

# 2010 Northwest Territories Mineral Exploration Overview

March 2011



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This publication may be obtained from the Northwest Territories Geoscience Office:

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In referring to this publication please use the following citation:

Falck, H., Irwin, D., and Gochner, K., 2011. 2010 Northwest Territories Mineral Exploration Overview; Northwest Territories Geoscience Office, 21 p.

### **Cover Illustration:**

Core from the Lake Zone at Nechalacho Rare Earth Element Deposit located on the north shore of Great Slave Lake, NWT which contains yttrium, rare earth elements, beryllium, tantalum, niobium and zirconium. The HQ core from drillhole 192 shows exceptional cumulate development. The three rows of core are altered to zircon, fergusonite, bastnaesite, and allanite. The middle row show eudialyte crystal outlines, preserved as altered pseudomorphs by the aforementioned minerals. The 2-metre interval of which the coarsest grained zircon comes from assayed 2.71% TREO, of which 0.87% was HREO. Photo Courtesy of Chris Pederson.

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## **2010 Northwest Territories Mineral Exploration Overview**

### **Introduction**

Gold and rare earth exploration projects were at the forefront of exploration, again this year in the Northwest Territories. A total of 22 gold and other metal projects were conducted in comparison with 8 diamond projects. This change was partially sparked by record high gold prices of over \$1,400 US dollars per ounce and a growing demand for strategic metals combined with a soft diamond market. Another change is the proportion of advanced exploration projects in contrast to early-stage grassroots programs. While the global markets are recovering from the economic downturn, challenges clearly remain for companies to raise funds for exploring in the Northwest Territories. Grassroots and early stage exploration projects for all types of commodities were deferred in 2010, but the more advanced exploration projects, including some preparing for development, were able to raise the capital required to move their projects forward. Natural Resources Canada statistics show expenditures for exploration, deposit appraisals, and mine construction of \$98.8 million by October, an improvement over the previous year.

Four mines operated during 2010, including three diamond mines: Diavik, Ekati and Snap Lake; and Cantung tungsten mine. Higher tungsten prices allowed the reopening of Cantung mine. Re-evaluation of Cantung resources has extended the mine life to 4 years. Both Diavik and Snap Lake Diamond Mines saw a return to production levels comparable to pre-recession historic levels. Ekati Diamond Mine is seeing lower production as highest grade reserves are exhausted.

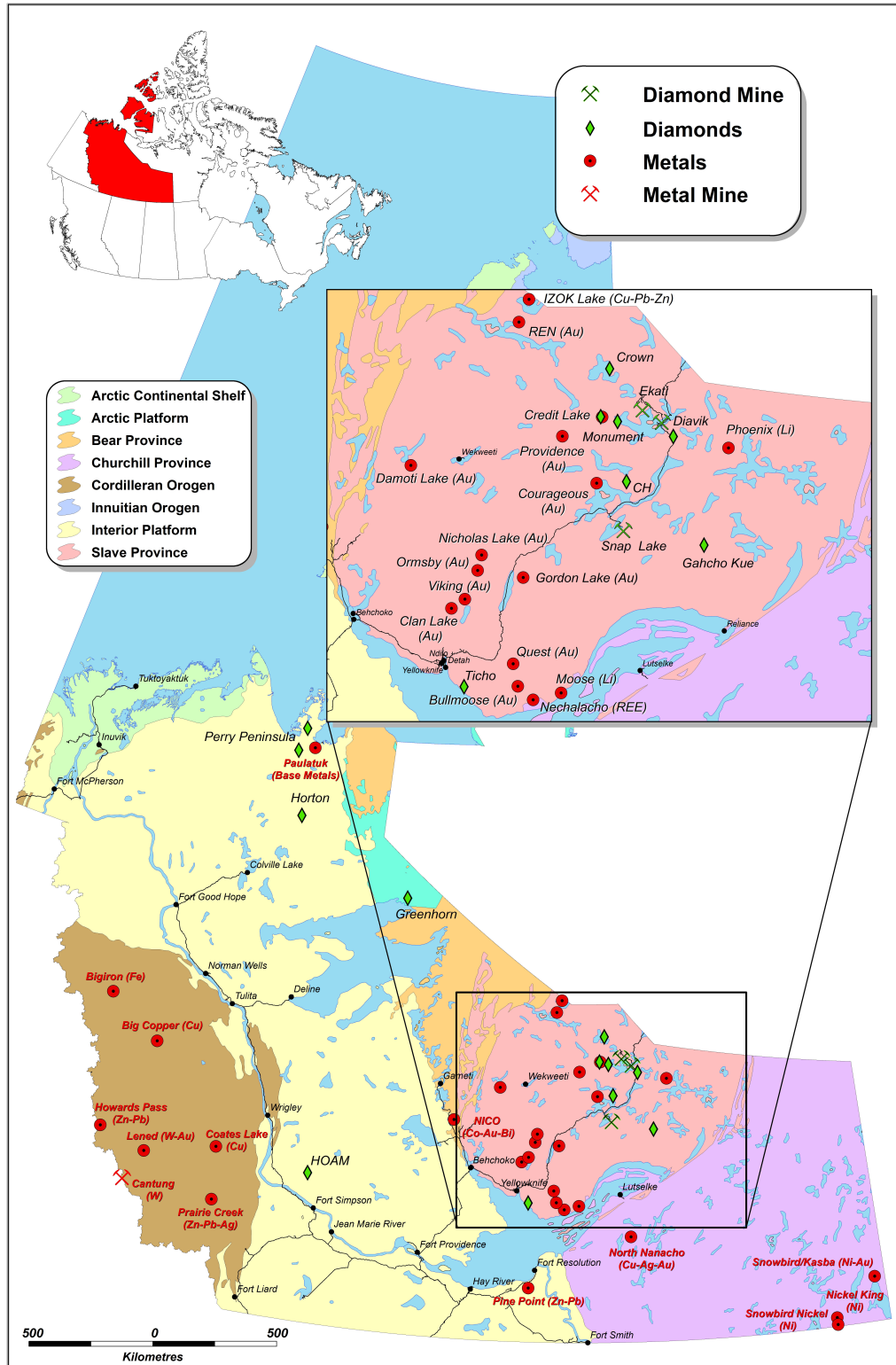
Several projects such as Avalon Minerals' Nechalacho, Fortune Minerals' Nico, Tamerlane's Pine Point and Seabridge Gold's Courageous Lake projects are the subject of extensive efforts to move these advanced properties closer to production. Reports from De Beers Canada and Mountain Province Diamond Inc. indicate a positive feasibility for the Gahcho Kué project suggesting this property may also advance towards development. Even for the grassroots projects, optimism is growing. Continued acquisition of properties, late fall exploration efforts and preparations for up-coming drill programs are evidence that increased exploration activity can be expected for 2011.

## NORTHWEST TERRITORIES MINING HIGHLIGHTS FOR 2010

**De Beers Canada's Snap Lake Diamond Mine**, 220 kilometres northeast of Yellowknife, recovered 926,000 carats from 869,000 tonnes in 2010 and underwent a turn-around from the operational downsizing of 2009. The 2010 production is over twice the previous year's production. In December, a two-year production ramp-up was announced, with the aim to reach annual production of 1.6 million carats by 2012. As part of the expansion, De Beers Canada is investing approximately \$48 million in capital projects, including construction of the recently-opened permanent accommodations for employees and expanding the processed kimberlite containment facility. The Snap Lake Mine targets a 2.5 metre thick dyke that dips northeastward at 12-15°. The deposit has resources (2008) of 1.4 million tonnes (indicated) and 25 million tonnes (inferred), with a recoverable grade of 1.2 carats per tonne. A diamond drill program based both on surface and underground was conducted to better define the dimensions of the dyke and move projected resources to the reserve category.

The **Diavik Diamond Mine**, 300 kilometres northeast of Yellowknife, owned by **Rio Tinto plc (60%)** and **Harry Winston Diamond Corp (40%)**, produced 4.957 million carats at a grade of 3.28 carats per tonne (Q1 to Q3 2010), an improvement of 23% over the same period in 2009. The decrease in average grade from 3.97 carats per tonne was attributed to an increase in the proportion of ore sourced from the lower grade A-418 kimberlite pipe. Production for the second calendar quarter consisted of 1.1 million carats produced from 0.41 million tonnes of ore from the A-418 kimberlite pipe, 0.4 million carats produced from 0.07 million tonnes of ore from the A-154 South kimberlite pipe, and 0.1 million carats produced from 0.04 million tonnes of ore from underground mining in the A-154 North pipe. Diavik has forecast that the total production for 2010 is expected to be lower than previously estimated, to approximately 6.9 million carats. This is partially attributed to mud-rich material in the ore from the A-418 pipe, which reduced processing capacity. Future mine plans include the increase of underground capacity, as the open pit production from the A-418 kimberlite pipe declines. New mining techniques are being examined to lower mining costs for underground headings and in the A-21 pit. Exploration work has identified extensions at depth to the A-418 and A-154 North kimberlite pipes. In August 2010, Harry Winston Diamond Corporation reacquired the 9% indirect interest in the Diavik Joint Venture from Kinross, for \$220.0 million. This transaction returns Harry Winston Diamond Corporation's interest in the Diavik Joint Venture to 40%.





**Figure 1:** Location of Mines and Exploration projects active in the Northwest Territories during 2010.

The **Ekati Diamond Mine**, owned by **BHP Billiton (80%)**, **Stewart Blusson(10%)** and **Chuck Fipke(10%)**, produced 3.611 million carats of diamonds during 2010. While mine earnings increased mainly due to higher realized diamond prices, overall production was lower than in same period of 2009. Production grades reflect a higher proportion of ore sourced from Fox pit, as mining of the higher grade Panda underground was completed. The previous year's total of 3.6 million carats were produced from 4.4 million tonnes of kimberlite from the Fox and Beartooth open pits and underground mining of Panda and Koala pipes. Implementation of BHP Billiton's plan to cut production costs to \$50 per tonne by the end of 2012, from the current \$70 per tonne has commenced. An emphasis on cost controls are anticipated to continue for the remainder of the eight year mine life. Despite a reduction of exploration expenditures to US\$43 million, a 40,000 tonne bulk sample of the Pigeon kimberlite was undertaken.

Operations returned to full production in October at **North American Tungsten Ltd.'s Cantung Mine**, Canada's only producing tungsten mine. Production was temporarily suspended on October 15, 2009 as a result of declining tungsten prices, operating losses, and a stockpiled inventory that was sufficient to meet existing contractual obligations. Production ramp-up of the mine, located along the Yukon-NWT border, commenced in July 2010. The shut down period was used by North American Tungsten to re-evaluate the mine's resources. In October 2010, an updated reserve and resource calculation reported an increased probable reserve estimate at 1.69 million tonnes grading 1.17%  $\text{WO}_3$ , using a minimum mining width of 5 metres and a cutoff grade of 0.80%  $\text{WO}_3$ . Mineral reserves have increased as a result of exploration, definition drilling, and 3D modeling. Past production at Cantung was 3,151,920 kg  $\text{WO}_3$  for the nine months that it operated in 2009, up 14% from the total 2008 production. The revised mineral reserves and mill production rates of 1,100 short tons per day indicate that the mine has maintained sufficient reserves to operate for 4.2 years, nearly double the previous estimate.

## NORTHWEST TERRITORIES MINERAL EXPLORATION HIGHLIGHTS FOR 2010

### ***Diamond Exploration***

The locations of diamond exploration programs are shown in Figure 1.

**Archon Minerals Ltd.** acquired full ownership of leases covering the Buffer Zone, surrounding the Core Zone Joint Venture and the Ekati Mine site. Eighty-five mineral leases encompassing 173,000 acres, were acquired which have numerous drill-confirmed kimberlite pipes and geophysical targets. The Jay and Lynx kimberlite pipes in the Buffer Zone had been selected for resource studies commencing in April as decreasing mining costs at the Ekati mine allows consideration of these lower grade potential resources. Geophysical surveys were undertaken during the summer with drilling planned for this winter. Based on confidence in the high quality geophysical survey to identify kimberlite locations, a decision has been made to bypass the usual small-core diamond drilling and proceed with a mini sampling stage using a larger-diameter rotary drill.

**Arctic Star Diamond Corp.** prospected their Credit Lake property, forty kilometres southwest of Ekati Mine within the Providence Lake Greenstone Belt. Nine detailed walkmag grids were completed. Two magnetic targets and one gravity anomaly were tested with three diamond drill holes (100 metres). Additional bathymetric surveying was completed to test a kimberlite mineral train (Alpha Train) and the Abyss topographic target. A 38 metre vertical diamond drill hole was completed to target the deepest part of the topographic low but no kimberlite was intersected.

**Arctic Star Diamond Corp.** also collected 38 samples on two separate kimberlite indicator mineral dispersal trains from their Crown property, claims staked in 2008, north of Ekati Minesite.

**Darnley Bay Resources Ltd.** has entered a 50/50 Joint Venture with **Diadem Resources Ltd.** on the 33 claims of the Parry Peninsula property. A drill was mobilized and 5 holes (707 m) were completed by the beginning of September identifying three new kimberlites. Preliminary reports received from CF Mineral Research Ltd. indicate promising indicator minerals and one microdiamond, which measured approximately 0.25 millimetres in diameter. In addition to drilling, 66.07 line-kilometres of ground magnetic survey data were acquired over three new targets.

**De Beers Canada Inc.** (51%) and **Mountain Province Diamonds Inc.** (49 %) are joint venture partners in the Gahcho Kué Diamond Project located in the southeastern Slave Province, 150 kilometres south-southeast of the Ekati and Diavik Mines. On October 15, 2010 an independent feasibility study was completed by JDS Energy and Mining Inc. The project is one of the largest potential diamond mines at an advanced exploration stage, is



anticipated to have a mine life of 11 years with a 3 million tonne annual production rate. Forty nine million carats are expected with an average diamond price of US\$102.48 per carat. In addition, the mineral reserve estimates in the report were revised for pipes 5034, Hearne, and Tuzo. Gahcho Kué has an indicated resource of 31.3 million tonnes containing 50.5 million carats at a grade of 1.57 carats per tonne. Initial project costs of \$549.5 million are estimated to result in an internal rate of return of 20.7%. Operating costs of \$48.68 per tonne are projected. The project environmental impact assessment was filed with the Mackenzie Valley Environmental Review Board late in 2010.

**Rio Tinto Canada Exploration Inc.** entered an option agreement with **GGL Resources Corp.** in 2009 to evaluate the CH property, in the MacKay and Courageous lakes area, southwest of Ekati and Diavik mines. In 2010, twenty-four claims were surveyed, to take them to lease status. Three detailed ground gravity grids consisting of 12 line-kilometres were completed and 78 till samples were collected. The new results were combined with data from GGL Resource's previous airborne/ground geophysical surveys, indicator mineral sampling and diamond drilling. A reverse circulation drill was mobilized and eight holes were completed. Three of the holes were drilled in the area of the Bishop Kimberlite with two intersecting 2 metres and 13 metres of kimberlite breccia dykes. A fourth hole directly over the kimberlite was abandoned after 35 metres. Forty-four samples comprising 890 kg were shipped to the Rio Laboratory in Thunder Bay. The combined cost was \$1.02 million.

**North Arrow Minerals Inc.** has received a land use permit from the Mackenzie Valley Land and Water Board for its 81,000 acre Lac de Gras diamond property, which adjoins the Diavik Diamond Mine in the Lac de Gras area of the Northwest Territories. The receipt of the permit allows the joint venture between **North Arrow Minerals Inc** (50%) and **Dr. Chris Jennings** (50%) to commence planning a drilling program, which has been rescheduled for April 2011. A legal survey of thirty-two claims was completed in July 2010. During the survey work 79 kimberlite airborne geophysical targets were checked on the ground. Twenty-nine ground geophysical surveys, including magnetic and electromagnetic surveys were conducted in the fall of 2010 on 35 targets, and additional airborne targets were ground truthed during this work.

**Olivut Resources Ltd.'s** HOAM diamond property covers 1,071,750 hectares in the Interior Platform region south of Great Bear Lake. Activities in 2010 were restricted to a re-interpretation of airborne magnetic data conducted by an independent expert. While twenty-three kimberlite discoveries have been made by exploration efforts to date, the diamond results have been low. The objective of the geophysical reinterpretation was to identify new areas of potential kimberlite occurrences that may have been overlooked. Olivut has reported that the geophysical evaluation has resulted in numerous additional targets located up-ice from the areas of anomalous KIMs.

In 2009, **Talmora Diamond Inc.** completed an 865 line-kilometre airborne magnetic survey and collected 45 till samples in order to test down-ice of magnetic anomalies on their Horton River Project, 100-200 kilometres south of Paulatuk and 400 kilometres east of Inuvik. Talmora has received the kimberlite indicator mineral (KIM) analyses for multiple size fractions for the samples collected in 2009. While the results have not been released, Talmora's interpretation is that the KIMs originating west of the Horton Property were derived Cretaceous sediment hosted kimberlites to the east. The mineral chemistry of these KIMs do not match those from the nearby Slave, Greenhorn or Paulatuk kimberlites. Additional work is required to locate the source of the indicator minerals.

**Table 1:** Summary of NWT diamond exploration in 2010

| <b>Operator / Partners</b>  | <b>Property</b>    | <b>Drilling</b>                    | <b>Airborne Geophysics</b> | <b>Ground Geophysics</b>       | <b>Sampling and Other Work</b>                 |
|---|--------------------|------------------------------------|----------------------------|--------------------------------|--|
| Archon Minerals Ltd.  | Buffer Zone        |                                    |                            | Ground Geophysics              |  |
| Arctic Star Diamond Corp.   | Credit Lake/ Crown | 1 ddh (38 m)<br>3 RC holes (100 m) |                            | 9 walking Mag, 1 grav grid     | Bathymetric survey/<br>38 till samples         |
| Darnley Bay Resources Ltd./ Diadem Resources                          | Parry Peninsula    | 5 ddh (707 m)                      |                            | 66.07 km Mag survey            |  |
| De Beers Canada Inc. (51%) and Mountain Province Diamonds Inc. (49 %) | Gahcho Kué         |                                    |                            |                                | Mineral Resource update<br>Feasibility study   |
| Rio Tinto Canada Exploration Inc./GGL Resources                       | CH                 | 8 RC holes                         |                            | 2 grav surveys                 | 24 claims to lease,<br>78 till samples         |
| North Arrow Minerals Inc./Chris Jennings                              | Lac de Gras        |                                    |                            | 29 Detailed Mag and EM surveys | 32 claims to lease,<br>till sampling           |
| Olivut Resources Ltd.   | HOAM               |                                    |                            |                                | Re-interpretation of Airborne Geophysical Data |
| Talmora Diamond Inc.  | Horton River       |                                    |                            |                                | Re-analysis of till samples                    |

grav – gravity, ddh – diamond drill hole, RC – reverse circulation, Mag – magnetic, EM - electromagnetic

## ***Metal Exploration***

The locations of metal exploration programs are shown in Figure 1.

Forty kilometres southwest of Ekati Mine, **Arctic Star Diamond Corporation** followed up on its 2008 Providence Lake Nickel Discovery, on the Credit Lake property. The company mobilized a reverse circulation (RC) drill and a diamond drill to the Credit Lake property in late March 2010 along with geophysical crews. A belt-wide, detailed ground magnetic survey (465 line-kilometre) was undertaken along with 15 HLEM MaxMin geophysical grids and a detailed ground gravity survey. A total of 6 BQTW totaling 927 metre diamond drill holes and 7 RC holes for an additional 243 metres were completed to explore for sulphide minerals. The drilling results included 4.55 metres of 0.67 g/t Pt and 1.54 g/t Pd and 0.17 g/t Rh, about 100 metres along strike and down dip from previous drilling extending the Platinum group metal zone. Prospecting also identified 42 new targets for future investigation.

**Avalon Rare Metals Inc.** has updated the Nechalacho deposit resource calculations (Jan 27, 2011) utilizing results from definition drilling undertaken during this past summer. The deposit, located on the north shore of Great Slave Lake, 100 kilometres southeast of Yellowknife, contains a number of rare earth element enriched zones. Avalon's focus on the Basal Zone is due to its strong enrichment in the heavy rare earth elements (HREO) as a proportion of the total rare earth elements (TREO) present. The indicated mineral resource estimate for the Basal Zone is reported at 57.49 million tonnes grading 1.56% TREO with 20.72% HREO/TREO using a \$260 net metallurgical return cut-off. An inferred mineral resource for the Upper and Basal Zones combined now stands at an estimated 226.88 million tonnes grading 1.30% TREO with 14.33% HREO/TREO with indications that the Basal Zone resource contains high grade sub-zones. A mine plan modeling a production rate of 2,000 tonnes per day is being prepared. Good geological control of subzones could allow for selective mining at a higher cut-off grade during the initial part of the 20-year mine life.

Drilling commenced early in January with 43 drill holes completed in the winter 2010 season totaling 11,398 metres. After a short hiatus during break-up, drilling of 16,188 metres in 63 holes continued using two drill rigs, one producing HQ core and the second producing PQ core. The PQ core is intended to provide additional bulk sample material for metallurgical pilot plant work. The drilling is being combined with oriented-core geotechnical logging for rock quality, under the supervision of Knight Piésold Consulting. Infrastructure is also being improved at the site, with the construction of a new airstrip and the refurbishment of a trailer camp. Scoping sessions with the Mackenzie Valley Environmental Impact Review Board (MVEIRB) have begun as part of the Environmental Assessment process. Consultation sessions have also been conducted, with negotiations with the Yellowknives Dene and the Deninu K'ue First Nations for an Impacts and Benefits type agreement expected to conclude in late 2011.

**Boxxer Gold Corp.** and **Champlain Resources Inc.** completed an aeromagnetic survey over their Gordon Lake Gold property located approximately 110 kilometres northwest of Yellowknife, NWT. The survey traced the steeply dipping Ven and Syn gold bearing shear zones along strike, to identify structural controls on 17 zones of gold mineralization identified within these structures. An exploration program consisting of line cutting and resistivity surveys was also undertaken to more closely define shear zones and to locate zones of higher resistivity suggestive of silicification associated with gold mineralization. Mapping, prospecting and channel sampling of the Syn zone were also completed with seven samples returning gold values from 0.16 g/t to 34.8 g/t Au.

**Bullmoose Mines Ltd.** has commenced exploration at the Bullmoose mine located 65 kilometres southeast of Yellowknife. Camp construction accompanied a small prospecting and sampling program. A drill program using a small drill is being considered.

In the southern Mackenzie Mountains, **Canadian Zinc Corp.**'s development and operation of the Prairie Creek zinc-lead-silver project is continuing. The project is in environmental assessment by the Mackenzie Valley Environmental Impact Review Board. A first round of information requests and community meetings has been completed. At the site, work included winter road rehabilitation, studies related to the environmental assessment, and removal of all PCB contaminated material stored at the site. The material was successfully airlifted from Prairie Creek to be disposed of, by incineration, at the certified Earth Tech Swan Hills disposal facilities, Alberta. In addition, 136,000 litres of diesel fuel were hauled into the Prairie Creek site by DHC-5 Buffalo aircraft. A new HTM2500 drill rig, capable of drilling deeper holes, was mobilized.

The 2010 diamond drill program tested for extensions of the inferred vein resource north of the Prairie Creek Mine, where the host geology and structure have been projected. The drill site is approximately 1.5 kilometres north of the last drill hole used to define the published mineral resource. Drilling started in early August and by mid October 2010, 2,703 metres of drilling had been completed in three holes. The first hole PC-10-186 was completed to a depth of 1,557 metres and intersected the Whittaker Formation, which hosts the majority of the defined mineral resource at the Prairie Creek mine, at a down hole depth of 1,500 metres. The second hole was wedged but encountered technical problems after about 150 metres. The third hole, PC-10-187 was collared at surface and reached a depth of 652 metres when poor weather forced the suspension of drilling activities until next season. The drill rig remains on location at the Casket Creek drill site.

In August, a perimeter land survey was completed on the Gate mineral claims, which cover 9,245 hectares to the west of the Prairie Creek mine, allowing these claims to be advanced to mining leases. The Gate Claims contain similar geology to that of the Prairie Creek mine but no new work was undertaken to test the known base metal targets.

**Coltstar Ventures Inc.** staked over 105,000 hectares (1,050 sq kilometres) of claims in the Mackenzie Mountains. The 170 kilometre long property, extending across much of the central Mackenzie Mountains, covers two Upper Proterozoic stratigraphic units, the Rapitan Formation and the Coates Lake Group. Two project areas, BIGiron and BIGcopper have been identified using stream sediment sampling. A program of prospecting and infill stream sediment sampling has been initiated. Thirty-two silt samples were collected and 4 returned anomalous results with elevated iron.

**Darnley Bay Resources Ltd.** completed two airborne geophysical surveys; a 2,750 line-kilometre Geotech VTEM time-domain electromagnetic and magnetic survey completed in March and a 6,190 line-kilometre Sander AIRGrav gravity and magnetic survey completed in April. These surveys were located over the Darnley Bay Anomaly and to the east where it is suspected that shallower targets may be present. Ground geophysics surveys including gravity, HLEM and magnetic surveys have been completed on twenty grids. A diamond drill was mobilized and three drill holes (878 m) had been completed by December. These holes targeted the northeast edge of the Darnley Bay Gravity Anomaly but neither drill hole reached sufficient depth to explain the target anomalies. Additional drilling is anticipated in 2011.

**Devonian Metals Inc.** completed camp construction and eighteen diamond drill holes totaling 4,697 metres in a program from early August to mid-October, about 15 kilometres southwest of Wrigley. The two drills used in the program successfully targeted extensions at depth of three ore bodies that had been drilled in previous years by Devonian Metals and historically Cominco. The drill holes encountered intersections of sphalerite, smithsonite and galena. A resource calculation prepared in April concluded that the Wrigley deposits host an indicated resource of 230,000 tonnes grading 7.36% Zn, 2.26% Pb, and 12.97 g/t Ag, and an inferred resource of 2,830,000 tonnes grading 7.11% Zn, 1.70% Pb, and 10.19g/t Ag at a 4% combined zinc plus lead cutoff. The geological setting is the carbonate middle Devonian Nahanni, Headless and Landry formations and the ore bodies are strongly fault-controlled.

**Fortune Minerals Ltd.** announced in January 2010, a new mine plan and a 43% increase in the mineral reserves on the NICO gold, cobalt, and bismuth project, located in the southern Bear Province, 160 kilometres northwest of Yellowknife. The update, prepared by P&E Mining Consultants Inc., has increased the proven and probable mineral reserves for NICO to 31 million tonnes averaging 0.91 g/t Au, 0.12% Co, 0.16% Bi, and 0.04% Cu. This summer, Fortune Minerals completed 37 drill holes in a 6,777 metre drill program to extend the known mineral reserves and define the perimeter of the ore body for detailed mine operations. Significant intersections encountered in the drilling included: 8.00 metres, containing 4.74 g/t Au and 0.16% Bi, 3.38 metres containing 11.59 g/t Au, 0.37% Co, 0.16% Bi and 0.14% Cu, 5.00 metres with 4.84 g/t Au, all of which indicate possible extensions to a gold-rich zone within the NICO deposit. Reclamation efforts were completed at Newmont's Golden Giant minesite in Hemlo, Ontario where buildings and

equipment were prepared for transportation to and installation at the NICO Mill site. Fortune Minerals production plans include an open pit and underground operation with feed to a conventional crushing, grinding and flotation mill. Onsite concentration is anticipated to process 4,650 tonnes of ore per day producing approximately 180 tonnes of bulk concentrate per day. The concentrates of gold, cobalt, bismuth and copper will be trucked to the railhead at Hay River and shipped to its own (to be developed) refinery in Saskatoon, Saskatchewan. Fortune Minerals has continued its programs of consultation and engagement with the Tlicho Government to secure their continued support for the NICO project.

**Merc International Minerals'** drill program on their Damoti Lake gold project was designed to increase the historic resource of the Horseshoe Zone and test new zones. The Damoti Lake project is located approximately 210 kilometres north-northwest of Yellowknife and 30 kilometres south of the past producing Colomac Mine site. SRK has completed their site visit to initiate a mineral resource evaluation and preparation of a NI 43-101 compliant technical report. Between March and June 2010, 42 drill holes were completed totaling 7,985 metres. Newly discovered vertically stacked mineralized zones at Red Mountain were extended over 200 metres north along strike from the initial discovery area, and other new zones discovered at depth. Fifteen holes were collared within the eastern limb of the Red Mountain syncline, located 125 metres west of the Horseshoe Zone. Assay results included samples from D10-416B which returned a composite grade of 1.64 g/t Au over 151.40 metres and in D10-420B, 20 metres of 5.60 grams g/t Au. In addition, the latest drilling has identified a mineralized corridor linking the high-grade Horseshoe Zone and coincident magnetic and induced polarization (IP) anomalies identified 250 metres east of the Horseshoe Zone.

Drilling also extended the Horseshoe Zone to the north with intersections of 5.03 g/t Au over 3.5 metres, 14.95 g/t Au over 0.5 metres, 1.0 metre of 14.66 grams g/t Au, and 2.5 metres of 6.56 g/t Au. Two holes were also drilled in the nose of a fold, named the Runway Zone. These intersected mineralization including 3.5 metres of 3.49 g/t Au. The presence of mineralization was also confirmed and expanded for the BIF Island Zone, located 3.5 kilometres southwest along strike of the Horseshoe Zone. Nineteen holes to a maximum vertical depth of 150 metres were drilled to define the extent of the host iron formation and confirm the gold mineralization along the fold plunge. Additional claim staking and other work to expand the property package in the Indin Lake volcanic belt is ongoing.

**Minerals and Metals Group** (Now acquired by **Minmetals Resources Ltd.**) continued work at the Izok Lake copper, zinc, lead and silver deposit. While much of the program focused was focused in Nunavut 85 till samples were collected for metamorphic/magmatic massive sulphide indicator minerals (MMSIM®) in addition to 56 rock samples on the NWT claims. The current resource at Izok Lake is reported to be 14.8 million tonnes at



12.8% zinc, 2.5% copper, 1.3% lead and 71 g/t silver. Reinterpretation of the Izok deposit has resulted in the identification of new drill targets and an extensive drill program has been planned for 2011 to test the revised Izok structural model.

**Novus Gold Corp.** continued to explore the REN gold property at Point Lake, approximately 90 kilometres southwest of the formerly producing Lupin gold mine. The property contains several known iron formation-hosted gold showings, including the REN showing, which had been drilled by Texas Gulf, Echo Bay and Westview Resources. Exploration activities at REN consisted of 10 drill holes completed at the Main Zone, three at the Grizzly occurrence and one at the Moore gold occurrence totaling 3,189 metres. Additional activities included relogging of historical drill holes and a 1,120 line-kilometre helicopter borne VTEM (time-domain electromagnetic) flown over the property with a line spacing of 100 metres. Ground exploration included examination of 27 gold occurrences and the collection of 174 bedrock grab samples at five showings. Novus Gold initiated a secondary exploration program as of October 29.

Highlights from the drill results included 38.46 metres averaging 1.12 g/t Au in drill hole NOV-10-08. The low-grade intersection included a higher grade 0.55 metres averaging 8.53 g/t Au. Other noteworthy intersects included 31.97 metres averaging 0.74 g/t Au in NOV-10-06 and 20.02 metres averaging 1.9 g/t Au in NOV-10-07. Based on the promising results, additional mineral claims were staked and the Ren property now consists of 20 claims (REN 1 to 20) aggregating 40,169.25 acres or 16,260.28 hectares. This expansion includes a number of known showings and expands the search for a high-tonnage, low-grade gold deposits in thickened amphibolite iron formation where intersected by prominent structures.

**Playfair Mining** undertook a geochemical survey of the Lened Property, in the central Mackenzie Mountains, 450 kilometres west of Norman Wells. Soil samples were collected to examine the gold, tungsten and beryl potential of the claims.

**REC Minerals Corp.** (*recently renamed Reliant Gold Corp.*) completed a surface exploration and shallow drilling program in July on the North Nonacho Property, consisting of two mineral claims in the vicinity of Nonacho Lake. Prospecting and mapping, following up on positive magnetic anomalies identified on a government survey identified iron, manganese and copper oxide and sulphide mineralization. Analytical results from the surface chip sampling at North Nonacho include: 1 metre of 1.03% Cu, 25 g/t Ag and 0.4 g/t Au; 5 metres of 0.29% Cu, 16 g/t Ag and 0.15 g/t Au; 2 metres of 0.56% Cu, 21.5 g/t Ag and 1.0 g/t Au; and 4 metres of 0.63% Cu and 40 g/t Ag. Assays from the four Winkie (BQ) drill holes, of which two were 13.2 and 10.7 metres in depth, and completed in the vicinity of the surface sampling at North Nonacho, returned lower values. The company hopes to conduct a follow-up program of ground induced polarization surveys and diamond drilling of mineralized showings and other favorable positive magnetic anomalies on the property.

**Seabridge Gold Inc.** has completed a \$15 million exploration program at its Courageous Lake Property, approximately 240 kilometres northeast of Yellowknife. About 22,000 metres were drilled in a 49 drill hole program designed to upgrade inferred resources to higher categories. Current resource calculations (Jan 25, 2010) for Courageous Lake suggest a measured resource of 12.584 million tonnes at 2.52 g/t Au and an indicated resource of 77.582 million tonnes at 2.31 g/t Au. Assay results have now been released and noteworthy intersections include 41.6 metres with 6.62 g/t Au, 25.5 metres grading 5.04 g/t Au, 30.6 metres grading 6.06 g/t Au and 31.2 metres grading 5.77 g/t Au. In addition to the upgrading of inferred resources, ongoing independent engineering work is being conducted with the aim of an updated Preliminary Assessment, expected early 2012. Concurrently, environmental studies required for the permitting process are also being undertaken. The FAT gold deposit is, hosted in an Archean rhyolite/dacite dome complex. The volcanic dome measures about 2 kilometres along strike and about 800 metres of stratigraphic section in width.

**Selwyn Resources Ltd.** is exploring the Howards Pass area of the Mackenzie Mountains. The bulk of the Selwyn Project is located in eastern Yukon, extending southeast across the border into the Northwest Territories. Exploration in 2010, consisting largely of drilling in Yukon, was designed to upgrade the inferred mineral resources in the XY Central, XY West and Don deposits to the indicated category for use in a feasibility study. As of December, 13,994 metres of drilling in 47 holes were completed in the XY Central zone, 4,347 metres in 10 holes in the XY West zone and 7,034 metres in 24 holes in the Don zone. The latest (Feb. 25, 2009) NI 43-101 compliant indicated mineral resource for the XY Central deposit is 10,738,000 tonnes grading 10.38% Zn and 4.41% Pb and an Inferred mineral resource of 2,849,000 tonnes grading 10.86% Zn and 4.41% Pb. This is a portion of the total resources of the Selwyn project which is reported include an indicated resource of 154,350,000 tonnes grading 5.35% Zn and 1.86% Pb and an inferred mineral resource of 234,150,000 tonnes grading 4.57% Zn and 1.42% Pb. Site preparation and geotechnical work for infrastructure was also undertaken and resulted in 9 drill holes totaling 900.0 metres. In the NWT, road construction and minor prospecting were planned.

**Strongbow Exploration Inc.** released an a NI 43-101 compliant minerals resource for the Main Zone of their Nickel King project, at Thye Lake, 550 kilometres southeast of Yellowknife. The report, completed by PEG Mining Consultants, outlined an indicated resource of 11.1 million tonnes grading 0.40% Ni, 0.10% Cu and 0.018% Co; and an inferred resource of 33.1 million tonnes grading 0.36% Ni, 0.09% Cu, and 0.017% Co using a 0.2% Ni cut-off grade. Mineralization is hosted by norite within the Upper and Lower sills of the Main Zone and has a drill-delineated strike length of 2.6 kilometres. The two sills, 40 metres to 110 metres in thickness may represent the two limbs of a westerly plunging synform. The mineralization consists of pyrrhotite with lesser amounts of chalcopyrite and pentlandite, sulphides typically comprise less than 5% in the Upper Sill but locally exceeding 20%. In the better-mineralized portions of the Lower Sill, the

sulphide content typically ranges from 5% to 15%, occasionally reaching 30% over short intervals (typically less than 1 metre). Pentlandite is the primary Ni-bearing sulphide mineral, occurring typically as discrete grains and veinlets and occasionally as exsolution lamellae or flames in pyrrhotite. Ongoing structural and geophysical modeling have identified extensions to the Nickel King deposit outside of the current resource model.

**Tamerlane Ventures Inc.** continued their exploration of the Pine Point area, on the southern side of Great Slave Lake. This year, drilling focused on contributing to the completion of a NI 43-101 Compliant Reserve and Resource estimate for the N-204 deposit. Twenty-three holes, totaling 1,433 metres, confirmed the continuity, style of mineralization, and grade distribution in the N-204 deposit. Highlights included 21.71 metres with an average grade of 9.68% combined. The released estimate (Feb. 10, 2011) demonstrated 9,166,000 tonnes (3.42% Zn, 0.92% Pb) of indicated reserves and 2,413,000 tonnes (3.04% Zn, 0.86% Pb) of inferred reserves. These add to the current proven and probable reserves of 7.8 million tonnes (6.16% Zn, 3.01% Pb) and measured and indicated resources of 8.0 million tonnes (2.26% Zn, 1.13% Pb). Preliminary metallurgical work has demonstrated that Dense Media Separation will upgrade the N-204 resource to an over 10% combined lead zinc intermediate concentrate. The current plan is to first develop and mine the R190 deposit, which contains reserves of 1,000,027 tonnes at a grade of 11.16% Zn and 5.49% Pb.

**TNR Gold Corp.** through their subsidiary **International Lithium Corp.** explored their Moose Lithium Project, near Thor Lake, 115 kilometres east-southeast of Yellowknife. A program of mapping and channel sampling was initiated to outline high-grade lithium and tantalum zones on the Moose 1 and Moose 2 pegmatite dikes. Ground magnetic and HLEM surveys were also completed. Due to delays in acquiring land use permits, the drill program was deferred. Spodumene crystals up to 4 metres in length have been observed in the Moose 2 pegmatite, which has a strike length of 427 metres and a width of 25-30 metres. A channel sample returned 1.50 wt% Li<sub>2</sub>O over 7.5 metres and a grab sample returned 8.44 wt% Li<sub>2</sub>O suggesting that the source pegmatite is highly evolved.

Eighty kilometres north of Yellowknife, **Tyhee Development Corp.** (*recently renamed Tyhee Gold Corp.*) completed drilling for the preliminary feasibility study on the Ormsby and Nicholas Lake gold properties. A preliminary assessment of the resources on Tyhee's main properties was released. It suggests that the Ormsby zone contains 3 million tonnes at 3.41 g/t Au (measured) and 7.9 million tonnes at 3.42 g/t Au (indicated), the Nicholas Lake zone has 1.2 million tonnes at 3.81 g/t Au (measured) and 1.5 million tonnes at 3.32 g/t Au (indicated), the Bruce Lake zone has 0.8 million tonnes at 3.64 g/t Au (indicated) and the Clan Lake Main zone 3 million tonnes at 3.64 g/t Au (indicated). Work including geotechnical drilling continued for environmental and metallurgical processing studies.

**Tyhee Gold Corp.** conducted additional exploration drilling and prospecting on their Clan Lake gold property, 40 kilometres north of Yellowknife and 27 kilometres south of the

Ormsby zone. Two new gold zones were sampled, while seven showings were mapped and sampled in more detail. At Clan Lake, gold is largely constrained to a 6.5 kilometre long, 900 metre wide north-northeast striking zone. The zone consists of several bands of altered, silicified, and sulphidized rocks that generally strike to the northwest and each band individually may exceed 100 metres in width. An inferred resource of 441,000 tonnes grading 2.71 g/t Au has been calculated for the zone. This year's drill results include 77.5 metres of 0.80 g/t Au containing 4.5 metres of 7.37 g/t Au. Other highlights were 30.0 metres of 1.11 g/t Au, 4.1 metres grading 8.29 g/t Au and 3.6 metres grading 3.37 g/t Au. These assays extend the known gold mineralization by more than 200 metres along the strike of the Main Zone and have not been incorporated in the resource calculation. An additional eight drill holes (1572 metres) were completed on the "Spud Zone" 200 metres west of the Main Zone. Reported results include 1.74 g/t Au and 4.30 g/t Ag over 32.0 metres including 4.75 g/t Au and 11.9 g/t Ag over 10.5 metres and 18.23 g/t Au and 83.00 g/t Ag over one metre.

**US Nickel Ltd.** conducted a reconnaissance of their Snowbird Project, consisting of two blocks of claims (Kasba and Wendy) comprising 214 kilometre<sup>2</sup>, located 625 kilometres northwest of Thompson, Manitoba. The claims cover part of the Snowbird Tectonic Zone, interpreted to be a suture between two Archaean crustal blocks, Rae and Hearne, in the Churchill craton. The claims enclose known magmatic nickel-copper ± platinum group element (PGE) sulphide showings and shear-zone-hosted gold showings. Grab samples collected from boulders returned values of 2.3% Ni and 2.9% Cu. The area consists of folded and contorted amphibolite to granulite-grade Archaean gneisses, granitoids and minor amphibolites. The 2010 program was designed to guide target selection for a drill program, expected to commence in 2011. An Aerotem survey of approximately 1,600 line-kilometres extended the previously completed geophysical survey blocks. This helicopter borne MAG-TDEM survey and a cesium vapour magnetometer system provided high-resolution magnetic information to target mapping, prospecting and soil sampling. A ground geophysics (HLEM and magnetometer) crew was also mobilized. Samples collected from trenches on the property were reported to contain 5.3% Cu, 22.2% Zn, 2.8 g/t Au, 976 g/t Ag. Grab float samples also returned 273 g/t Au and 10 g/t Ag from the Wendy Prospect. A land access agreement was signed with the Lutsel k'e Dene First Nation and the Deninu Kue First Nation.

**Viking Gold Exploration Inc.** drill-tested their Morris Lake gold property, just south of the former Discovery gold mine. The program consisted of 9 holes totaling 1,935 metres with 651 samples assayed. Three targets were to be tested: 1) the easterly extent of the Ormsby zone and two geophysical conductors 2) the background section to the west and 3) a magnetic anomaly and gossanous tuffs underneath Narrow Lake. Results include 1.5 metres containing 2.6 g/t Au and 1 metre with 0.8 g/t Au. Three new claims were staked to add to the Morris Lake (ML) property.

**Western Copper Corporation** continued a reconnaissance field program at their Redstone property located 290 kilometres southwest of Norman Wells in the Mackenzie Mountains. This year's field program focused on mapping and prospecting portions of the five mineral leases and 16 claims that make up the property.

**WPC Resources Inc.** has been exploring for gold near Quest Lake, 85 kilometres east of Yellowknife. The field program consisted of prospecting and sampling of trenches, which cover six gold-bearing zones hosting quartz veins. The most significant chip sampling results include 3.9 g/t Au over 7.5 metres. Grab samples were collected from several of the dumps and trenches with reported values of 46.2 g/t Au, 30.2 g/t Au and 13.75 g/t Au. Seven diamond drill holes (556m) were completed to test the "A" vein and all were successful at intersecting the target. Gold was encountered in all seven holes with the highest values consisting of 6.51 g/t Au over 0.33 metres, 6.33 g/t Au over 0.21 metres, 9.18 g/t Au over 0.32 metres, 8.72 g/t Au over 0.63 metres and 16.00 g/t Au over 0.32 metres. Drilling is planned to continue in the winter.

**Table 2:** Summary of Northwest Territories active exploration projects of precious, base and energy metals 2010

| <b>Operator / Partners</b>            | <b>Property</b>                               | <b>Commodity</b> | <b>Drilling</b>  | <b>Airborne Geophysics</b>                    | <b>Ground Geophysics</b>   | <b>Sampling and Other Work</b>  |
|---------------------------------------|---|------------------|--|---|--|---|
| Arctic Star Diamond Corp.             | Credit Lake (Providence Lake Greenstone Belt) | Cu-Ni-Co-PGE     | 6 ddh (927 m)<br>7 RC holes (243 m)                    |   | Gravity (1 grid), HLEM(15 grids), belt-wide mag survey (465 line-km) |   |
| Avalon Rare Metals Inc.               | Nechalacho (formerly Thor Lake)               | REE              | Winter: 43 ddh (11,398 m)<br>Summer: 63 ddh (16,188 m) |   |  | NI-43-101 Compliant Resource calculation, rel. June 2010, rev. Sept 2010<br>Bulk sample for Metallurgical testing |
| Boxxer Gold Corp/ Champlain Resources | Gordon Lake                                   | Au               |  | Airborne Mag and EM survey                    | Resistivity Survey   | Mapping, lien cutting, prospecting, channel sampling (15 samples)   |
| Canadian Zinc Corp.                   | Prairie Creek                                 | Pb-Zn-Ag         | 3 ddh (2703 m)   |   |  | Metallurgical testing/ Gate Claims to lease   |
| Coltstar Ventures Inc.                | BigIron/ BigCopper                            | Fe/Cu            |  |   |  | Field examination and 32 stream sediment samples  |
| Darnley Bay Resources Ltd.            | Darnley Bay                                   | Ni               | 3 ddh (878 m)  | 2750 km VTEM Mag survey, 6190 Grav Mag survey | Grav, HLEM and Mag on 20 grids                                       | Camp Construction   |
| Devonian Metals                       | Wrigley                                       | Zn-Pb            | 18 ddh (4697 m)  |   |  | Camp Construction, NI-43-101 Compliant Resource calculation, Apr. 2010  |
| Fortune Minerals Ltd                  | NICO  | Au-Co-Bi         | 37 ddh (6777 m)  |   |  | NI-43-101 Compliant Resource calculation, Jan 2010, Mine Plan   |
| Merc International Minerals Inc.      | Damoti Lake                                   | Au               | 42 ddh (7985 m)  |   | Mag Surveys  | Prospecting   |
| MMG (Minerals and Metal Group)        | Izok Lake                                     | Cu-Pb-Zn         |  |   |  | 85 Till samples   |
| Novus Gold Corp. /Terra Ventures      | REN   | Au               | 14 ddh (3189 m)  | 1120 km VTEM (heliborne)                      |  | 174 Grab samples, mapping, 4 claims staked  |
| Playfair Mining                       | Lened   | W,Au, Emeralds   |  |   |  | Stream and soil sampling  |

Mag – magnetic, EM - electromagnetic, IP – induced polarization, VLF-EM – Very Low Frequency electromagnetic survey, HLEM – Horizontal loop electromagnetic survey, TEM - time-domain electromagnetic survey, PGE - platinum group elements, ddh-Diamond Drill Hole, Grav – Gravity, VTEM – Vertical TEM, REE – Rare Earth Element



**Table 2** continued

| <b>Operator / Partners</b>                  | <b>Property</b>                  | <b>Commodity</b> | <b>Drilling</b>   | <b>Airborne Geophysics</b> | <b>Ground Geophysics</b> | <b>Sampling and Other Work</b>   |
|---|----------------------------------|------------------|---|----------------------------|--------------------------|--|
| REC Minerals Corp. (Now Reliant Gold Corp.) | North Nonacho                    | Cu-Ag-Au         | 4 BQ ddh (24 m)   |                            |                          | Sampling   |
| Seabridge Gold Inc.                         | Courageous Lake                  | Au               | 49 ddh (22,000 m)   |                            |                          | On-going Pre-Feasibility Study   |
| Strongbow Exploration Inc.                  | Nickel King                      | Ni               |   |                            |                          | NI-43-101 Compliant Resource calculation, Jan 2010, Structural studies |
| Tamerlane Ventures                          | Pine Point                       | Zn-Pb            | 23 ddh (1433 m)   |                            |                          | NI-43-101 Compliant Resource calculation for N-204                     |
| TNR Gold/International Lithium Corp.        | Moose                            | Li               |   |                            |                          | Channel sampling and grab samples                                      |
| Tyhee Development (Now Tyhee Gold Corp.)    | Clan Lake/ Ormsby/ Nicholas Lake | Au               | Clan Main: 21 ddh (7140 m)<br>Clan Spud: 8 ddh (1572 m)<br>Ormsby: 16 ddh (1485m) |                            |                          | Pre-feasibility report, July 2010<br>Prospecting and grab samples      |
| US Nickel Ltd.                              | Snowbird/ Kasba Lake             | Ni/Au            |   | 1600 km TEM and Mag        | HLEM and Mag             | Mapping , prospecting (225 Samples) and soil sampling                  |
| Viking Gold                                 | Viking (Morris Lake)             | Au               | 9 ddh (1935m)   |                            |                          | Three claims staked  |
| Western Copper Corp.                        | Coates Lake                      | Cu               |   |                            |                          | Mapping and prospecting  |
| WPC Resources Inc.                          | Quest Lake                       | Au               | 7 ddh (556 m)   |                            |                          | Prospecting trench sampling  |

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## **FURTHER INFORMATION**

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