

### Quantum Rare Earth Developments Corp. (TSXV: QRE) – Initiating Coverage; Large Scale Niobium Potential in Nebraska

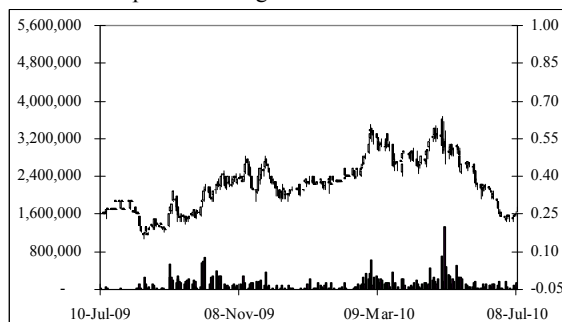
Sector/Industry: Junior Mining

[www.quantumrareearth.com](http://www.quantumrareearth.com)

#### Market Data (as of July 9, 2010)

Current Price	C\$0.27
Fair Value	C\$0.60
Rating*	BUY
Risk*	5 (Highly Spec)
52 Week Range	C\$0.15 - C\$0.64
Shares O/S	26.46 mm
Market Cap	C\$7.14 mm
Current Yield	N/A
P/E (forward)	N/A
P/B	3.30
YoY Return	8.0%
YoY TSXV	30.8%

\*see back of report for rating and risk definitions



#### Investment Highlights

- Quantum Rare Earth Developments Corp. is a Vancouver, British Columbia based junior exploration company trading on the TSXV under the symbol QRE.
- The company's primary focus is exploration and development of niobium and rare earth properties in North America and Australia.
- The company's focus, Elk Creek, hosts a historic resource of 39.4 million tons of 0.82% Nb<sub>2</sub>O<sub>5</sub> and the US geological survey believes the property may host one of the world's largest resources of niobium and rare earth elements.
- Over 100 diamond drill core holes have been put into the Elk Creek Carbonatite complex. All core has been stored at the University of Nebraska and is accessible to company geologists.

#### Risks

- Access to capital and share dilution
- The company currently does not have an operating mine.
- The value of the company depends heavily on commodity prices.
- The Elk Creek transaction is yet to be completed. Closing is subject to the acceptance of the TSX Venture Exchange.

#### Key Financial Data (FYE - Jun 30)

(C\$)	2010 (9mo)
Cash	1,119,218
Working Capital	1,058,899
Mineral Assets	1,093,366
Total Assets	2,249,874
Net Income	(1,239,132)
EPS	(0.08)

*Quantum Rare Earth Developments Corp. is focused on exploring and potentially developing the Elk Creek Carbonatite complex. Historic exploration on the property resulted in the compilation of a historic resource estimate of 39.4 million tons at 0.82% Nb<sub>2</sub>O<sub>5</sub> and the US geological survey believes the property may host one of the world's largest resources of niobium and rare earth elements.*

**Company Overview**

Quantum Rare Earth Developments Corp. is a Vancouver, British Columbia based junior exploration company with a focus on developing niobium and rare earth element (REE) projects. The company's focus, the Elk Creek Carbonatite, was recently leased (with an option to purchase at lease-end) through a \$10.5 million (\$0.5 million in cash + \$10 million in shares) acquisition (*closing of the transaction is subject to the acceptance of the TSX Venture Exchange*). The project may potentially host one of the world's largest resources of niobium and rare earth elements. The primary near term goal will be to confirm results from significant historic core drill holes completed on the property.

The company also holds various other rare earth projects worldwide including the Archie Lake project near Uranium City, Saskatchewan and the Laverton and Jungle Well projects located near the Mt. Weld rare earth project in central Australia.

**Company History**

The company was originally formed on February 27, 1987, under the name IPC International Prospector Corp. The company underwent a share consolidation in May 1991 and changed its name to Kingston Resources Ltd. The company consolidated its share capital in June 2001 and changed its name to Butler Developments Corp. For a brief period, the company had its listing transferred to the NEX trading under the symbol "BTD.H". Following a share consolidation in 2009, the company changed its name to Butler Resource Corp. With the acquisition of the Archie Lake property in the fall of 2009, the company was reactivated as a mineral exploration company, and on February 25, 2010, the company began trading on the TSX Venture exchange under the symbol BTD. In March 2010, the company's name was changed to Quantum Rare Earth Developments Corp. and began trading under the symbol QRE to better reflect its core business.

In addition to having interests in mineral properties, the company has also held an interest in oil and natural gas properties. However, the current focus remains on mineral properties, particularly those prospective for REE's.

**Elk Creek**

**Project Overview:** The Elk Creek property is located in southeastern Nebraska and according to the US Geological Survey "has the potential to be one of the largest global resources of niobium and rare earth elements (REE)." The target at the Elk Creek property is an intrusive carbonatite complex having a diameter of approximately 7,000 meters.

Historic exploration included the completion of over 100 core holes on the property and resulted in the previous operator, MolyCorp, defining a historic resource of 39.4 million tons of 0.82% Nb<sub>2</sub>O<sub>5</sub> and is open to the north, west and at depth. Significant Rare Earth Oxides (REO) have been identified on the property with numerous historic drill holes intersecting greater than 20 foot intervals of greater than 1.0% REO. Abundant quantities of both Niobium and REO's were found in drill intersections completed outside of the historic resource area but within the 7,000 meter diameter of the carbonatite.

The company has a five year pre-paid lease to explore the project area and holds an option to purchase the mineral rights at the end of the lease. The purchase price at the end of the lease was not disclosed. The pre-paid lease was required in order to access and explore on the farm lands overlying the deposit.

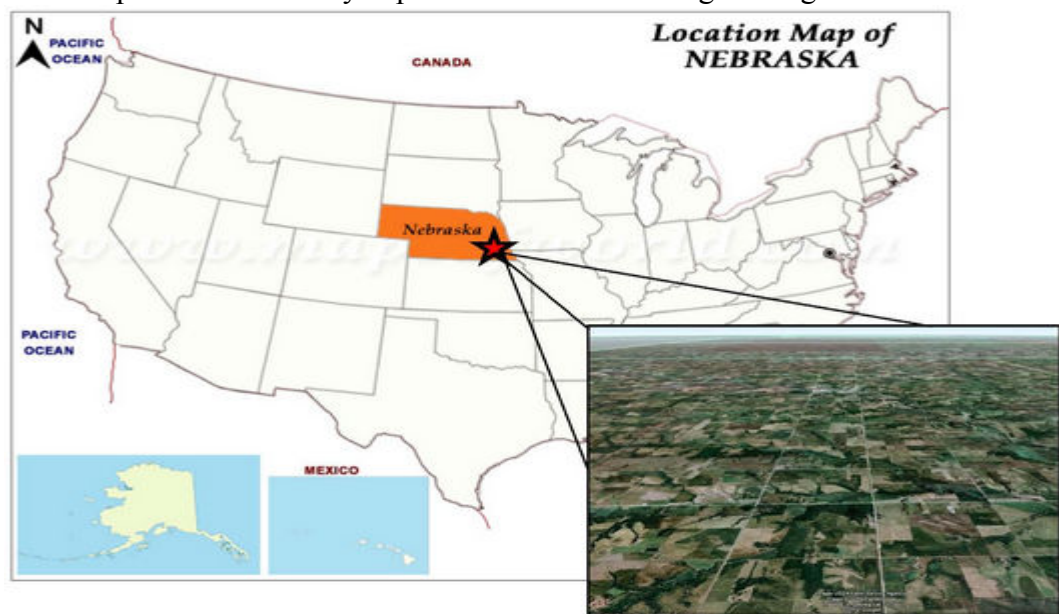
The cost of exploration should benefit from the ease of access granted by the topography of the area which is essential flat or slightly rolling farm land. Placement of drill stations should require minimal effort.

**The extensive amount of historical work completed on the property immediately provides the company with a project well beyond the grass roots stage. Combined with the ability to explore year-round, we believe the company could potentially bring the historic resource estimate to 43-101 standards within 12-18 months time.**

**Ownership:** Elk Creek Resources Corp. (“Elk Creek”) is a private Nebraskan corporation that has secured individual agreements to acquire the mineral rights to the Elk Creek Carbonatite. Management indicates that the agreements are in the form of a five-year pre-paid lease, with an option to purchase the mineral rights at the end of the lease. On May 4, 2010, QRE announced the acquisition of Elk Creek through the purchase of all the issued and outstanding common shares of 859404 BC Ltd. (“859404”) a private British Columbia corporation that holds 100% of the issued and outstanding shares of Elk Creek.

The company will pay a total of \$0.5 million in addition to issuing one common share of the company for each share of 859404 issued and outstanding. As of April 26, 2010, 859404 had approximately 19.2 million shares outstanding. On May 4, 2010, when the transaction was announced, QRE shares closed at a price of \$0.52, putting the acquisition value at approximately \$10.5 million.

**Location/Access/Infrastructure:** The property consists of 64 exploration lease agreements and options to purchase totaling approximately 9,394 acres located in southeastern Nebraska. The project largely underlies farmland (dominated by range/pasture land) and as part of the pre-paid lease, land owners will allow the company to access their farmlands in order to complete the necessary exploration work including drilling.



*Figure 1: Project location in Nebraska, United States. (Source: Company)*

The majority of non-fuel mineral production, in Nebraska, largely revolves around production of construction materials. Currently, the only operating mine in Nebraska is a uranium solution mine operated by Cameco Corp. (TSX: CCO). The state has a history of oil production and we would consider it to have stable mining conditions and well developed infrastructure.

**Geology and Mineralization:** The Elk Creek Carbonatite intrusive complex was originally identified through the diamond drill testing of an oval-shaped magnetic and gravity anomaly approximately **7 kilometers in diameter**. The placement of the complex is between the boundaries of the Penokean orogen and the Dawes terrane of the Central Plains orogen (*note: an orogeny refers to events leading to large scale deformation of the earth's crust, an orogen is the resulting deformed region*). It is believed that the emplacement of the Elk Creek Carbonatite was largely influenced by these pre-existing tectonic structures (*The Elk Creek Carbonatite, Southeast Nebraska – An Overview*, Carlson, M.P., S.B. Treves, Nebraska Geological Survey, University of Nebraska, 2005).

The carbonatite body has been recognized in drill core from approximately 630 feet to over 2,000 feet in depth. The overlying rocks are primarily marine sediments while the rocks surrounding the carbonatite are low to medium grade metamorphic gneiss and schist and granitic plutons.

In the paper *Elk Creek, Nebraska, Carbonatite: Strontium Geochemistry*, (Department of Geology, The University of New Mexico, 1975) the authors state that the total REE, P<sub>2</sub>O<sub>5</sub> and Nb<sub>2</sub>O<sub>5</sub> data is consistent with “average” values for carbonatites. **We recognize however that it is the deposit's massive size that lends it so much potential.** The US Geological Survey states that “the Elk Creek Carbonatite, located south of Lincoln, has the potential to be one of the largest global resources of niobium and rare earth elements (REE)”.

Niobium is hosted within pyrochlore, and other potentially significant by-products such as cesium and neodymium have been identified in core assays. **It is interesting to note that the core has never been tested for its tantalum content, a common constituent in carbonatite complexes and the mineral pyrochlore.**

**History:** The State of Nebraska, Cominco American (Teck Resources Limited, TSX: TCK) and Molycorp have all been involved in historic exploration on the project. At least 113 core holes have been completed within the 7 kilometre geophysical anomaly. Detailed drilling within a core zone (outlined by a red circle in Figure 3 below) resulted in a historic resource estimate (non 43-101 compliant) of 39.4 million tons of 0.82% Nb<sub>2</sub>O<sub>5</sub>. This resource area is considered open to the north, west and at depth. **We have confidence that this estimate was completed to a high standard and is likely an accurate representation of the quality of mineralization present in terms of grade. Despite being a historical estimate, it also indicates the significant potential of this project.**

It is important to note that project wide exploration drilling by the previous operators identified significant rare earth mineralization outside of the core area hosting the historic

resource (See **Resource Estimate** below). Some primary examples are listed in the table below. One of the most impressive holes to note is EC-93 which was collared a substantial distance from the resource zone. (*REO stands for Rare Earth Oxides*).

	Hole ID	From (m)	To (m)	Interval (m)	REO (%)
eastern anomaly	EC-93	149.4	289.6	140.2	2.19
	<i>including</i>	179.8	198.1	18.3	3.12
eastern anomaly	EC-43	243.8	256.0	12.2	2.83
		295.7	323.1	27.4	1.52
eastern anomaly	EC-4	217.1	402.3	185.2	1.18
		417.6	445.0	27.4	1.02
western anomaly	EC-41	304.8	335.3	30.5	1.19
		365.8	396.2	30.5	1.28
western anomaly	EC-55	237.7	429.8	192.0	1.31
		246.9	271.3	24.4	1.62
western anomaly		289.6	323.1	33.5	2.09
		338.3	390.1	51.8	1.52
central anomaly	EC-1	198.1	219.5	21.3	1.05
		225.6	234.7	9.1	1.08
central anomaly	EC-17	554.7	612.6	57.9	1.27
central anomaly	EC-19	187.5	253.0	65.5	1.13
		627.9	661.4	33.5	1.02
central anomaly	EC-21	207.6	228.6	21.0	1.54

Figure 2: Historic drill holes showing significant mineralization outside of the core zone.  
(Source: Company)

**QRE Exploration:** The company only recently obtained the property and has yet to complete any exploration work. However, the company has indicated that geologists have recently been on site on behalf of the company and collected samples from the historic drill core in order to confirm mineralization.

**Resource Estimate:** The only resource estimate currently available for the property is historic in nature. The estimate states 39.4 million tons of 0.82% Nb<sub>2</sub>O<sub>5</sub> and is contained within the red circle in Figure 3 below. The historic resource is contained within only a small portion of the entire project area and expanse of known mineralization. **Additionally, the historic resource was noted by previous operators to be open to the north, west and at depth.**

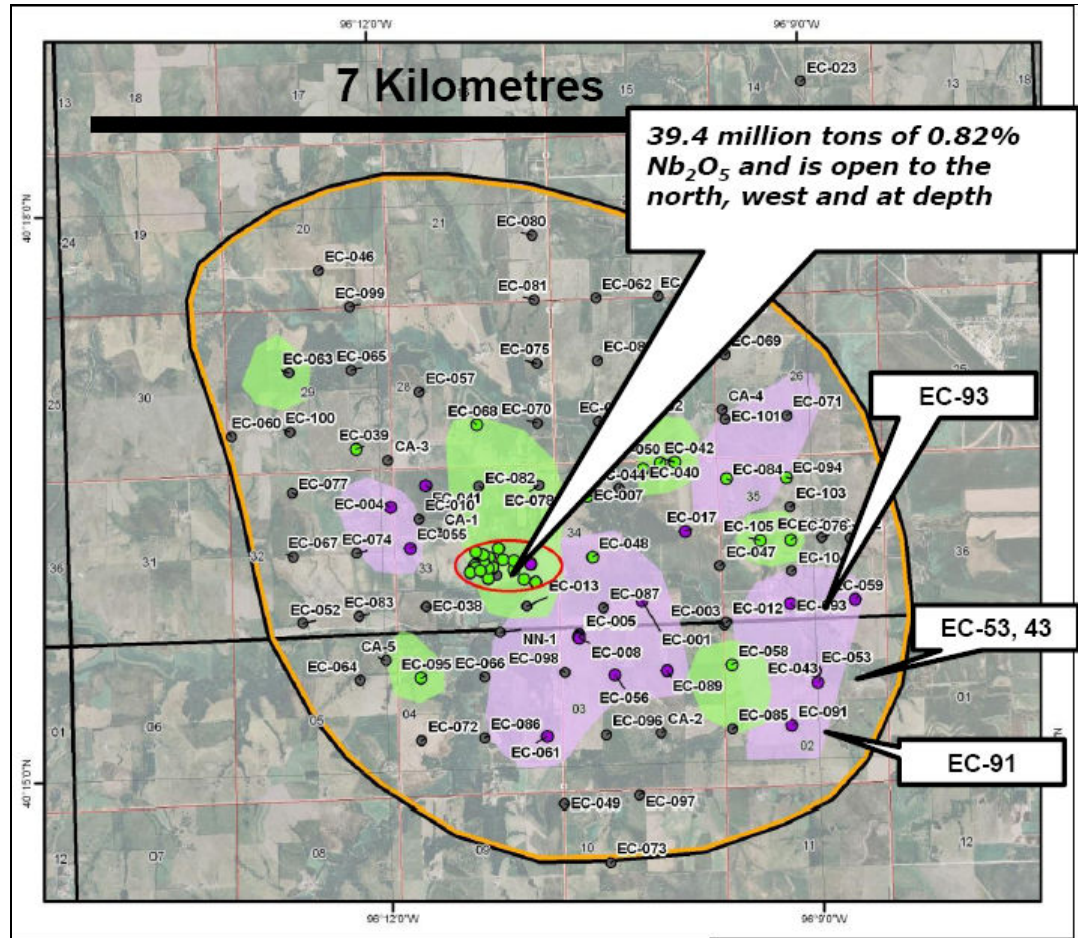


Figure 3: Location of the historic resource within the Elk Creek Carbonatite.  
(Source: Company)

### Peer Comparison

Perhaps the best comparison to the Elk Creek Carbonatite project is the Niobec Mine currently operated by IAMGOLD (TSX: IMG) in Quebec. As of December 31, 2009, the Niobec mine had proven and probable reserves of 32 million tonnes at 0.56% Nb<sub>2</sub>O<sub>5</sub>. The mine is exploiting a 4 kilometre alkaline intrusive complex through underground mining, and similar to Elk Creek, niobium is hosted within the mineral pyrochlore. With the carbonatite sitting over 600 feet below surface at Elk Creek, it is likely that the deposit would be exploited through underground mining.

**Metallurgy:** Preliminary metallurgical test work was completed by Molycorp on drill core composites for Nb<sub>2</sub>O<sub>5</sub> recovery. Testing indicated that recoveries of up to 66.3% were possible in higher grade composites generating concentrates grading 44.1% Nb<sub>2</sub>O<sub>5</sub> and recoveries in general could be increased through optimization of test conditions. Additional test-work utilizing the most up to date techniques is certainly warranted.

**Current Status:** The company is currently assessing the database of historical information. A 43-101 compliant technical report is currently underway and is expected to be released

within a month's time. We do not expect this technical report to contain a compliant resource estimate as insufficient work has been completed to confirm the results of past drilling.

**Development Timeline:** Due to the significant amount of historical data available, including core which has been safely stored since originally being drilled, we anticipate the company will be capable of completing sufficient work to outline a preliminary NI 43-101 compliant resource estimate within 12-18 months time.

#### **Archie Lake**

**Property Summary** – The Archie Lake Rare Earth Element property is located 50 kilometers east of Uranium City, Saskatchewan. The property was acquired by the company in September 2009, and sits approximately 50 kilometers south of Great Western Minerals (TSX: GWG) Hoidas Lake REE deposit. The Hoidas Lake project has measured resources of 0.96 million tonnes grading 2.142% total rare earth elements and indicated resources of 1.60 million tonnes grading 1.958% total rare earth elements.

At Archie Lake, historic exploration results have returned clear evidence of significant rare earth element concentrations. Recent surface samples on the property have returned assays of up to 29.9% REE (+ yttrium). Known REE's on this property include lanthanum, cerium, neodymium, terbium yttrium and yttrium. The main occurrence is approximately 5 meters wide and is traceable on surface for 600 meters.

While the property has never been drilled, the company has completed an NI 43-101 technical report on the property based on historic and current sampling. The company recently commenced an exploration program on the property. Phase I of the program will include a high resolution airborne magnetic and radiometric survey, ground sampling and a drilling program. Phase II will involve mapping of the known REE mineralized horizon and property wide prospecting in order to delineate any additional mineralized occurrences. The third phase of the program is to utilize NQ size core in the drilling of approximately 1,000 meters (10-15 holes) at the area of known mineralization.

#### **Laverton / Jungle Well**

**Property Summary** – On April 23, 2010, the company entered into a merger and plan of reorganization to acquire Silver Mountain Mines Corp., (“Silver Mines”) a Nevada corporation. In acquiring Silver Mines, the company will also obtain several exploration properties including the Laverton and Jungle Well rare earth properties in Australia. These early stage projects are both located in relatively close proximity to the Mt Weld rare earth project operated by Lynas Corporation Ltd. (ASX: LYC). The Jungle Well property is known to host rare earth mineralization with trench sampling on an exposed dyke in 2007 returning grades of 6.9% and 8% REE.

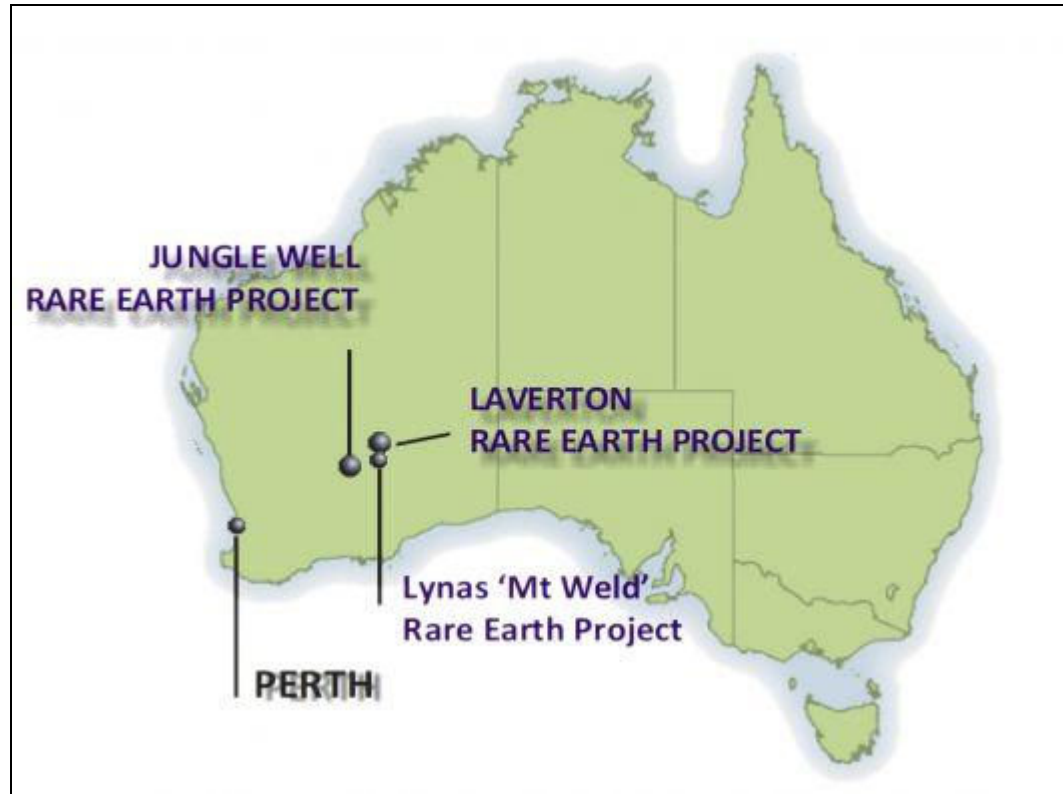


Figure 4: QRE Australian interests. (Source: Company)

Closing is subject to certain conditions including receipt of all necessary approvals.

### **Management**

#### **Peter Dickie – President, CEO, Director**

Mr. Dickie brings over 20 years of business experience with both public and private companies holding numerous senior management positions. A graduate of both the University of British Columbia, and the University of Victoria (B.C.), his background includes 4 years in the Securities industry with Jones, Gable & Co. Currently, he sits on the board of a total of six public companies, including Lateegra Gold Corp., and four others in a fiscal and management advisory capacity.

#### **Casey Forward - CFO**

Mr. Forward is an independent CGA with over 20 years of experience in both private and public companies involved in mining and business development. Mr. Forward currently serves as a director or officer of several public companies involved in the mineral resource sector.

#### **James Allen M.Sc. P.Eng. – Director**

Mr. Allan holds a BAsC (Geological Engineering), from the University of British Columbia and an MSc (Geology, Engineering) from Queen's University. He is a Registered Professional Engineer, belonging to the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA). As a geological engineer, Mr. Allan has over 45 years of experience with several major mining and petroleum companies and as an independent consultant in mining exploration and exploration management, mineral

property evaluation and mining geology. He has conducted and managed exploration and evaluation programs for a wide variety of mineral commodities in Canada, the United States, Latin America, the Philippines, Malaysia, Australia and the former Soviet Union including Russia. Mr. Allan also has extensive experience in the exploration for, and evaluation of, rare earth deposits both as manager of exploration in Canada for a large rare earth company (Molycorp Canada) from 1982 to 1990 and as an independent consultant.

**Erin Chutter - Director**

Mrs. Chutter is the President and Founder of Puget Ventures Inc., a TSXV listed mineral exploration company advancing the Werner Lake Cobalt Mine in Ontario, Canada. She is also a founder and director of two private companies. Active in politics since the late 1980s, Erin has managed and advised campaigns at three levels of government, as well as party leadership races. She has also served on staff to federal and provincial ministers and leaders. Currently, she also serves on the national board of the Canadian Taxpayer's Federation and the Macdonald Laurier Institute. She appears often as a political commentator on television and radio, including weekly on the Monday morning political panel on CBC Early Edition.

**James McCrea - Director**

Mr. McCrea has more than 20 years experience in exploration and mining geology, and 15 years experience in mineral resource estimation. Jim's experience was gained through working for junior mining/exploration companies and engineering companies SRK and Snowden. His geological expertise ranges from technical review and due diligence to resource estimation and feasibility studies. Jim has experience in a range of commodities, but primarily gold, silver and copper, in a variety of geographic settings around the world with particular focus on Central and S. America. Having performed ore body modeling and resource estimation for the successfully targeted take over company Cumberland Resources Ltd. by Agnico-Eagle Mines Ltd. and more recently Mr. McCrea has completed mineral resource estimations underpinning ongoing or future feasibility studies for companies such as Silver Standard Resources Inc. and Candente Resource Corp. to mention but a few.

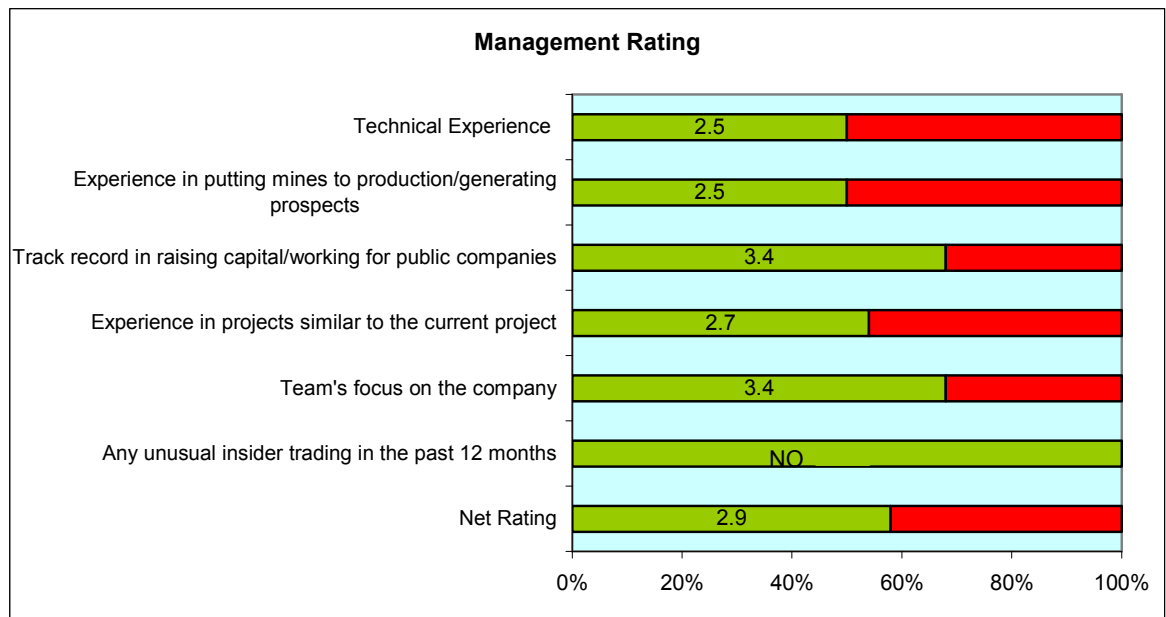
**Mitch Adam – Director and Secretary**

Mr. Adam is President of MGA Capital Corp., a company which provides management consulting, corporate finance and investor relations services to public and private companies. Mr. Adam attended undergraduate studies at Simon Fraser University and in 1989 completed the Canadian Securities Course and RR exam. Mr. Adam spent four years working in the brokerage industry at Odlum Brown Ltd. and Nesbitt Thompson Inc. and has held the positions of director and officer of several companies since 1993. Mr. Adam is currently the President and a director of Weststar Resources Corp., and a director of Lategra Gold Corp.

**Management  
Rating**

We believe that one of the most important aspects of a junior mining company is its management. Therefore we have developed a management rating system as a quantitative way to rate management based on a number of factors, including technical experience, the ability to raise financing, and management's time commitment to the company. We also analyzed trading records to identify for evidence of unusual trading by management. **Our**

**net rating for QRE (see below) is 2.9 out of 5.0, which we have rated average.**



### ***Strength of Board***

We believe that the Board of Directors of a company should include independent or unrelated directors who are free of any relationships or business that could materially interfere with the director's ability to act in the best interest of the company. We verified the company's annual "Management Information Circular" to ensure that the company has an independent Board of Directors, Audit Committee and Compensation Committee.

	Poor	Good	Excellent
Three out of five directors are independent		X	
None of the directors have filed for personal bankruptcy			X
Four of the five directors hold shares in the company			X
The Audit committee is composed of three board members, two of which are independent			X
The Compensation committee is composed of three board members, two of which are independent			X

### ***Outlook on Niobium***

**Demand:** Niobium, also sometimes referred to as "columbium", was first discovered in 1801. Niobium is primarily used in special alloys for steel used in pipelines, automobile, and structures [76% of all niobium consumption], as well as super alloys [24%] (Source: USGS). As a result, demand for niobium is dictated by the demand for steel. Niobium usage for steel has been increasing, especially for various types of steel alloys for vehicles, as niobium helps to reduce weight and fuel consumption.

**Supply:** Companhia Brasileira de Metalurgia e Mineração ("CBMM"), Anglo American plc (LSE: AAL), and IAMGold Corp. (TSE: IMG) produce about 85% of the world's demand

for niobium. Known global reserves of 460 million tonnes are considered to be enough to supply global demand for another 500 years (Source: Tantalum-Niobium International Study Center).

CBMM has a significant influence on the niobium industry as it supplies over 60% of the world's demand for niobium. CBMM produced approximately 50,000 tonnes per year of ferro-niobium (FeNb) in 2008 and 2009, while Anglo American and IAMGold each produced approximately 4,500 tonnes per year. Both CBMM and Anglo American's mines are located in Brazil, while IAMGold's mine is located in Quebec, Canada. In January 2010, CBMM announced plans to expand its niobium production capacity to 150,000 tonnes a year by 2013, as the company believes that demand is likely to increase in the future.

**Prices:**

FeNb is the standard end product of niobium used by steel producers, and the one that is quoted on the market. Based on IAMGold's niobium production and sales, we estimate FeNb prices were approximately US\$15.48 per pound in 2008, and US\$16.65 per pound in 2009, significantly lower than the price of US\$27.27 per pound in 2007. However, prices in 2007 were significantly higher than the historic average (as shown in the following chart).



Going forward, we believe that niobium price will be determined by the world's demand for steel and increasing applications for niobium in the steel industry. Although we expect strong growth in the steel industry (which would lead to an increase in demand for niobium), we do not expect any major deficit in supply because current world production capacity and known reserve estimates are expected to meet global demand going forward. As a result, we do not expect niobium prices to rise to levels seen in 2007. However, we do expect strong niobium demand growth to keep prices well above their historic average.

***Financials***

At the end of March 2010, the company had \$1.12 million in cash. Working capital was \$1.06 million. The company reported a net loss of \$1.24 million (EPS: -\$0.08) in the first nine months of FY2010. We estimate the company had a burn rate (spending on its

operations and exploration activities) of \$0.10 million per month in the first nine months in FY2010, versus \$0.03 million in FY2009 (12 month period). The table below shows a summary of the company's cash and liquidity position.

(in C\$)	2010 (9mo)
Working Capital	1,058,899
Current Ratio	13.09
Monthly Burn Rate (incl. exploration)	(103,486)
Cash from Financing Activities	1,741,000
LT Debt / Assets	-

Our discussions with management indicated that the company currently has about \$0.60 million in cash. Based on the current burn rate, we expect cash to last for another six months.

**Stock Options and Warrants:** We estimate the company currently has about 2.48 million stock options (weighted average exercise price of \$0.44) and 2.87 million warrants (weighted average exercise price of \$0.35) outstanding.

### Valuation

We valued QRE based on the average enterprise value to resource ratio of its peers. Based on the average ratio (as shown in the table below) of \$0.16 per lb of Nb<sub>2</sub>O<sub>5</sub> equivalent, we estimate the fair value of QRE to be \$0.53 per share.

Company	EV / Resources (Nb <sub>2</sub> O <sub>5</sub> Equiv.)
1 MDN Inc.	\$0.26
2 Commerce Resources Corp.	\$0.18
3 Quantum Rare Earth	\$0.11
4 Niocan Inc.	\$0.07
<b>Average EV / Resources (\$/lb)</b>	<b>\$0.16</b>
<b>Fair Value of Quantum Rare Earth (\$)</b>	<b>\$0.53</b>

\* Resources include all measured and indicated, and half of inferred and historical resources

\* Enterprise values were adjusted to reflect market values of just the Ta/Nb projects

The following assumptions were used in our valuation model:

- We assumed that both of the recently announced transactions (Elk Creek and Silver Mountain) will be completed. As a result, the number of outstanding shares should increase from 26.46 million, to 55.03 million.
- QRE has an option to purchase mineral rights (Elk Creek) at the end of the five year lease. The purchase price, however, was not disclosed. We assumed a purchase price of \$45 million based on - a) an estimated acquisition price of \$10,000 per acre, and b) although the historic resource is contained within only a small portion (see figure 3) of the entire project area (9,000+ acres), for conservatism, we assumed the company would have to purchase 50%, or 4,500 acres. We used the present value (discounted at 10%) of \$45 million, which is \$29.94 million, in our valuation model.

- We have not assigned any value, for conservatism, to the Archie Lake Rare Earth Element property and the Silver Mountain projects as they are in very early stages.

**Rating**

**Based on our review of the company's projects, and our valuation model, we initiate coverage on Quantum with a BUY rating and a fair value of \$0.60 per share.**

**Risks**

The following risks, though not exhaustive, may cause our estimates to differ from actual results:

- The company currently has no operating mines.
- The value of the company depends heavily on commodity prices.
- Access to capital and share dilution.
- The Elk Creek transaction is yet to be completed. Closing is subject to the acceptance of the TSX Venture Exchange.
- Uranium and thorium are commonly found in niobium-bearing rare earth carbonatites including the Elk Creek Carbonatite and could pose environmental/metallurgical issues. Historic assay results indicate they are at very low levels (the majority of samples returned below 0.05% uranium and 0.01% thorium, a general threshold used in health, safety and reclamation mining codes). We expect the company will continue to monitor the uranium and thorium levels in subsequent sampling programs.

**We rate the company's shares a RISK of 5 (Highly Speculative).**

**Fundamental Research Corp. Equity Rating Scale:**

**Buy** – Annual expected rate of return exceeds 12% or the expected return is commensurate with risk

**Hold** – Annual expected rate of return is between 5% and 12%

**Sell** – Annual expected rate of return is below 5% or the expected return is not commensurate with risk

**Suspended or Rating N/A**— Coverage and ratings suspended until more information can be obtained from the company regarding recent events.

**Fundamental Research Corp. Risk Rating Scale:**

**1 (Low Risk)** - The company operates in an industry where it has a strong position (for example a monopoly, high market share etc.) or operates in a regulated industry. The future outlook is stable or positive for the industry. The company generates positive free cash flow and has a history of profitability. The capital structure is conservative with little or no debt.

**2 (Below Average Risk)** - The company operates in an industry where the fundamentals and outlook are positive. The industry and company are relatively less sensitive to systematic risk than companies with a Risk Rating of 3. The company has a history of profitability and has demonstrated its ability to generate positive free cash flows (though current free cash flow may be negative due to capital investment). The company's capital structure is conservative with little to modest use of debt.

**3 (Average Risk)** - The company operates in an industry that has average sensitivity to systematic risk. The industry may be cyclical. Profits and cash flow are sensitive to economic factors although the company has demonstrated its ability to generate positive earnings and cash flow. Debt use is in line with industry averages, and coverage ratios are sufficient.

**4 (Speculative)** - The company has little or no history of generating earnings or cash flow. Debt use is higher. These companies may be in start-up mode or in a turnaround situation. These companies should be considered speculative.

**5 (Highly Speculative)** - The company has no history of generating earnings or cash flow. They may operate in a new industry with new, and unproven products. Products may be at the development stage, testing, or seeking regulatory approval. These companies may run into liquidity issues, and may rely on external funding. These stocks are considered highly speculative.

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