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RARE EARTH EXPLORATION UPDATE

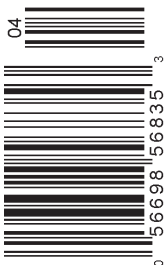
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Don Bubar, President/CEO, Avalon Rare Metals Inc.

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The rare earth exploration sector is heating up as many TSX Venture Exchange companies fan out across the globe acquiring prospects in the search for hi-tech metals



RARE EARTH exploration update

by Ellsworth Dickson

As could be witnessed at the recent Prospectors & Developers Conference in Toronto, there was a tremendous interest in rare earths on the part of both explorers and investors. Speaking engagements by market analysts, following the rare earth sector, drew standing room only crowds eager to gain valuable knowledge as to how to play this important and fast-developing sector.

China controls about 95% of world rare earth production and is increasingly reluctant to sell rare earths to the rest of the world. A shortage is likely to develop in the future unless other viable rare earth deposits are found and brought to production.

In a related matter, in September 2009, China cancelled a \$500 million investment in Australia rare earth company **Lynas Corp.** after not being able to satisfy the requirements imposed by Australia's for-

eign investment regulator. Lynas owns the world's richest rare earth deposit at Mount Weld in Western Australia. The Australia government said China's ownership must be less than 50% and Chinese directors must not take up more than half the board.

Rare earths are critical for the manufacture of green-related products such as hybrid and electric cars, wind and tidal power, flat screen displays and monitors, speaker magnets – the list goes on. In 2008, global demand was 124,000 tonnes Total Rare Earth Oxides (TREO) worth US \$1.25 billion. The forecast demand for 2014 is 200,000 tonnes TREO valued at US \$2-3 billion, assuming a 10% per annum growth rate and not including demand from new technologies.

Concerned about a secure supply of rare earths, the US Congress commissioned a government report on the subject which

is due out shortly. Below is a selection of exploration and project updates for a number of rare earth explorers and mine developers.

Alkane Resources Ltd. [ALK-ASX], based in Perth, Western Australia, is exploring the Dubbo Zirconia Project in New South Wales, Australia. The project, which has good infrastructure, hosts measured resources down to 55 metres of 35.7 million tonnes grading 1.96% ZrO₂ (zirconium), 0.46% Nb₂O₅ (niobium), 0.03% Ta₂O₅ (tantalum), 0.14% Y₂O₃ (yttrium), 0.75% Rare Earth Oxides, 0.04% HfO₂ (hafnium) and 0.014% U₃O₈ (uranium). There is another 37.5 million tonnes of inferred resources at similar grades. Although the mineralization is not classified as a radioactive deposit, it contains 23 million lbs. uranium. Production of uranium is not allowed in New South Wales. A feasibility study has been completed and a

129 ppm yttrium, 260 ppm lanthanum, 612 ppm cerium, 68 ppm samarium and 11 ppm europium. A \$700,000 program is planned for the first year of work.

Bolero Resources Corp. [BRU-TSXV] has an option to acquire a 100% interest in the Carbonatite Syndicate rare earth claim group, surrounding private company **Spectrum Mining Corp.**'s recently reported Wicheeda rare earth discovery. The Carbonatite Syndicate claim group is 80 kilometres northeast of Prince George, British Columbia, and comprises 43 mineral claims covering approximately 16,072 hectares. Highlights from Spectrum's neighbouring property included a 48.64-metre interval which averaged 3.55% REE, a 72-metre interval that averaged 2.92% REE, and a 144-metre interval which averaged 2.20% REE in three separate drill holes.

Butler Resource Corp., now trading as **Quantum Rare Earth Developments Corp.** [QRE-TSXV], has acquired Silver Mountain Mines Corp., a private Nevada corporation that has signed a Letter of Intent to acquire North East Minerals Pty. Ltd., a private Australian company, that owns a 100% interest in West Australian Tenement E29/679 (fully granted), known as the Jungle Well Project, and a 100% interest in West Australian Tenement E38/2374 (pending grant), known as the Laverton Project. Both projects are considered prospective for rare earth elements and are located in the same mineral field where **Lynas Corporation Ltd.**'s [LYC-ASX] Mt. Weld rare earth deposit is being developed. The Mt. Weld Project is a world class deposit with a reported resource of 7.7 million tonnes grading 12% for 917,000 tonnes of rare earth oxides.

Through the acquisition of Silver Mountain, Quantum has an option to earn a 100% interest in several rare earth prospects in the Thunder Bay Mining Division of Ontario. The company also owns the Archie Lake REE property located 50 kilometres east of Uranium City, Saskatchewan and 50 kilometres south of the Great Western Minerals Hoidas Lake REE deposit. Historic exploration and results at Archie Lake returned significant concentrations of REEs.

Cache Exploration Inc. [CAY-TSXV] is earning an 80% interest in three rare earth prospects in eastern Canada: the Welsford Project, located 20 kilometres north of Saint John, New Brunswick, and the Cross Hills and Louil Hills prospects, both in Newfoundland. All three properties host rare earth mineralization which have been sampled and assayed with encouraging results. Cache has planned detailed ground and airborne exploration for spring/summer 2010.

Canadian International Minerals Inc. [CIN-TSXV] can earn a 75% in the Carbo property, located about 80 kilometres northeast of Prince George, British Columbia, that hosts a series of niobium and rare earth element-bearing carbonatite and alkaline intrusions. CIN has been granted a 5,000-hectare Mineral Exploration Licence in the Knee Lake region in central Manitoba that is prospective for rare earths. The company also has a 100% option on the Deadhorse Creek REE property about 25 kilometres northwest of Marathon, Ontario.

Commerce Resources Corp. [CCE-TSXV] is an exploration and development company focusing on tantalum, niobium and rare metal deposits with a potential for economic grades and large tonnages. The company is specifically focused on the development of its Upper Fir tantalum and niobium deposit north of Kamloops, eastern British Columbia. Commerce farmed out a 75% interest in the Carbo Project to Canadian International Minerals (see above).

Dacha Capital Inc. [DAC-TSX; DCHAF-OTCQX] is controlled by Forbes & Manhattan, a private merchant bank, whose business plan is to acquire, stockpile and export heavy rare earth elements outside of China. Dacha will also be a source of capital to purchase excess inventory, reducing volatility.

Fieldex Exploration Inc. [FLX-TSXV] is exploring the Delbreuil Canton and Lac Sairs properties in the Abitibi-Temiscamingue region of northwest Québec as well as the Case property located about 80 kilometres east of Cochrane, northeast Ontario.

Forum Uranium Corp. [FDC-TSXV;

FDCFF-OTC] discovered rare earth mineralization in intrusive rock outcroppings over a 10 by 10 kilometre area 13 kilometres southeast of Areva's Kiggavik uranium deposit in the Thelon Basin of Nunavut. Called the Nutaaq area, the ground is 100% owned by Forum, subject to a 2% NSR royalty to Nunavut Tunngavik Inc. Twenty-nine samples graded over 0.1% total TREO, with a peak of 2.7% TREO.

Gold Canyon Resources Inc. [GCU-TSXV] and **Japan Oil, Gas and Metals National Corp.** have signed a joint exploration agreement with a view to identify REE resources. The partners have an option to evaluate and lease tailings from mine dumps from iron oxide-copper-gold-REE deposits at Iron Mountain, Missouri and Benson Mines, New York. The JV is also evaluating REE prospects in Scandinavia.

Great Western Minerals Group Ltd. [GWG-TSXV; GWMGF-OTCQX] is a Saskatchewan-based junior exploration and development company. With a mine-to-market business model, the company acquires and develops rare earth mineral properties in North America and South Africa. The 100%-owned Hoidas Lake Rare Earth Project in Saskatchewan is one of North America's most significant primary REE properties currently being developed with high values in neodymium. In January 2009, the company signed an option agreement with **Rare Earth Extraction Co. Ltd.** of Stellenbosch, South Africa, to refurbish, re-commission, and operate the currently abandoned Steenkampskraal Mine, South Africa. The agreement allows GWG the right to acquire exclusive access to 100% of the rare earth elements mined there.

GWG subsidiary **Great Western Technologies Inc.** has a production facility in Troy, Michigan for extractive metallurgy, mineral processing, and specialty alloys manufacturing. It processes specialty metal alloys and powder products, including materials that utilize REEs.

GWG subsidiary, **Less Common Metals Ltd.**, near Liverpool, UK, is a world leader in the manufacture and supply of rare earth based alloys and high purity metals focused on the permanent magnet industry. With considerable experience in the pro-

duction of materials to tight compositional tolerances and controlled microstructures, LCM offers an innovative and highly flexible approach to a wide range of material requirements.

Greenland Minerals and Energy Ltd. [GGG-ASX; Pink Sheets] has acquired an exploration license over the northern Ilimaussaq Intrusive Complex, southern Greenland, a geological entity with potential for specialty metals, particularly rare earth elements. Since acquiring the project in mid-2007, exploration has confirmed the potential, and the Kvanefjeld Project is now recognized as one of the world's largest undeveloped resources of rare earth elements and uranium. The ores are also strongly enriched in zinc and sodium fluoride.

Hinterland Metals Inc. [HMI-TSXV] has acquired two REE projects in Québec: the LuLa Project, 200 kilometres northeast of Schefferville in Labrador, and the Kipawa property, 20 kilometres northeast of Temiskaming, northwest Québec. For 2010, airborne geophysics followed by surface prospecting and sampling is planned for LuLa, which is adjacent to Quest Uranium's Strange Lake REE property. Soil sampling at Kipawa will test several areas where total REE values reached 1,091 ppm.

Hudson Resources Inc. [HUD-TSXV] is advancing its 100%-controlled Sarfartoq rare earth project in Greenland where it has identified three REE prospects all coincident with large radiometric anomalies. A total of 25% of 168 rock samples, collected in 2009, assayed between 1% and 9.8% TREO. In 2009, 1,400 metres of drilling was completed.

First phase drilling is planned to start in April and will focus on expanding the rare earth zones at ST1 and ST40, which returned good RRE values in last year's drilling. This season's work includes geophysical surveys, environmental baseline studies, a minimum 3,000-metre drilling program and metallurgical studies.

International Montoro Resources Inc. [IMT-TSXV] recently completed the acquisition of 100% interests in five claim blocks totaling 2,268 hectares of rare earth prospects northeast of Prince George, British Columbia. The Chuchinka claims adjoin

Spectrum Mining's Wicheeda reported rare earth discovery. Int'l Montoro will be commissioning a geological report and starting a work program in the near future as soon as the property is accessible

Matamec Explorations Inc. [MAT-TSXV] has received some assay results for its November-December 2009 diamond drilling program on the central part of the Kipawa rare-earth-elements-yttrium-zirconium deposit located within the Zeus property, Temiscamingue, Québec. Best results are 0.976% TREO over 17.55 metres in hole 09-KM-56 and 1.05% TREO over 10.31 metres in hole 09-KM-60. The intersections average 30-36% heavy rare earth oxides and Y_2O_3 of the TREO. Every hole for which analysis has been received intersected a mineralized zone. Many holes contain rare-earth-elements-yttrium-zirconium intersections in multiple horizons.

Midland Exploration Inc. [MD-TSXV] has agreed to Japan Oil, Gas and Metals National Corp. earning a 50% interest in its 679 square kilometre Ytterby REE project located between 200 and 230 kilometres east and northeast of Schefferville, Québec. The Ytterby main claim block is situated five kilometres south of the Strange Lake REE deposit and the B Zone REE discovery announced by Quest Uranium in 2009. Midland controls, almost entirely, the Napeu Kainiut pluton which hosts the Strange Lake peralkaline complex.

Neo Material Technologies Inc. [NEM-TSX] is a producer, processor and developer of neodymium-iron-boron magnetic powders, rare earths and zirconium-based engineered materials and applications. Based in Toronto, Ontario, the company has about 1,375 employees in 19 locations in 10 countries.

Quest Uranium Corp. [QUC-TSXV] is advancing several high-potential projects in Canada's premier exploration areas: the Strange Lake area of northeast Québec, the Kenora area of northwest Ontario and the Plaster Rock area of northwest New Brunswick. At Strange Lake, assay results from the B-Zone REE deposit have confirmed the significant resource potential of the zone. Drilling returned strong REE assays over a minimum strike of 1.1 kilometres. Widths of

the mineralized envelope increased to at least 500 metres and the mineralized envelope is at least 135.2 metres in vertical thickness. Lab results for holes BZ-09-015 to 019 returned multiple, high-grade TREO intersections of between 1.03% and 3.74% over vertical thicknesses of 3.0 to 38.5 metres. HREE represents between 28.8% and 71.0% of the TREO content intersected in the new drilling.

Rare Earth Metals Inc. [RA-TSXV] has resumed drilling on the Clay-Howells Project in Northern Ontario following talks with local First Nations and the provincial government. The current drill program is focused on redefining the historic Clay-Howells magnetite deposit and establishing the grade of rare earth elements, niobium and iron in the deposit. An assay of 3.46% TREO over 7.6 metres, including 4.71% over 4.6 metres were obtained from recently assayed historic drilling. The company's Lackner Lake Carbonatite is a 30 square kilometre circular alkalic complex with historic niobium and iron resources located 20 kilometres east of Chapleau, northern Ontario, where a new REE discovery at Pole Lake returned values up to 7.49% TREE over a minimum of 3 metres of width. Rare Metals' first drill hole cut a 144.5 metres of 0.45% TREO.

Rare Element Resources Ltd. [RES-TSXV] was created to develop the Bear Lodge gold and REE deposits in northeast Wyoming. A recently completed NI 43-101-compliant inferred resource estimate indicates a REE deposit containing 9.8 million tons averaging 4.07% rare earth oxides (REO), including 4.5 million tons of oxides averaging 4.3% REO. Initial metallurgical testing of the oxide material demonstrated a 70% recovery. Drill hole RES09-8 returned an estimated aggregate true thickness of 213.4 feet averaging 5.54% REO.

Newmont Mining Corp. [NWM-TSX; NEM-NYSE] can earn a 65% working interest in Rare Element Resources' property, excluding any rights to the rare earth elements but including rights to gold and other metals, by spending US \$5 million on exploration over five years.

Stans Energy Corp. [RUU-TSXV] owns five mineral properties in Kyrgyzstan, of



Camp safety meeting. Camp supervisor Randy O'Keefe demonstrates the correct use of a fire extinguisher at Avalon Rare Metals' Nechalacho exploration camp. Left to right: Randy O'Keefe, Diane Tucker (cook), Clifford Larkin (camp assistant), Tracy Riley (cook helper) and Lawrence Goulet (camp assistant). Photo courtesy of Avalon Rare Metals Inc.

which Kutessay II is most advanced. The property previously produced 80% of the former Soviet Union's REEs from 1960-1991 in an open-pit mine. There is good infrastructure, a rail line 43 kilometres away, electrical power on site, and the mine is located 140 kilometres by paved road from Kyrgyzstan's capital city of Bishkek. The deposit contains all 15 REEs and formerly produced every REE at purities up to 99.99%.

Tasman Metals Ltd. [TSM-TSXV] has reported assays from the first five drill holes testing its 100%-owned Norra Karr REE-zirconium project in Sweden. Four of the five drill holes intersected wide intervals of REE-Zr mineralization from surface to the depth of drilling, with two of the five drill holes terminating within mineralization. Results include 108.1 metres of 0.74% TREO, 2.1% ZrO₂ (zirconium oxide) with 52% of the TREO being HREOs. This first drill program discovered multiple intervals of REE and Zr mineralization, with grades ranging up to 1.21% TREO and 3.5% ZrO₂ and mineralized thicknesses range up to

149.3 metres.

TNR Gold Corp. [TNR-TSXV] has acquired, by staking, the Big Beaverhouse carbonatite complex located 450 kilometres north of Thunder Bay, northwest Ontario. The Big Beaverhouse is one of the largest carbonatite complexes in Ontario, measuring six kilometres in diameter with a surface area of about 16 square kilometres. Partial REE analyses conducted by the Ontario Geological Survey on historical drill holes on the property in the 1980s returned up to 3,200 ppm La+Ce+Nd.

Ucore Uranium Inc. [UCU-TSXV] has released an update on detailed mineralogical studies on surface and drill-core samples from its Bokan Mountain REE project. The 100%-owned Bokan-Dotson Ridge Project is located on Prince of Wales Island, southeast Alaska. A wide variety of rare earth element-bearing minerals were identified in the study. Ucore holds other properties in Nunavut, Ontario, Labrador and Newfoundland. ■