mineralized zones but no assays
1974	TexasGulf	Porcupine N	Mann, R.F	470331	3		IP, Mag	Three drill holes selected in up-ice direction from float train..no mineralization reported no assays!
1976	Kerr Addison	Porcupine N	Constable, D. W	470449		176	Em, VLF,	SE trending linear belt of Zn anomalies, parallel to VLF EM conductors
1979	Asarco	Porcupine N	Nichol, E. B.	472469			Em, VLF, Mag	weak east-west conductors across region not considered significant
1981	Brunswick Mining	Porcupine N	MacKenzie, C. M	472684			HEM, IP, Mag, Gr	SE-NW trends mag anomaly in felsic volcanics...IP anomalies west of granite..
1981	Brunswick Mining	Porcupine	MacKenzie, C. M	472725		2617	HEM,Mag	weak base metal anomalies in soils and geophysical surveys Porcupine- 2
1991	Smith M	Porcupine N	Baldwin, A. M	474089	2			two drill holes near trench and east--intersected volcanic sequence base metal mineralized zones assays only for Au, Ag.
1996	BHP minerals	Porcupine N-S	Williamson, T. C	474724		652		property wide geochemical survey-cu/pb/zn over volcanics and area of min float..ANOMALIES IN REE-La
1998	Eastmain resources	Porcupine	Kendle, F. R.,	475112		34		review of geology ..resampling of anomalous areas BHP verification of results
2004	Ross F	Porcupine N	Ross F	475977		50		soil survey over anomalous zone repeated zn anomalies more prominent..assayed mineralized boulders.
2006	Ross F	Porcupine N	Ross F	476122		186		confirm historical soil cu pb zn anomalies REE anomalies in Porcupine south Ce La
2006	Kristiansen, O	Porcupine	Kristiansen, O	476288		100		Porcupine area - grid soils off logginf road-weak anomalies Cu Pb Zn co anomaly rock sample 163 ppb gold
2007	Ross F	Porcupine N	Ross F	476316		87		Porcupine area - soil detailed soils- confirmed cu/pb/zn anomalies soils Y anomaly coincident p-6-366
2008	Ross F	Porcupine N	Ross F	476488	2			drill holes near mineralized boulder intersect disseminates sulphides
2008	Kristiansen, O	Porcupine	Kristiansen, O	476752		94		Analyses for full suite of REES significant anomalies found.

**Table 2. Mineral license and claim data: Porcupine Property**

Mineral Rights Number 5491  
Porcupine East

Unit ID	Expiry Date
1721004C	11/26/2012
1721004D	11/26/2012
1721004E	11/26/2012
1721004F	11/26/2012
1721004K	11/26/2012
1721004L	11/26/2012
1721004M	11/26/2012
1721004N	11/26/2012
1721005C	11/26/2012
1721005D	11/26/2012
1721005E	11/26/2012
1721005F	11/26/2012
1721005K	11/26/2012
1721005L	11/26/2012
1721005M	11/26/2012
1721005N	11/26/2012
1721006C	11/26/2012
1721006D	11/26/2012
1721006E	11/26/2012
1721006F	11/26/2012
1721014P	11/26/2012

Mineral Rights Number 4510  
Porcupine North

Unit Id	Expiry Date
1721015E	2012-08-11
1721015F	2012-08-11
1721015G	2012-08-11
1721015H	2012-08-11
1721015I	2012-08-11
1721015J	2012-08-11
1721015K	2012-08-11
1721015L	2012-08-11
1721015M	2012-08-11
1721015N	2012-08-11
1721015O	2012-08-11
1721015P	2012-08-11
1721016A	2012-08-11
1721016B	2012-08-11
1721016C	2012-08-11
1721016D	2012-08-11
1721016E	2012-08-11
1721025E	2012-08-11
1721025F	2012-08-11
1721025G	2012-08-11
1721025H	2012-08-11
1721025I	2012-08-11
1721025J	2012-08-11
1721025K	2012-08-11
1721025L	2012-08-11
1721025M	2012-08-11
1721025N	2012-08-11
1721025O	2012-08-11
1721025P	2012-08-11
1721026A	2012-08-11
1721026B	2012-08-11
1721026C	2012-08-11
1721026D	2012-08-11
1721026E	2012-08-11
1721026F	2012-08-11
1721026G	2012-08-11
1721026H	2012-08-11

Mineral Rights Number 4742  
Porcupine South

Unit Id	Expiry Date
1721013M	2012-10-25
1721013N	2012-10-25
1721013O	2012-10-25
1721013P	2012-10-25
1721014A	2012-10-25
1721014B	2012-10-25
1721014C	2012-10-25
1721014D	2012-10-25
1721014E	2012-10-25
1721014F	2012-10-25
1721014G	2012-10-25
1721014H	2012-10-25
1721014I	2012-10-25
1721014J	2012-10-25
1721014K	2012-10-25
1721014L	2012-10-25
1721014M	2012-10-25
1721014N	2012-10-25
1721014O	2012-10-25
1721015A	2012-10-25
1721015B	2012-10-25
1721015C	2012-10-25
1721015D	2012-10-25
1721024A	2012-10-25
1721024H	2012-10-25
1721024I	2012-10-25
1721024P	2012-10-25
1721025A	2012-10-25

**Table 3. Historical assay data from the Porcupine Property.**

Sample No	Location	Asmnt Report	Cu%	Pb %	Zn %	Ag oz/t	Au g/t
B6982	Porcupine	470329	0.24	10.15	7.6	1.9	
4538	Porcupine 1	470328	2.85				0.6
4539	Porcupine 1	470328	0.96	0.03	0.11		0.399
A2815	Porcupine 1	475977	0.005	0.4	0.02		<.001
A2816	Porcupine 1	475977	0.049	0.29	1.08		0.9
P-7-1-R	Porcupine 1	476488	0.309	13.6	12.5	2.56	
P-7-2-R	Porcupine 1	476488	0.124	2.91	2.9	<1.6	
1	Porcupine	476288	0.056				
8	Porcupine 2	476288					0.15

**Table 4. BHP (1996) soil anomalies on the Porcupine Property.**

SMPNO	Cu	Pb	Zn	La	Th	P	TYPE	ANOM
10746	<200	<200	<300	120	<20	<1000	SP	REE
10809	<200	<200	336	<50	<20	<1000	SP	BM
10819	<200	<200	112	112	<20	<1000	STR	CMB
10835	<200	<200	<300	54	<20	1370	SP	REE
10894	<200	<200	302	77	<20	<1000	S	CMB
10888	<200	<200	<300	59	<20	<1000	S	REE
10928	<200	332	511	119	<20	<1000	S	CMB
10930	<200	332	570	164	<20	<1001	SP	CMB
10931	<200	925	571	164	<20	<1000	S	CMB
10941	<200	<200	<300	197	<20	1640	SP	REE
10951	<200	<200	<300	188	<20	<1000	SP	REE
10981	<200	<200	<300	372	<20	1020	SP	REE
10986	<200	<200	<300	51	<20	<1000	SP	REE
11085	<200	<200	<300	62	<20	<1000	SP	REE
11135	<200	<200	<300	272	<20	<1000	SP	REE
11138	<200	<200	<300	228	<20	<1000	S	REE
11151	<200	<200	329	317	27	<1000	STR	CMB
11153	<200	<200	<300	191	<20	<1000	SP	REE
11168	<200	<200	<300	120	<20	1480	SP	REE
11169	<200	<200	<300	105	<20	<1000	S	REE
11176	<200	<200	353	<50	<20	<1000	SP	BM
11177	1779	18360	1392	258	<20	<1000	S	CMB
11178	1641	7875	1187	699	<20	<1000	SP	CMB
11179	7175	471	445	1154	<20	2940	SP	CMB
11180	885	<200	319	249	<20	1720	SP	CMB
11048	<200	5877	1398	<50	<20	<1000	S	BM
11047	<200	6540	1526	64	<20	<1000	S	CMB
11046	<200	<200	509	<50	<20	<1000	S	BM
11045	<200	<200	404	<50	<20	<1000	S	BM
11044	<200	<200	394	<50	<20	<1000	S	BM
11202	<200	<200	<300	102	<20	<1000	SP	REE
11228	<200	247	3132	<50	<20	<1000	STR	BM
11229	<200	877	3896	<50	<20	<1000	STR	BM
11230	<200	<200	1093	<50	<20	<1000	SP	BM
11231	<200	<200	668	<50	<20	<1000	S	BM
11233	253	<200	332	66	<20	<1000	S	CMB
11235	<200	<200	338	<50	<20	<1000	S	BM
11236	<200	<200	<300	113	<20	<1000	SP	REE
11237	<200	<200	<300	102	<20	<1000	SP	REE
11238	<200	<200	899	126	<20	<1000	S	CMB
11246	<200	<200	<300	251	<20	2750	SP	REE
11249	<200	<200	<300	164	<20	<1000	STR	REE
11337	<200	<200	<300	254	<20	1550	STR	REE
11344	<200	<200	<300	108	<20	<1000	S	REE
11492	<200	<200	<300	118	20	<1000	S	REE
11418	<200	<200	393	<50	<20	<1000	S	BM

**Table 5. REE anomaly on Porcupine South (Ross, 2009).**

Rare Earth Elements	Sample P-8-10	Upper Crust abundance
Y	283	22
La	532	30
Ce	121	64
Pr	131	7.1
Nd	475	26
Pm		
Sm	100	4.5
Eu	21	0.88
Gd	94.8	3.8
Tb	114	0.64
Dy	54	3.5
Ho	9.7	0.8
Er	22.6	2.3
Tm	2.9	0.33
Yb	16.4	2.2
Lu	2.4	0.32
<b>TREE</b>	<b>1979.8</b>	<b>168.37</b>

**Table 6. Boulder assay data from the GreenLight prospecting survey (2011).**

Smpnm	UTME	UTMN	Cu %	Pb %	Zn %	Ag g/t	LREE	HREE	TREE	description
							ppm	ppm	ppm	
296259	704939	5198865	0.16	0.004	0.0008	0.54	237.67	15.9	253.57	Noranda Trench – sheared sericitic granite with 5% py in foliation parallel stringers
296260	705140	5199014	0.28	>0.5	4.94	73.2	134.32	13.6	147.92	Noranda Trench – brecciated, silicified wacke with infilling of coarse grained gal+sph – 20% combined Pb/Zn
296261	705176	5199021	0.15	2.8	2.91	23.8	160.47	15.6	176.07	Noranda Trench – brecciated quartzite with massive coarse grained gal+sph infilling
296262	705193	5199042	0.23	7.34	4.61	48.5	118.33	13.2	131.53	Noranda Trench – brecciated quartz/granite with gal+sph stringers
296263			0.22	0.58	0.06	66.8	71.9	4.2	76.1	?????
296264	705217	5199052	1.56	0.06	0.02	14.7	39.25	6.3	45.55	Gorham Road – sheared mafic tuff with stringers cp+bo
296265	705319	5198912	0.007	0.009	0.006	0.6	42.07	3.5	45.57	Gorham Road – light grey-green silicified metasediment with 2% banded py
296266	705208	5199053	0.55	1.11	0.51	18.2	44.67	4.8	49.47	Gorham Road – contorted, sheared, sericitic mafic tuff with shear parallel bands of py+sph+ga+cp
296267	705322	5198922	0.02	0.08	0.3	5.03	106.68	5.7	112.38	Gorham Road – sericitic granite cut by stringers qtz with minor gal+sph
296268	705130	5198968	0.25	6.34	0.005	77.2	79.93	10.6	90.53	South side Noranda Trench – brecciated foliated granite cut by shear parallel massive galena veins < 2cm wide
296269	704927	5199066	0.01	>0.5	0.008	11.1	146.08	18.1	164.18	Gorham Road – epithermal quartz with minor fl. gal, py in qtz vugs
296270	705065	5199104	0.003	0.02	0.006	0.5	45.35	4.5	49.85	Gorham Road – brecciated chert, minor py poss fg gal

**Table 7. Descriptive statistics for the GreenLight soil geochemical suveys.**

Variable	N	N*	Mean (ppm)	SE Mean	StDev	Minimum	Q1	Median
LIGHT REE	971	0	154.90	3.61	112.34	27.45	109.83	135.08
HEAVY REE	971	0	10.455	0.208	6.487	3.000	8.000	9.200
TOTAL REE	971	0	165.36	3.80	118.51	31.85	117.71	144.03
S	971	0	483.6	25.4	791.3	0.0	200.0	400.0
P	971	0	709.8	15.0	468.5	0.0	420.0	620.0
Li	971	0	20.664	0.350	10.892	0.250	14.200	20.000
Na	971	0	12231	134	4167	300	9500	12300
Mg	971	0	4955.8	79.2	2468.4	400.0	3300.0	4600.0
Al	971	0	72350	512	15965	2800	63900	73900
K	971	0	17622	181	5632	600	14300	17400
Ca	971	0	3980.9	89.7	2795.2	200.0	2400.0	3700.0
Cd	971	0	0.16498	0.00464	0.14456	0.05000	0.10000	0.10000
V	971	0	57.234	0.759	23.655	3.000	43.000	57.000
Cr	971	0	42.750	0.644	20.076	1.600	32.000	39.500
Mn	971	0	377.6	19.9	618.9	27.0	226.0	303.0
Fe	971	0	39733	615	19158	1900	27600	36400
Hf	971	0	3.0018	0.0494	1.5386	0.0500	1.9000	3.1000
Ni	971	0	17.813	0.413	12.861	1.100	9.900	16.100
Be	971	0	2.2388	0.0225	0.7004	0.2000	1.8000	2.2000
Ag	971	0	0.20617	0.00874	0.27239	0.02500	0.09000	0.15000
Cs	971	0	5.5132	0.0850	2.6484	0.2500	4.0500	4.9800
Co	971	0	8.322	0.574	17.883	0.600	4.000	6.300
Bi	971	0	0.4961	0.0135	0.4193	0.0200	0.3700	0.4600
Se	971	0	0.9118	0.0222	0.6925	0.0500	0.5000	0.9000
Zn	971	0	76.56	2.13	66.25	4.60	45.60	64.00
Ga	971	0	21.368	0.160	4.972	0.700	18.300	20.900
As	971	0	32.09	2.46	76.57	0.05	7.90	14.30
Rb	971	0	105.51	1.15	35.94	2.70	83.90	105.00
Sr	971	0	69.711	0.674	21.015	24.300	56.900	69.000
Zr	971	0	112.03	1.64	51.18	4.00	75.00	113.00
Nb	971	0	3.070	0.151	4.706	0.050	0.100	0.700
Mo	971	0	0.715	0.131	4.096	0.050	0.050	0.200
In	971	0	0.053450	0.000729	0.022725	0.050000	0.050000	0.050000
Sn	971	0	2.2327	0.0487	1.5176	0.5000	0.5000	2.0000
Sb	971	0	0.2154	0.0144	0.4482	0.0500	0.0500	0.0500
Te	971	0	0.05953	0.00209	0.06505	0.05000	0.05000	0.05000
Ba	971	0	346.83	3.17	98.78	37.00	288.00	339.00
Cu	971	0	15.874	0.546	16.999	0.300	6.700	11.000
Ge	971	0	0.44531	0.00809	0.25204	0.05000	0.30000	0.40000
Ta	971	0	0.2223	0.0116	0.3630	0.0500	0.0500	0.0500
W	971	0	1.091	0.290	9.033	0.050	0.050	0.200
Re	971	0	0.001948	0.000079	0.002462	0.000500	0.000500	0.001000
Tl	971	0	0.62851	0.00582	0.18140	0.02500	0.53000	0.63000
Pb	971	0	30.659	0.891	27.772	4.200	19.600	23.700
Th	971	0	11.034	0.116	3.614	0.500	9.300	11.300
U	971	0	2.8193	0.0355	1.1049	0.3000	2.4000	2.7000
Ti	971	0	3106.1	48.5	1510.3	138.0	1900.0	3050.0

**Table 8 Summary of significant element correlations using the Spearman Rank method. .**

	Nb	Sn	Ta	Mg	Fe	Cu	Zn	P	As
Mo	0.727								
Nb									
Sn	0.707								
Sb	0.757		0.754						
Ta	0.771								
Ti		0.771							
W			0.727						
Cu				0.577	0.587		0.465		
Pb					0.452	0.672	0.496		
Zn				0.533					
Fe								0.589	0.661

	LR	HR	TR	Li	Al	Mg	Ni	Co	Ba	K	V	Tl
LR		0.873	0.999									
Mg				0.705	0.602							
Ni				0.777		0.826						
Cs				0.613								0.713
Co				0.752		0.823						
U	0.723	0.775	0.729									
Mn						0.782	0.724	0.809				
K												
Rb									0.741	0.797		0.710
Ti											0.771	
V												
Ba												0.766

Table 9 .Quality control data for the GreenLight 2011 soil geochemical survey.

Certified Reference Samples							
Analyte Symbol	Ag	Cu	Pb	Zn	Y	La	Ce
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.3	1	3	0.2	0.1	0.1	0.1
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas	31.8	1140	784	798	29.2	7.1	14
GXR-1 Cert	31	1110	730	760	32	7.5	17
GXR-4 Meas	3.3	6460	48	75.4	14.3	57.6	109
GXR-4 Cert	4	6520	52	73	14	64.5	102
SDC-1 Meas	< 0.3	30	21	106	32.4		
SDC-1 Cert	0.041	30	25	103	40		
SCO-1 Meas	0.3	27	25	101	16.8		
SCO-1 Cert	0.134	28.7	31	103	26		
GXR-6 Meas	0.4	58	84	123	8.9	7.8	21.3
GXR-6 Cert	1.3	66	101	118	14	13.9	36
Analytical Duplicates							
PP-339 Orig	0.17	7.2	22.8	60.3	20.2	25.2	54.5
PP-339 Dup	0.15	10.2	22.5	59.5	20.5	30	65.3
PP-353 Orig	0.43	6.3	50.3	61	12.3	18.5	36.6
PP-353 Dup	0.46	6.3	51.4	61.9	12.4	17.8	35
PP-374 Orig	0.42	6.6	22.6	50.5	16.5	23.5	49.1
PP-374 Dup	0.28	6.6	24.3	50	16.7	23.9	48.8
PP-388 Orig	0.11	6.9	12.3	61.2	16.2	18	42
PP-388 Dup	0.06	9	12.5	58.5	15.9	18.5	43.6
PP-409 Orig	0.13	10.7	11.9	80.3	13.8	14.1	33.9
PP-409 Dup	0.13	10.8	12.1	83.7	14.1	14.7	34.9
PP-423 Orig	0.18	9.7	22.7	72.4	14.9	23.2	49.6
PP-423 Dup	0.18	8.7	22.3	69.8	15.5	25.2	54.4
PP-444 Orig	0.19	54.9	41.2	430	28.4	33.7	128
PP-444 Dup	0.19	59.4	43.9	465	29.6	34.4	135

**Table 10. Cost estimates of Phase 1 and 2 (2012-2013) exploration programs Porcupine Property.**

<b>Phase One</b>				
<b>Work</b>	<b>Description</b>	<b>Amount</b>	<b>Rate</b>	<b>Total</b>
Till sampling/prospecting	crews for recon till sampling prospecting	4 weeks	1300per d	36400
Bedrock and surficial mapping	Consultant	3 weeks	600 per	12600
Trenching	Excavator	1000m	700 per d	22000
Trail cutting/line	Prepare roads for access line cutting	10 km		20000
Assay/analyses prep	multi element ICP			10,000
Geophysical surveys	south and west of north grid IP/R			100,000
Soil surveys	crews for detal soil grid	3 weeks	700 per d	14,700
Rentals truck (2)		3 months	25 per d	6000
Food/lodging				9000
<b>Phase Two</b>				
Diamond Drilling	Contingent on targets 20 holes 300m	6000	\$125/m	750000
Mob/demob				10000
Core prep/assay				10000
	<b>Total</b>			<b>1000700</b>