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Chair

Mr. Leon Benoit

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• (1000)

[English]

The Chair (Mr. Leon Benoit (Vegreville—Wainwright, CPC)): Good morning, everyone. We're waiting for the witnesses who are appearing by video conference to be connected, but because we're so short of time, we're going to start with the presentations of the witnesses who are here today.

I would like to thank all the witnesses. I see that some are just coming on by video conference now.

We have with us, from Matamec Explorations, André Gauthier, president and chief executive officer, and Michael Roche, marketing director, rare earths and specialty metals. Welcome to both of you.

We have with us, from Quest Rare Minerals, Peter Cashin, president and chief executive officer. Welcome to you.

The feed for the video conference is now in place.

From Paris, France, we have Al Shefsky, president, Pele Mountain Resources Inc. Welcome.

From Ames, Iowa, from the Critical Materials Institute, we have Alexander King, director. Welcome to you, sir.

Let's go ahead with the presentations, starting with Mr. Gauthier from Matamec Explorations Inc.

You have up to seven minutes. I do want to caution all of you that we're going to have to keep your presentations to seven minutes or we simply won't have enough time for even one round of questioning.

Go ahead, please, sir.

Mr. André Gauthier (President and Chief Executive Officer, Matamec Explorations Inc.): Thank you, Mr. Chair. We'll stay within the seven minutes.

Let me begin by expressing my sincere gratitude for the invitation to appear today. We have tremendous respect for the work of your committee, and in particular, we are excited to contribute to your study on rare earths in Canada.

My name is André Gauthier. I'm the president and CEO of Matamec Explorations, and I'm accompanied by Mr. Michael Roche, the director of marketing of rare earths and specialty metals at our company.

I will continue in French.

[Translation]

Matamec is a mining exploration company headquartered in Montreal. Since 1997, it has explored mining properties in Quebec and Ontario, primarily for gold and rare earths, which Matamec considers its priority.

Matamec owns the Kipawa rare earths deposit in partnership with Toyotsu Rare Earth Canada, also known as TRECAn, a subsidiary of Toyota Tsusho Corp. (TTC) from Nagoya, Japan. The Kipawa deposit, to the south of the Témiscamingue area in Quebec, is rich in heavy rare earths.

After over 16 months of work and \$16 million invested, the IN 43-101 feasibility study was completed in the summer of 2013. The report has been available on the SEDAR site since last October.

The Kipawa project is currently in the predevelopment stage and requires an additional investment of \$6 million. It is one of the most advanced heavy rare earths projects outside China.

Why heavy rare earths? Heavy rare earths are essential for the green technologies that we use on a daily basis, such as hybrid and electric cars. In 2011, after assessing over 400 other rare earths projects around the world, TTC, through its subsidiary TRECAn, chose our project because it could meet Toyota's demand for dysprosium. That rare earth, and a light rare earth called neodymium, are essential for the production of permanent magnets, which are key components in cars with electric engines.

In addition, heavy rare earths are the rarest. Right now, China produces more than 95% of the rare earths used in the world. If the demand for heavy rare earths continues to go up, we are anticipating a shortage in the next 5 to 10 years. We also feel that China will have no choice but to limit its heavy rare earths exports and keep its production for its own use. In turn, Western industrial users will be faced with a shortage of heavy rare earths.

However, the Kipawa heavy rare earths deposit is one of the most advanced mining projects. It is well positioned to become a secure source of heavy rare earths for the western world.

The one very important thing to remember is that Canadian heavy rare earths projects are facing major challenges, technical and economic alike. Mr. Cashin, from Quest Rare Minerals Ltd., represents one of those deposits. For instance, we have the economic challenge of setting up a western supply of heavy rare earths for specific markets competing with China, whose production costs are very competitive, environmental constraints aside.

In the early 1980s, when China started to produce rare earths, it had a market share of 8,000 metric tonnes, which is very little. In 2013, it produced more than 120,000 metric tonnes. Not only is China the leader in production, but it is also unequivocally the leading expert in downstream processing. That includes all economic spinoffs from secondary processing, meaning individual oxides, and even from tertiary processing, meaning metals and alloys.

In our view, whether we are talking about Canada or any other country trying to develop those markets, government and industry must attract investments in order to ensure the development of activities that complement the rare earths mining production. The Canadian government must promote this industry in our country, because other countries, such as Brazil and Vietnam, are planning the development of their own rare earths industry and they are making it a priority.

Let's not pass up the opportunity to become a leader in heavy rare earths production and the research and development of related applications. The real benefit for Canada is to create jobs by attracting industries that use heavy rare earths produced in the country.

We continue to believe—just like this committee, I hope—that the pace of progress is gathering momentum in the development of technologies that use rare earths, especially heavy ones. In addition, available research on applications deals with refrigeration, which is a huge potential market.

In terms of the social acceptance of mining projects in Canada, both at federal and provincial levels, rare earths projects are now being systematically subjected to a complete environmental and social impact study. Our notice of proposal has already been submitted to the Canadian Environmental Assessment Agency. In May 2013, we received about 50 pages worth of guidelines indicating the required content.

Even though the processes of the two levels of government are slightly different, they still have similarities and they cover at length all aspects of quality control and environmental standards. As an environmentally responsible and conscious country, Canada must set an example for the entire world as it explores those elements on its territory. Canada's mining industry is one of the best regulated industries in the world.

[English]

I thank the committee once again for the invitation.

[Translation]

I will be pleased to answer any questions you may have.

[English]

The Chair: Thank you very much, Mr. Gauthier, for your presentation and for respecting the timeline. That's very much appreciated.

We have now Peter Cashin, president and chief executive officer of Quest Rare Minerals.

Go ahead, please, sir, for up to seven minutes.

Mr. Peter Cashin (President and Chief Executive Officer, Quest Rare Minerals Ltd.): Mr. Chairman and members of the

committee, Quest Rare Minerals is a Canadian-based exploration and development company. We are in the enviable position right now of providing the basis for the foundation of a new and very promising Canadian industrial sector, the rare earth supply chain.

Before going forward, I'd like to add that I also am a member of the steering committee for CREEN, the Canadian Rare Earth Elements Network. At the end of my presentation, I'd be very happy to answer more global issues related to the rare earth industry.

Quest has a vision to become not just an extractor of rare earth ores but also a major global supplier of refined rare earth oxide products.

It starts with our Strange Lake project in northern Quebec, which we've been developing since 2008. It contains the largest proven deposit of rare earth elements outside China, with a large proportion of that being from the more valuable heavy rare earths.

Quest plans to operate the largest rare earth processing facility in North America. It will be located at Bécancour, Quebec. We fully expect to start delivering product by 2018.

I believe you've been well briefed on the world market challenges for these critical strategic materials. You know that a stable western global producer of heavy rare earths is critical to western economic interests. From previous presentations to this committee, you've been made aware of what a rare opportunity this is for the Canadian mining and manufacturing sectors.

Here's what Quest brings to the table: a unique opportunity for Quebec and for Canada to be a major supplier of very critical and strategic materials in the industrialized world; the opportunity to provide the nucleus of a whole new industrial base adjacent to the aviation and transportation related industries in southern Quebec and Canada; a major boost to employment with an overall complement of over 840 jobs, of which 380 would be highly skilled technical jobs at our processing facility in southern Quebec; and a stable supply of rare earth elements essential to so many industries, including energy efficient technologies and green energy applications.

You may think our plans are very ambitious, and they are, but we are well on our way, and third party studies that have thoroughly examined our project are very encouraging.

Quest has completed a pre-feasibility study which, at maximum production assumptions, shows a life of mine in excess of 30 years, a capital requirement of approximately \$2.6 billion, and annual revenues in the order of \$1 billion. It shows a robust internal rate of return of 25.6% pre-tax and a net present value at a 10% discount rate of \$2.9 billion.

I would like to add that our deposit resource circumstances are enviable, containing material in excess of a hundred years of operation at our notional production rate. Production from Quest's operation is anticipated to account for approximately 20% of projected world demand for heavy rare earths when it starts up in 2018.

The bankable feasibility we're currently working on will modify the implementation plans of the pre-feasibility study and address the type and volume of rare earth oxides to be produced, products for specific end users, and the chemical engineering and flow sheet. We will target a capital requirement in a revised study to bring Strange Lake into production in the order of \$1.5 billion, with a minimum internal rate of return of 20%. The feasibility study will further demonstrate the viability of our Bécancour refinery.

We have a particularly robust executive team and recently named a veteran metallurgical engineer and chemist with global process plant credentials, Dr. Dirk Naumann, as my executive VP of development. He will lead our feasibility study efforts. He and his team have already identified numerous efficiency and operational improvements to our base case presented in the pre-feasibility study. These improvements will further reduce project capital and operating costs, increase product yields, and lessen supply shocks, and will be included in the feasibility study.

We are funding major deposit and metallurgical research and development activities in the sector that truly needs it. To date we have invested more than \$15 million in R and D on our project, with anticipation of a further \$10 million being required through to feasibility. A small pilot facility in Mississauga, Ontario has previously tested and verified our rare earth process design assumptions. Quest is currently preparing for the construction of a pilot mill, scheduled to commence operation in 2014.

I know you are concerned about the environmental and social impacts of rare earth projects both at mines and at processing facilities. Let me assure you that Quest's public approval for this project, or its social licence to operate, is as important to us as its meeting and exceeding the regulatory requirements to operate.

● (1005)

Quest is committed to ensuring that the Strange Lake mining project sets the highest standards for sensitivity to local environmental and aboriginal concerns. We will maintain or improve the environment in which Quest operates, especially at the mine site, including cleaning up of legacy waste from previous land users and protecting sensitive wildlife during active operations around the mine.

Quest has been meeting with local aboriginal leaders since 2008. We will provide job training and education through mine-supported training facilities. We will provide new health care facilities. In January 2013 a draft memorandum of understanding was presented to affected aboriginal groups. This will serve as the basis for negotiations, to commence in 2014, on impacts and benefits agreements.

At Bécancour, Quest will consult with local stakeholders to anticipate their concerns, and will consider changes to the project, if necessary, before the official environmental impact assessment public hearings commence. This year we are launching our environmental impact assessment, EIA, for all project components after submitting a project description to relevant government authorities. The EIA studies and associated public consultations are expected to take approximately two years. The EIA process in Bécancour, Québec could involve public hearings led by the Bureau d'audiences publiques sur l'environnement, also known as BAPE.

Finally, I will say a word about the seemingly daunting yet achievable requirements we need to bring the integrated project to operational reality.

First, the compelling net present value of the Strange Lake project and the significant volume of product output from Quest's processing plant definitely support the required capital investment.

Second, we are in active discussions with global players who specialize in separation and refining technology. These industrial players include leaders in the field of rare earth refining and specialty chemical products manufacturing.

Third, we are receiving significant interest from major users of heavy rare earth products in Europe and North America, in the defence industry, the lighting industry, and other technology applications. These meetings and presentations are ongoing and are highly encouraging.

To sum up, we firmly believe the project is a winner for Quebec and Canada, a mining and industrial play whose time has come. We have an unrivalled basic mineral resource, a world market that will face supply shortages as we come online in 2018-19, and the largest state-of-the-art processing facility right here in Canada to meet rapidly growing global demand.

Thank you very much.

● (1010)

The Chair: Thank you very much for your presentation, Mr. Cashin.

Now we have, by video conference from Paris, France, Mr. Al Shefsky, president of Pele Mountain Resources Inc.

Thank you very much for being with us. Go ahead with your presentation, please, for up to seven minutes.

Mr. Al Shefsky (President, Pele Mountain Resources Inc.): Thank you, Mr. Chairman.

In 1992 Chinese leader Deng Xiaoping said that the Middle East has oil, China has rare earth. China recognized back then that rare earths would be profoundly important in the future. Since that time, China has decisively executed a national strategy that has allowed it to dominate global rare earth production, processing, and intellectual property.

China now produces 99% of the global supply of heavy rare earths and almost 90% of light rare earths. China restricts the export of rare earths in order to use much of its domestic production in manufacturing value-added products within its borders.

China's rare earth national strategy has played an important role in its achievement of extraordinary economic growth and high levels of domestic employment. China leads the world in the manufacture and export of many strategically important products made with rare earths. It has effectively leveraged its control of rare earth resources to dominate many clean energy and high technology value chains.

Of the 17 rare earth elements, several are forecast to have supply challenges for the foreseeable future. The United States Department of Energy has found that supply challenges for the critical rare earths, including dysprosium, europium, terbium, yttrium, and neodymium, may affect the timely deployment of clean energy technologies.

Critical rare earths are also vital for applications that we Canadians take for granted, including our smart phones, our computers, and our nation's defence systems.

Access to a reliable rare earth supply chain is essential to Canada's strategic and economic security. With world-class deposits of its own, Canada is in a unique position not only to produce rare earths, but to create its own rare earth supply chain, thereby creating billions of dollars of economic activity along with thousands of high-paying jobs.

The governments of other countries, including the United States, Japan, the European Union, and Korea are, in aggregate, spending hundreds of millions of dollars to support the rapid development of rare earth resources outside of China to secure their strategic and economic interests. However, Canada, despite the considerable advantage of being endowed with world-class rare earth deposits, does not have a national strategy for its rare earth industry. Without a national strategy, emerging developers of Canada's advanced rare earth projects have agreed to export unrefined mixed rare earth concentrates and have established plans to separate Canadian-sourced rare earths in foreign countries.

Lacking a national strategy, Canada is relinquishing immense economic growth and employment opportunities to foreign competitors. Canada has a compelling opportunity to leverage its critical rare earth resources into a powerful engine of innovative economic growth. To do so, Canada must implement a national strategy for its rare earth industry that supports the achievement of commercial production of separated critical rare earths in Canada as quickly as possible. Achieving production and separation of rare earths in Canada will spawn the creation of a rare earth supply chain to support downstream value-added manufacturing in Canada.

Canada must recognize that it is in a race. Canada has significant advantages in this race. We can lead and win, but we must act decisively. If Canada does not adopt such a national strategy, it will lose an extraordinary opportunity for economic growth and employment to foreign competitors who are investing heavily to seize this opportunity.

Canada's national strategy should include the following three specific actions:

First, Canada should publicly declare its commitment to achieving commercial production of separated critical rare earths in Canada within three to five years. This is an achievable goal and will motivate end users to work with Canadian rare earth developers as a source for their product lines.

Second, Canada should prioritize financial and technical support to emerging developers of critical rare earth deposits who can supply the market within three to five years and whose development plans are aligned with Canada's interests; that is, those developers who are able to produce critical rare earths in Canada to be separated in Canada, supporting downstream value-added manufacturing opportunities in Canada.

Third, Canada should provide logistical support for a strategic alliance with a non-Chinese company that has the expertise and experience to build and operate a rare earth separation plant in Canada. The rare earth separation plant is an essential link between Canada's resources and downstream value chains.

Mr. Chairman, we respectfully submit that the history of Canadian rare earth production should be a major consideration in determining how and where such a national strategy should be implemented. Pele Mountain Resources is developing the Eco Ridge mine rare earth and uranium project in Elliot Lake, Ontario.

Elliot Lake is home to one of Canada's great historic mining camps and offers several competitive advantages in the race to develop an early-to-market rare earth supply chain. Elliot Lake is Canada's only proven historic critical rare earth mining camp. It also produced more than 300 million pounds of uranium. It has vast and accessible critical rare earth resources and the geology, mineralogy, and pathway to production are well understood. Elliot Lake has outstanding regional infrastructure already in place, including highways, railway, electricity, natural gas, airport, and deepwater ports.

The City of Elliot Lake supports the development of Pele Mountain's Eco Ridge mine project, and has said so publicly. Our development team has operational experience in Elliot Lake from some of its most productive years. Pele is collaborating with all levels of government, local first nations, the private sector, and academia to advance the sustainable development of Canada's first critical rare earth supply chain.

In the global race to create a rare earth supply chain outside of China, Canada's strategic and economic interests are best served by a national strategy that prioritizes support to the development of critical rare earth deposits and the separation of rare earths into refined products.

It may be tempting to believe that just by funding research Canada will solve its rare earth crisis. In reality, however, this is a race in which Canada has been so slow out of the blocks that it must now use triage to prioritize its actions, secure its interests, and achieve its proper objectives.

●(1015)

Research is necessary, but research alone will not produce critical rare earths, nor will it bring essential separation facilities to Canada. Research alone will not protect Canada's poorly capitalized rare earth developers from predatory foreign interests seeking to control Canadian deposits in order to export Canadian rare earth as low value, unrefined, mixed concentrates. A national strategy that relies solely on research will result in Canada losing the race to develop a rare earth supply chain outside of China.

While we are great believers of free market principles, in view of the poor capital market conditions for Canada's junior resource sector, we respectfully ask how Canadian rare earth developers are to compete unsupported in a market dominated by a powerful sovereign nation pursuing a calculated strategy and where other governments are spending vast sums on rapid development of rare earth deposits to support their national interests.

Mr. Chairman, we respectfully submit that the time has come for Canada to be proactive in supporting Canadian rare earth developers such as Pele Mountain, whose rare earth development plans are aligned with our nation's vital strategic and economic interests.

What Canada does or does not do to support the rapid development of a domestic rare earth supply chain will determine our country's vulnerability to future supply disruptions of these critical materials, and will have a significant impact on Canada's future standard of living and its ability to compete effectively in the global economy.

Canada has much to gain by implementing a national strategy to develop a rare earth supply chain in Canada, and much to lose by continued procrastination.

Thank you.

●(1020)

The Chair: Thank you, Mr. Shefsky, president of Pele Mountain Resource Inc.

Our final witness today, by video conference from Ames, Iowa, is Mr. Alexander King, director of Critical Materials Institute.

Go ahead, please, sir, with your presentation, for up to seven minutes.

Mr. Alexander King (Director, Critical Materials Institute): Thank you, Mr. Chairman and honourable members of the committee.

I am the director of the Critical Materials Institute, usually known as CMI, which is a lot easier. We're a research organization funded by the U.S. Department of Energy.

CMI has its headquarters at Ames Laboratory, in Ames, Iowa. The Ames lab is a national lab operated for the Department of Energy under contract by the Iowa State University of Science and Technology. I mention this because it establishes my relationship

to the U.S. government, which is contractual. I perform work for the government, but I am not an employee of the government. I do not represent the U.S. government, and my comments today do not represent U.S. policy in any way.

I am here to provide my personal views and opinions, hopefully with the benefit of some modicum of technical expertise. That said, I am very honoured to have been asked to testify.

The Critical Materials Institute was established by DOE in June 2013, just a little more than half a year ago, as an energy innovation hub, in response to disruptions in the supply chains for certain chemical elements used in the manufacture of clean energy systems.

The need for the Critical Materials Institute is perceived as being urgent. The Department of Energy had planned to switch over the production of lighting systems for industrial-scale buildings to a next generation technology over a specific period of time, and it has been forced to extend that period of time by two years because of the lack of europium and terbium to make the new more highly efficient lighting. In the United States we have 33,000 or so wind turbines in operation producing electricity for the national grid with less than 1% of those using direct-drive technology, which is enabled by high-strength neodymium-iron-boron-dysprosium magnets. The reason we have such a poor representation of those turbines is the lack of the supply chain.... The direct-drive units are more efficient and more reliable than the alternatives which use gear boxes, so we have a need today to solve the problem of the lack of rare earths.

In 2010-11 the prices of rare earths spiked to levels never seen before. We now refer to materials like those generically as critical materials. Rare earth elements in general have very unique properties that allow them to be used in such things as the creation of high-performance magnets and highly efficient light sources. They are used as catalysts in the production of petrochemicals, and they have several other important technological uses. There are no easy substitutes for them in most of their applications. In 2010, 97% of the world's supply of all rare earths came from China. They are the very definition of what we mean by critical material today.

CMI is funded at the level of \$120 million U.S. over five years. Its mission is to eliminate materials criticality as an impediment to commercialization of clean energy technologies like high efficiency lighting, wind turbines, and many others for today and tomorrow. We have research capabilities at a network of institutions in the United States, including four national labs, seven universities, and seven private sector corporations. We use advanced networking tools to operate effectively as a single institution.

We closely follow the critical materials strategy issued by the Department of Energy in 2011. We address five of the rare earth elements, neodymium, europium, terbium, dysprosium, and yttrium, and two other elements that are designated as near critical for clean energy purposes, lithium and tellurium.

We seek to supply the supply chains of these critical materials in three ways: first, by developing, demonstrating, and deploying technologies that diversify and expand the availability of these materials throughout their supply chains; second, by reducing waste of these materials through increased manufacturing efficiency and recycling; and third, by reducing demand through the identification of substitute materials for the critical materials in specific applications.

• (1025)

In all three areas, the needs of U.S. clean energy systems drive CMI's research agenda, driven specifically by the needs of the U.S. manufacturing industry. From its very outset, every project we sponsor has a commercialization plan.

I would note that with the recommissioning of Molycorp's mine at Mountain Pass in California, the U.S. is a producer, a consumer, and also a disposer of rare earths, as it is for other critical materials, and CMI accordingly has research efforts that focus on all parts of the materials supply chain.

We have begun work on 35 separate individual projects, each of which is intended to solve a particular problem or create a specific opportunity at selected points in the supply chain. While these are our day-to-day focus, we also recognize two grand challenges or issues that overarch all of our efforts, and there are five associated needs for long-term materials supply security.

As indicated at the outset, time is our major challenge. We have issues today, and if it takes 10 years to start a mine—I'm told that's an optimistic number in most cases—and 20 years to invent a new material, as it frequently does, time is a big challenge. Materials criticality often emerges in a matter of months, while solutions take decades or, at best, years. We need to have a better opportunity to anticipate which materials will go critical and we need an increased speed of response.

Specific to the rare earths, there are three critical needs. Rare earths are among the most difficult elements in the world to process and the hardest to do without. They rank at the top of everybody's list of critical elements today. Almost every country now has its own list of critical elements. Some are long and some are short, but right at the top of all of them are many of the rare earths. The difficulty of working with them and the difficulty of working around them contribute to this.

There are three particular needs that we see.

Two of them are very technical and are related to production. The first of those is separating the rare earth elements. There is no facility in North America that is capable of separating rare earth elements when they are pulled out of the ground by mining. The second critical need is converting separated rare earth oxides to metal, which is the process normally described as smelting. Again, there is no facility in North America that currently has this capability and is in production.

Third, and much more fundamentally, there is a real need to understand the fundamental science of the rare earths. There are fundamental issues about the way the 4f electron works. I'm not going to go into what that means, but it's in order to enable us to actually understand how they work, to understand their chemistry better, to develop better tools to separate them, and to convert them from oxides to metal and actually develop substitutes.

CMI has a large budget by the standards of government research programs. It's one of the largest projects in the United States today. It consequently garners a great deal of attention, but in fact, the resources allocated to us are really quite lean in comparison to the scale of the problem we've been given to solve. We're looking at every part of the supply chain, not just mining. Especially the funding is short when we consider the time scale that we have to work in. We have funds for five years, and we are addressing problems that have traditionally taken 10 to 20 years to solve, so we're working very hard.

We actively follow developments in technologies and markets that impact our mission, and we make adjustments to our projects as appropriate. We triage our projects on almost a daily basis.

We also seek opportunities to leverage our resources in ways that allow us to meet our goals in shorter times or at lower costs through collaboration with other organizations. We actively seek opportunities to work together with others within the United States and elsewhere to meet the needs of today.

Prices of the rare earths have receded since the crisis levels of late 2011, but at CMI we do not see price per se as a good indicator of criticality.

• (1030)

Criticality is, rather, the result of the importance of an element in its particular application, and the rare earths are really important. You cannot do without them. If you want to have a smart phone of any kind, you need rare earths, or you need to carry a phone that won't be very smart and will be the size of a brick. Many other technologies are similarly affected.

The first issue is the importance of these elements to our modern technologies, and the second is the security of the supply chain. These fundamental issues remain in place for the rare earths. They are still critical in many applications. There is still a fundamental lack of control of the supply chain of the rare earths, and we believe that the current low prices are liable to change rapidly and unpredictably, depending on market conditions and on the actions of other governments around the world.

CMI researchers are working very hard to reduce the critical need for the rare earths, their essential function in many technologies, and also to improve the supply chain. We're seeking to develop the tools necessary to address other elements that might become critical in the future. We believe, by the way, that there will be future examples of materials criticality at probably an elevated rate from what we've seen in the past. In particular, we believe there is still an urgent need to secure the rare earth supply chain.

Mr. Chairman and members of the committee, thank you for your attention. I'd be happy to try to answer your questions.

The Chair: Thank you very much, Mr. King, director of the Critical Materials Institute.

We'll have one five-minute round of questioning, starting with Mr. Trost.

Mr. Brad Trost (Saskatoon—Humboldt, CPC): Thank you, Mr. Chair.

I would like to get a couple of things on the record. Do any of your companies get funding from NRCan? Is the government helping with any programming or anything?

Mr. Peter Cashin: No.

Mr. André Gauthier: No.

Mr. Brad Trost: In the past? Not at all?

A voice: No.

Mr. Brad Trost: Okay.

Did the extension of the mineral exploration tax credit benefit exploration in this industry? Your companies are more or less advanced, but for other companies such as the juniors, etc., getting involved, would that help when it comes to exploration for rare earth minerals?

Mr. Peter Cashin: I think that as a general rule it has been supportive of the rare earth and other commodity areas in Canada.

Mr. Brad Trost: Okay.

Mr. Cashin, it was interesting to listen to you talk about production at your property in 2018. You were running through various scenarios of when and how it's going to be done. You're very confident, or at least that's what you're projecting. I realize that's a good thing. Not everyone has been quite as confident when they come before us in terms of how soon the various aspects of processing the raw ore will be done, and how quickly and effectively.

Can you share with us why you are so confident that your project is going to actually produce what the manufacturers are looking for? What's different from some of the less confident projects, shall we say, that are out there?

• (1035)

Mr. Peter Cashin: There are actually several points.

You've heard the number of 10 years from commencement to development to bring up any mine-particular errors in production. In actual fact, Strange Lake has a much longer history than that. The original discovery in the area was made in the late 1970s. At that

time, quite a bit of metallurgical research, which is obviously the critical path for these developments, that is, the processes required to separate the rare earths from the rock, had been ongoing over that period. We actually were able to piggyback off a lot of that technical work that had been done prior to ours.

Mr. Brad Trost: Is everything with your project unique to your project, or are there things that could be learned and applied to other projects?

Mr. Peter Cashin: I think that a lot of the processes, in general, have parallels among them.

Strange Lake is a truly unique deposit, geologically as well as technically, in that it is related to conventional granite. The research that was done, as well as our research, indicated a very efficient recovery of the metals at high recovery rates, but I think, as has been pointed out, that the critical path is also the separation step. We are producing a high-purity concentrate, and now it's to get the technology to separate the mixed metal concentrates into individual rare earth products.

Mr. Brad Trost: All the best to you. I hope your confidence is bang on.

In the earlier panel one of our witnesses talked about how the Chinese are being strategic, not just in their own country, but in reaching out to make approaches to make sure they control the supply outside of their direct geographical territory.

I know I can't get comments from everyone, but could a couple of you comment?

First, do you see that being fairly common? Second, are other countries doing that in some ways to combat the Chinese desire to strategically control the international market? What have you seen in regard to the Chinese play?

The Chair: Could we have very short answers from the three of you involved in operations? Mr. Gauthier, then Mr. Shefsky, then Mr. Cashin.

Mr. André Gauthier: In China in many areas they have overcapacity, and they fight among these areas to have access to the rare earths. They ask that when we get into production, we provide concentrate to China, because they don't have access to that rare earth. That's an example.

The Chair: Thank you.

Mr. Shefsky.

Mr. Al Shefsky: There are indications that China does have a long-term plan, that they have increasing demand for especially the heavy rare earths, and that they are seeking other sources around the world, including here in Canada, to supply their own needs in the long term.

The Chair: Thank you.

Mr. Cashin.

Mr. Peter Cashin: Most of our conversations have been with non-Chinese entities, Europeans as well as North Americans. Although there is a recognition that pricing mechanisms for rare earths out of China are competitive, the non-Chinese entities are concerned about further disruptions of the supply chain and are willing to accept a premium to alternative sources for those rare earths.

The Chair: Thank you all for your very concise answers.

Thank you, Mr. Trost.

We go now to the official opposition, Mr. Gravelle, for up to five minutes. Go ahead, please.

Mr. Claude Gravelle (Nickel Belt, NDP): Thank you, Mr. Chair.

First of all, before I start my questioning, I'd like to thank my colleague, Ms. Moore, for bringing this rare earths study to the attention of the natural resources committee. Unfortunately this study is by far too short. Today we've heard from nine witnesses, and that doesn't give us a chance to really explore the rare earth issue.

I want to start my questioning with Mr. Shefsky.

Mr. Shefsky, if you had a vision for rare earths in Canada, and you had two or three wishes that you could ask of the government, what would they be?

• (1040)

Mr. Al Shefsky: First, it's important that Canada come out and absolutely declare its commitment to developing this industry in Canada and to providing the support necessary to do that, and to do so in a timeframe that will allow it to win the race. We have to be mindful of the fact that there are other countries that are investing heavily to support the development of critical rare earths in order to supply their own strategic needs.

Second, Canada ought to prioritize its financial and technical support to emerging developers of critical rare earth deposits who can supply the market within three to five years and whose development plans are aligned with Canada's interests; those developers who are able to produce critical rare earths in Canada that can be separated in Canada to support downstream value-added opportunities here in Canada.

Then, to make all of that possible, Canada ought to provide logistical support for a strategic alliance. We need to bring the separation here into Canada. There are companies out there that know how to do this. Rather than try to reinvent the wheel, we ought to be working together with people who have the experience, who can come to Canada to build and operate a separation plant so that we can leverage the resources we have here in Canada to build a very strong engine of economic growth and to have access to those downstream value-added opportunities. Separation is that critical link.

Mr. Claude Gravelle: Thank you.

You mentioned in your statement that this has to happen as quickly as possible, before it's too late. How much time do we have to develop rare earths in Canada?

Mr. Al Shefsky: That's an excellent question. In my opinion, we are already far too late to be just thinking about these questions.

Other foreign governments are already investing heavily to protect their own security of supply. Canada has really procrastinated on this issue. It needs to act immediately. There is no time to waste. This is a race. For Canada to compete, it has to get involved immediately.

Mr. Claude Gravelle: Do you have any idea what this would mean to our GDP if we were to develop rare earths in Canada?

Mr. Al Shefsky: I believe a study has been completed on that. It was referred to in an earlier hearing. I don't have access to that study, but the economic impact would be very dramatic. I hope that REITA, the organization.... Perhaps Dr. King could elaborate a bit on that. They've done an economic study and that information hasn't been made public yet, but just intuitively, we're looking at enormous economic impacts. The economic activity, the employment opportunities are going to be enormous, and perhaps Dr. King could elaborate on that.

Mr. Claude Gravelle: Dr. King—oh, sorry.

Mr. Shefsky, how many jobs does your company create in Canada, and if we had value-added jobs, how many jobs would that create in total in Canada?

Mr. Al Shefsky: For Pele Mountain Resources, the mine and milling operations to produce the mixed rare earth concentrate would be about 350 jobs on site in Elliot Lake. We've not completed the studies yet to show what the spinoff benefits from that are. Bringing a separation plant into Canada would add a lot of jobs. The important thing is by bringing a separation plant into Canada, you would create that link between the resources and the downstream value-added industries. You're talking about an enormous boost to economic activity and employment.

[Translation]

The Chair: Thank you, Mr. Gravelle.

[English]

Mr. Regan, you have five minutes, please.

Hon. Geoff Regan (Halifax West, Lib.): Mr. Shefsky you said the big challenge is how to compete unsupported in a market dominated by a national government, of course that being China. Given what we've heard from Mr. King about the kind of support and commitment the U.S. government has made to this and what he's told us about the investment by the U.S. government, isn't it clear that the government here doesn't realize this race has begun?

• (1045)

Mr. Al Shefsky: Unfortunately, I believe they may realize that the race has begun but they haven't taken action yet to support the development of this industry in Canada. There is significant investment by.... China of course has really dominated this industry. They saw decades ago that this was going to be important and they moved to make sure they would be the dominant player in the industry. Other countries have been faster out of the blocks in realizing they need to invest to support their own strategic interests.

We see the United States, Korea, the European Union, and Japan combine their investing, literally hundreds of millions of dollars. Just in the last couple of days, France has announced a major initiative. The State of Alaska has announced the issuance of a bond, or they're planning or considering issuing a new bond of \$145 million. There are major investments by governments around the world to secure their strategic interests with regard to the rare earth supplies. Here in Canada, so far, that investment has not been forthcoming.

Hon. Geoff Regan: We heard at a previous meeting of this committee that it would be very helpful if the Prime Minister followed the lead of President Obama and declared the sector to be a national priority for Canada. What are your thoughts?

Mr. Peter Cashin: To start, I think Canada has a significant advantage in that it does host a vast majority of the critical rare earth element oxides, notably the heavy rare earth. Obviously from the U. S. government's standpoint, they're looking at the development of a hub or a North American silo rare earth supply chain. Obviously Canada has something to offer the United States operators in that the U.S. does have rare earth resources, but they're generally devoid of heavy rare earths, whereas the advanced projects in Canada tend to be quite nicely endowed in the heavy earth.

[*Translation*]

Hon. Geoff Regan: Mr. Gauthier, in your view, what role must the Government of Canada and exploration companies play in consultations with first nations?

Mr. André Gauthier: In our view, the important thing is that the federal government has implemented a new environmental process.

Previously, companies in Quebec were only subjected to the regulations of the Quebec ministry of the environment. Now, they must work with the Canadian Environmental Assessment Agency. We think it is a very good idea to have different points of view. We know that the agency is focusing on first nations. That is fairly significant. We think the new environmental process set up by the federal government is rather significant, since it makes it possible to have a better picture of Canada's environment.

[*English*]

The Chair: Thank you, Mr. Regan.

I just want to say that this has been a fascinating overview of this industry, which holds so much potential for Canada.

I do thank all of the witnesses who have appeared before our committee over the last few meetings. In particular, I want to thank all of the witnesses who are here today: from Matamec Explorations Inc., André Gauthier, president and chief executive officer, and Michael Roche, marketing director; from Quest Rare Minerals Ltd., Peter Cashin, president and chief executive officer; from Pele Mountain Resources Inc., Al Shefsky, president; and from Critical Materials Institute, Alexander King, director.

Thank you very much to all of you for being here today for too short a time. Certainly, we have been given a good overview of the industry in the past few meetings.

The meeting is adjourned.

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