HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Natural Resources

RNNR • NUMBER 014 • 2nd SESSION • 41st PARLIAMENT

EVIDENCE

Tuesday, February 25, 2014

Chair

Mr. Leon Benoit

Standing Committee on Natural Resources

Tuesday, February 25, 2014

● (0845)

[*English*]

The Chair (Mr. Leon Benoit (Vegreville—Wainwright, CPC)): Good morning everyone.

I'd like to start by welcoming all members of the committee back from a constituency work week. I hope it was productive.

I want to welcome all of the witnesses here today. We're finding this study extremely interesting and helpful for us as it gives us an opening view on the subject of rare earth elements. Thank you for being here today to give us your input on this subject.

We'll get right to the presentations. We'll have the presentations in the order listed on the agenda for today. If you'd keep your presentations to seven minutes or less, it would be appreciated.

First, I'd like to introduce the witnesses. As an individual, we have Anton Chakhmouradian, a professor at the University of Manitoba. Welcome.

From Avalon Rare Metals, we have Pierre Neatby, vice-president, sales and marketing. Welcome to you.

By video conference from Saskatoon, from the Saskatchewan Research Council, we have Bryan Schreiner, chief geoscientist. Welcome to you.

By video conference from Kipawa, Quebec, from Eagle Village First Nation, we have Chief Madeleine Paul from the Algonquin Nation, Quebec Region. Welcome to you.

Again, thank you to all of you for being here.

We'll start with Professor Chakhmouradian and his presentation.

Dr. Anton Chakhmouradian (Professor, University of Manitoba, As an Individual): Thank you.

Let me start by saying it's a privilege to be here today to share some of my experience and expertise in the field of the geology of rare earth metals.

I would like to build my short presentation around some of the previous testimony of experts who have appeared before this committee, and emphasize some of the geological aspects of the problem as well as address and focus on some of the issues that do not appear to have been adequately addressed in previous testimony.

As you know, the 14 lanthanide elements and yttrium, collectively known as rare earth metals, are a staple ingredient in numerous advanced materials that enabled the advent of new technologies, cutting-edge technologies. They have also been used to improve the efficiency, eco-friendliness, and economic aspects of existing materials to make them ultimately more marketable.

Let me emphasize also that the practical importance of these metals goes well beyond wind turbines, hybrid and electric vehicles, energy-storage technologies, compact fluorescent lights, and these kinds of things, which are collectively known as green or environmental technologies. For example, out of some 70,000 tonnes of neodymium-iron-boron magnets that are manufactured every year, only about 15% are actually used to manufacture traction motors, wind turbines, and these kinds of things, with the remainder going into more mundane products ranging anywhere from magnetic resonance imaging to air conditioners, loudspeakers, hard drives, compact drives, and so on.

Today, global rare earth production amounts to about $4 billion U. S. annually, which is about three times less than the global value of diamond production, for example. At the same time, global sales of diamond jewellery amount to merely $70 billion U.S., whereas rare metals, and in particular critical metals like rare earth metals, provide a basis for a manufacturing sector valued at anywhere between $2 trillion and $4.8 trillion. So there's a significant difference in perspective here in terms of the ultimate practical value between these commodities and diamonds, for example.

According to some recent studies, including a study by MIT scientists, some of those metals will skyrocket in importance, and industrial need for these metals will increase by as much as 2,600% —as in the case of dysprosium, for example—by the year 2025. If we take this projection seriously we should be looking at a significant increase in the demand for these elements. In the absence of current efficient recycling technologies, it's quite obvious that we'll have to come up with adequate resources to support this increasing industrial demand, which will outpace the current or historical production trend of about 5% in the recent 30 years.

To address these looming shortages in critical metals, including five of the 15 rare earth metals—dysprosium, terbium, ytterbium, neodymium, and europium—governments around the world, as well as research organizations and companies around the world, focus their efforts on three main areas: recycling of the existing products; developing substitute materials that would allow the minimization of the use of rare earth metals, so perhaps eliminating rare earth metals from some of the technologies; and diversifying the existing supply sources.

● (0850)

So it's that latter area where I think Canada has some really great opportunities. In Canada no rare earths are currently being produced, and rare earth products account for about $30 billion in monetary value, which is less than 2% of the national GDP, as well as less than 2% of employment. This is several per cent less than Japan, for example, which does not have its own rare earth mines either. But Japan imports 15% of the Chinese rare earth production. About 80 years ago the Russian geochemist Alexander Fersman dubbed rare earth metals “vitamins for the industry”. Deng Xiaoping was the first political leader, political figure, who recognized the importance of these metals in that context and that ultimately led to China's dominance on the rare earth market. If Canada built on that potential and utilized its own resource potential it would not only be able to provide the rest of the world with sustainably sourced rare metals including critical rare earth metals, but it would also provide a much-needed vitamin boost to its own rare earth-based advanced technologies and industry.

Geologically speaking Canada is just as complex as China and it has all the prerequisites including tectonic, and geochemical, and geological prerequisites to the development of economic rare earth mineralization. So, for example, if you look at the historic figures that are currently available in the public domain, the total measured, and indicated, and inferred resources of rare earth metals in this country amount to about 38 million tonnes of contained rare earth oxides. Now, this seems like a lot because it is basically 30% of the global resource base at the moment. But at the same time, these numbers, when taken out of their geological context, can be misinterpreted.

I'll illustrate that with a couple of examples. For example, if you look at the Nechalacho project in the Northwest Territories, which actually ranks fairly high among the currently active advanced-level exploration projects in Canada, you will see that only about 13% of Nechalacho ore is actually composed of minerals like monazite, bastnäsite—and their chemical composition is given in a transcript of my presentation—whereas the rest of these metals, roughly about 87%, are distributed among zircon, allanite, and various other minerals. The reason it's important is that, historically, the bulk of rare earth production around the world has come from bastnäsite, monazite, to a lesser extent ion-absorption clays like the ones that are mined in China, and to a much lesser extent from xenotime. So that means that minerals like zircon, allanite, and the rest of the minerals that are present in such significant quantities in the Nechalacho ore actually have not been used for profitable recovery of rare earth elements to date.

● (0855)

The Chair: Professor, excuse me. You're a couple of minutes over your allocated time so could you wrap up really quickly? We only have an hour for this meeting this morning.

Go ahead, please.

Dr. Anton Chakhmouradian: Absolutely.

Basically, to summarize I would like to say that if Canada wanted to build on its existing potential it would need to launch new research programs and it would have to come up with new incentives and support for companies and individuals that are involved in this industry. That will have to involve federally, provincially, and territorially funded training and research programs involving both industry and academia as well as government and provincial organizations to provide these incentives and also to help companies involved in rare earth exploration to utilize that potential to its fullest.

To summarize, I'd like to draw your attention to this issue of *Elements* magazine that summarizes some of the things that I've said. Unfortunately, it's available only in English but I'll be able to provide a free electronic copy to anyone interested in some of the aspects of the rare earth trade that I have emphasized in my presentation.

The Chair: Thank you, Professor Chakhmouradian.

We go now to Avalon Rare Metals, Pierre Neatby, vice-president, sales and marketing.

Go ahead, please, sir, with your presentation.

[*Translation*]

Mr. Pierre Neatby (Vice-President, Sales and Marketing , Avalon Rare Metals Inc.): Mr. Chair, I am happy to be able to testify before the committee this morning.

[*English*]

I am standing in for our CEO, Don Bubar, whom some of you may know. He was unable to be here as today is Avalon's annual general meeting of shareholders in Toronto.

As mentioned, my name is Pierre Neatby, and I'm vice-president of sales and marketing for Avalon Rare Metals. I've held this position for four years.

I'd like to start off by providing some international background, some of which may be familiar to you, on the rare earth market, before coming back to Canada and discussing Avalon's Nechalacho project, and its potential impact on the economy of Canada.

China has dominated rare earths for over 25 years. Currently, it produces over 85% of the world's rarest oxides and consumes over 60%. There is currently very little heavy rare earth production outside of China. China decided to restrict exports in 2010, and this decision initiated a mild panic outside China, and a tremendous increase in prices that peaked in the third quarter of 2011. China wants to dominate the manufacture of products that contain rare earths—electronics, wind turbines, lighting, hybrid and electric vehicles, and the other products that my esteemed colleague mentioned—because these create and maintain jobs. They would like to restrict exports so they can maintain the jobs in this sector as long as possible. China is serious about controlling its rare earth industry for the same reason: jobs. Improving environmental practices may be due to western pressure, but trying to reduce illegal mining and limiting market participants is certainly consistent with the strategy to conserve their natural resources.

China has been very interested in increasing its reserves by acquiring outside-China assets. Chinese interests tried years ago to acquire Molycorp and 50% of Lynas, and more recently invested in two other Australian companies, Northern Minerals and Arafura. It also announced a partnership with Great Western Minerals Group on their South African project. This list does not include companies that they have had strategic discussions with. These actions, I think, are consistent with China believing that it may need to be a net importer in the not-too-distant future.

The world needs a supply chain outside China for the simple reason that China will likely continue to restrict exports, despite the WTO case, and large western companies do not want to export jobs to China by building plants there and risk losing intellectual property.

This brings us to Avalon. Avalon is developing a deposit of rare earths east of Yellowknife in the Northwest Territories that is not only rich in the more valuable heavy rare earths but also rich in zirconium, niobium, tantalum, which are rare metals that are high in demand. The Nechalacho deposit appears to be large enough to sustain mining for many decades beyond the 20 years of currently defined mining reserves. But a deposit, even well-defined, does not make a project. Avalon has been working on developing its Nechalacho project since 2005, well before the market reacted to the Chinese export quotas reduction in 2010.

We spent over $90 million on the Nechalacho project of which $60 million alone went to fund our feasibility study. The Nechalacho project is the most advanced large heavy rare earth project in the world outside China. It is the only project to have completed a feasibility study from mine to separation plant, and the only one to have had its environmental assessment approved by the responsible minister of the government, in this case the Hon. Bernard Valcourt. The feasibility study calls for 229 direct high-paying jobs to be created in Canada's Northwest Territories. Naturally, many more indirect jobs will also be created. Total capital cost was estimated at over $1.5 billion with an attractive rate of return of 22.5% pre-tax.

● (0900)

Avalon plans to produce 10,000 tonnes per year of separated and refined rare earths, of which 26% will be heavy rare earths. Only 4% of our planned revenues would come from lanthanum and cerium.

Avalon has made corporate social responsibility one of the cornerstones of its strategy. We've engaged early on with first nations and aboriginal groups around Nechalacho, have completed two accommodation agreements, and have a third being ratified. More are being discussed. We want the aboriginal groups and the first nations groups to be our partners and to benefit from our project.

With regard to the environment, we've decided to mine Nechalacho underground, rather than open pit, which is more expensive but has a much less significant impact on the land. State-of-the art tailings and water quality management systems are being designed to prevent significant impacts to water. Most hardrock rare earth deposit contains some levels of uranium and thorium. Nechalacho is blessed with relatively low levels of both, averaging around 110 parts per million for thorium and just under 30 parts per million for uranium. Disposal of uranium and thorium will not be a problem and no special handling will be required.

Avalon is quite proud of the fact that we are one of the few junior mining companies in the world to have issued a sustainability report using the Global Reporting Initiative guidelines. For those of you who are not aware, GRI is a leading organization in the sustainability field. As a company attempting to sell to multinational companies that audit their supply chains for sustainability, Avalon felt that not only was it the right thing to do, but also the right business decision in a world increasingly focused on sustainability.

What does this mean for Canada? I believe there's a tremendous opportunity for Avalon and for Canada in developing a rare earth industry. I've said publicly that the world outside China does not need another light rare earth project, but will need a small number of large heavy rare earth projects to be brought on. These heavy rare earth projects will produce the feed for downstream industries such as metals, alloys, magnets, motors, and phosphors, which will be the building blocks for end-use products such as wind turbines, hybrid electric vehicles, electronics, and any energy-efficient lighting, amongst others. The jobs from these industries will be counted in the thousands, and the economic activity for Canada will be measured in billions.

Avalon is a supporter of CREEN, the Canadian rare earth research network that the committee heard from in the last meeting. CREEN was formally launched during COM 2013's rare earth symposium in October of last year to create a beacon for the Canadian rare earth industry as an industry-led multi-stakeholder network focused on providing collaborative solutions that will advance Canada's rare earth sector.

Overall, I believe the potential growth and future of this up-and-coming technological industry is bright. However, government support is needed to achieve its full potential.

Thus, it's Avalon's hope that the Canadian government can support the industry in two ways, first by publicly stating that it supports the development of a Canadian rare earth industry. This could go a long way to inspiring confidence in the capital markets. Ideally, this would start with a short report from this committee on what has been heard, along with some recommendations, and would be accompanied by a public statement by the government to let the world know that Canada is serious about being a player in this industry.

Second, financial support of CREEN and rare earth R and D will better position the industry to succeed. The Canadian rare earth industry is being built by junior mining companies without deep reserves of cash and, therefore, government assistance for R and D will help accelerate the development of the industry in Canada. Canada is in a race with Australia, the U.S., and others to develop an industry, and Canada's opportunity is now.

In conclusion, China will continue to dominate this industry, but there's a need for a supply chain outside China, and Avalon is planning on being first to market with a significant new outside-China supply of the heavy rare earths.

● (0905)

Canada has a chance to develop a new industry but it is in competition with other countries, and accordingly, the window of opportunity is small. We believe it's time for government to take some action to clearly signal its interest in taking advantage of this unique opportunity to build out a whole new supply chain in an emerging sector in the resource economy.

Thank you for your attention. I appreciate it.

● (0910)

The Chair: Thank you very much, Mr. Neatby, from Avalon Rare Metals.

We go now by video conference from Saskatchewan, from the Saskatchewan Research Council, Dr. Bryan Schreiner, chief geoscientist.

Go ahead please, sir, with your presentation. Thank you again for being with us here today.

Mr. Bryan Schreiner (Chief Geoscientist, Saskatchewan Research Council): Good morning, everyone. Thanks to the committee for the invitation to speak with you this morning. I'm going to focus a little more on Saskatchewan than others, but that will give you a broader perspective.

Mr. Chair and honourable members of the committee, as I was announced, I'm Bryan Schreiner, the chief geoscientist of the Saskatchewan Research Council. My role at SRC involves providing technical leadership and expert guidance pertaining to minerals as well as looking for new opportunities in the minerals resource industry and various other sectors in the economy.

SRC is a leading provider of applied research, development and demonstration, and technology commercialization. We are a member of Canada's research and technology community and work directly with industry to put ideas into commercial practice. We move things from the laboratory to the loading dock, as we like to say. SRC is known across Canada as an independent and objective research and technology organization that provides quality results. Our focus areas lie in the energy, environment, and mining and mineral sectors.

Specific to the mining industry, we provide solutions to challenges across the complete mining cycle. We have a long history of working in uranium and potash. As you know, Saskatchewan is noted for uranium and potash. But we're also very involved in diamonds, other minerals, golds, and base metals, and more recently in rare earth minerals. Our laboratories and experts provide services related to mineral exploration, mineral processing, tailings management, and reclamation and decommissioning.

I'm here today to discuss the rare earth industry and the work that SRC has been performing for the industry in this area. As you just heard and the committee has been informed before, the world demand for rare earth has increased in recent years due to increased use of high-tech equipment, but at the same time, also to the restriction of export from the major supplier, China, as well as their increased usage. This demand has created over 200 exploration projects in Canada alone, and many more around the world. Many of these are in eastern Canada, some in the Northwest Territories—and you just heard about Avalon—and Saskatchewan, and other locations in Canada.

In response to the industry demand, SRC has expanded its existing service offerings and added capabilities to assist companies in their exploration efforts by providing rare earth element analytical packages, but also by providing mineral processing and hydrometallurgy, which is further down in the cycle.

We work with mining companies to develop rare earth properties through laboratory, bench scale, pilot testing, and field implementation, and we offer all stages of rare earth metallurgical tests, from preliminary detailed pilot plan testing to effluent and tailings treatments. Our mineral processing capabilities help our clients to determine the optimum processes to recover and concentrate the rare earth elements. As you heard from Mr. Neatby, the processing is often a critical component in whether the deposit is actually economic or not.

In fall 2013, with support from the federal government through Western Economic Diversification, and based on industry demand, SRC completed the construction of a state-of-the-art mineral processing pilot plant that is the first of its kind in western Canada. I'd like to take this opportunity to thank the federal government for that support. This plant supports the development and demonstration of new, improved methods for processing minerals and enables pilot-scale demonstration of new technologies that increase yields and decrease costs. We're also one of the limited Canadian providers of QEMSCAN. This is a precise, quantitative mineralogical analysis process through the use of a sophisticated electron microscope. These services are essential for proving resource deposits that lead to successful mine development and make it more efficient and economical to do business, especially in the rare earths area.

● (0915)

Companies that work with SRC rely on our international networks to access leading knowledge. SRC has carried out work on a number of projects for various companies in Saskatchewan, Canada, and other parts of the world. In fact, our experts at SRC are currently working with specialists from across the world to expand our Canadian knowledge and capabilities in rare earth element technology, which will keep Canada competitive in the industry in the future. I might just add that we are particularly working with some of the experts in China in this regard.

Not only does our work assist in exploration and processing, SRC also focuses on reducing and managing the environmental concerns that come from mining production. Waste treatment and management is another area in which SRC helps clients to operate in an environmentally and economically sustainable manner. We have experts who can assist clients with tailings management programs, reducing environmental impacts for their processes; remediation; and decommissioning of mined areas, taking it through the full cycle.

That's all the prepared statement I have for the time being. I'm very anxious to answer any questions you may have later.

The Chair: Thank you very much, Dr. Schreiner, from the Saskatchewan Research Council.

Our final witness for the committee today is by video conference from Kipawa, Quebec, from the Eagle Village First Nation, Chief Madeleine Paul of the Algonquin Nation, Quebec Region.

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

Chief Madeleine Paul (Chief, Algonquin Nation, Quebec Region, Eagle Village First Nation): Good morning, Mr. Chair and members of this committee. Thank you for the opportunity to appear before you today.

First of all, I want to make it clear that my presentation this morning is on my own behalf for my first nation and on behalf of Chief Harry St. Denis of Wolf Lake First Nation, who has consented and contributed to my presentation here today. Our two Algonquin first nations have been affected by the proposed Matamec rare earth mining project, and we will see considerably greater impact should the project proceed. We are therefore jointly addressing this proposed rare earth mine.

In my presentation, I want to give you a quick profile of our communities and the activities we have done so far in assessing potential impacts from the proposed Matamec rare earth project. To conclude, I will outline the concerns we still have about the Matamec rare earth project proceedings.

As I've said, this submission is being presented on behalf of the Algonquin first nations of Eagle Village and Wolf Lake. The Algonquin nation is made up of ten distinct communities in all. Nine are located in Quebec and one is in Ontario. The Algonquin nation, which includes our two Algonquin first nations, has never given up aboriginal title to our traditional territory. This includes all the lands and waters within the Ottawa River watershed on both sides of the Ontario-Quebec border. Aboriginal title is held at the community level within the Algonquin nation. Our two first nations, along with Timiskaming First Nation, assert unextinguished aboriginal rights including title over our traditional territories, which straddle the Ottawa River basin on both sides of the Quebec-Ontario boundary.

A map showing the territory over which our communities assert our aboriginal right is appended to my presentation in annex A.

On January 23, 2013, our two first nations, along with Timiskaming First Nation, jointly released a statement of asserted rights or SAR, which summarized the aboriginal and treaty rights that our three first nations assert and provided detailed evidence to substantiate it. Copies of the SAR maps and background documentation were transmitted to the governments of Canada, Quebec, and Ontario in January 2013.

The population of Eagle Village is 300, with approximately another 650 members living off reserve. Wolf Lake members total 205. Wolf Lake does not have a reserve but has a recognized Indian settlement at Hunter's Point on Lake Kipawa. Most of the Wolf Lake members are dispersed among Kipawa, Témiscamingue, or North Bay, but they remain connected to the territory because members of our two first nations continue our traditional activities of hunting, fishing, trapping, and gathering throughout our traditional lands.

Because Quebec's Mining Act does not require consultation with first nations at the exploration phase, contrary to the direction of the courts, our two first nations had engaged Matamec Explorations directly to consult with our first nations about the rare earth mining exploration activities on our traditional lands. Engaging was only achieved by our asserting our rights and issuing press releases. The company was not proactive in engaging our two first nations.

On July 6, 2012, our two first nations signed a memorandum of understanding with Matamec Explorations. The main purpose of this MOU is to address our environmental, social, and economic concerns about the proposed Matamec rare earth project. The funding from this MOU with Matamec has partially covered the costs of an Algonquin cultural assessment and an Algonquin social economic assessment, and it provides for an environmental review team our two first nations have assembled to review the baseline environmental studies from Matamec, which have yet to be fully provided to our first nations.

The MOU also explicitly provides “that the parties acknowledge that the crown owes Eagle Village and Wolf Lake the duty to consult and accommodate and that nothing in this MOU shall serve to relieve the crown of its duties”. Canada and Quebec still have a duty to consult and to accommodate our two first nations regarding any project approvals for this proposed rare earth open-pit mine, waste rock tailings, road construction, processing plant, and tailings ponds.

On April 29, 2013, we wrote to the federal environment minister Peter Kent expressing our concerns that a standard environmental assessment of the proposed Matamec project is not sufficient to address the unknown toxicity of mining, processing, and waste storage of rare earths near wetlands in a temperate zone. We asked Minister Kent for a joint review panel based on section 38 of CEAA, which provides for a joint review process with other decision-makers, including indigenous governments.

● (0920)

We believe a joint process is a more appropriate process to address our concerns about the—

[*Technical Difficulty—Editor*]

The Chair: We'll see whether we can get the witness back quickly. If not, we'll start our questioning, and at such time as we get the witness back online, if we do, we can continue with her testimony.

Let's go ahead with questions and comments from members. When the witness is back online, at an appropriate time we'll interrupt the questioning and get back to the witness's testimony.

We have first on our list, in the seven-minute round of questions and comments, Mr. Leef from the government side.

Go ahead, please.

Mr. Ryan Leef (Yukon, CPC): Thank you, Mr. Chair, and thank you to all of our witnesses.

I have a few questions. I'll start with Mr. Neatby.

You highlighted in your presentation some interesting figures on the employment rates, with 229 direct high-paying jobs created in the Northwest Territories. What is the company's assessment of the capacity for those jobs locally?

Mr. Pierre Neatby: That's a good question. The Northwest Territories has a population of about 40,000 people. Our project is not considered a large project with respect to employment; it's not thousands of jobs. We believe that, through training and through the time lapse between now and the time we're ready for operation, we would be able to attract people from the area and maybe from neighbouring provinces to be ready in time to start those jobs.

Mr. Ryan Leef: I'm Yukon's member of Parliament. We face some of the same challenges that my colleague from the Western Arctic does concerning resource development prospects and the desire for local people to take advantage of local opportunities and position themselves for jobs in high-demand fields.

Without getting into specific detail, if you're not at liberty to talk about something—but you talk about the accommodation agreements with first nations and aboriginal groups in the community—do the accommodation agreements involve training programs and parameters, specific numbers of jobs, cash transfers? What kinds of things are built into these accommodation agreements, or at least into what you can talk about?

● (0925)

Mr. Pierre Neatby: The content of the specific accommodation agreements is something I'd prefer not to discuss; however, the theme of the accommodation agreements is to engage first nations and aboriginal groups in our project to provide services through their businesses, help create businesses that would support our project, and/or create jobs. The first nations and the aboriginal communities are not very large; however, we would like to maximize the number of jobs provided to those groups. It just makes so much sense: they are local and the closest communities to our project and should have first chance at these jobs.

Mr. Ryan Leef: Are the skills required in this industry any different? Can the training that exists for other mining opportunities overlap, or are there some different specific skill sets that need to be trained for in rare earth mining? Is there going to be some longer-term overlap that could be beneficial in terms of diversifying a person's opportunity in the mining or resource extraction workforce beyond the employment that they can realize with your company?

Mr. Pierre Neatby: The basic principles of mining for rare earths are similar to the basic principles of base metal mining or of mining gold or zinc, for which there has been mining in the Northwest Territories. I'm less familiar with diamond mining, which is another big type of mining employment. But the mining is very similar at that stage. I think the experience people have in these areas would translate quite well into rare earth mining and processing in the Northwest Territories. There's great potential for that.

Mr. Ryan Leef: We spend a lot of time on this study learning about rare earth metals themselves and haven't talked too much around the opportunities that they can potentially create for communities. You've listed here that Avalon has spent over $90 million on the project and $60 million alone went into the feasibility study, so there's $30 million outside of the feasibility study.

I don't need exact figures, just a rough idea, but what portion of those expenditures are right in the Northwest Territories itself?

Mr. Pierre Neatby: Certainly, all of the drilling that we have done is all in the Northwest Territories, so all expenditures are with respect to that. Some of the hydrometallurgical testing has been in specialized labs and quite a bit of the testing has been in Ontario. With respect to the basic exploration, all of those moneys have been spent in the Northwest Territories.

Mr. Ryan Leef: That would involve a cross-section of employment in that area, helicopters and trucking.

How broad is the net when you're doing feasibility and your anticipation of when you go into production in terms of the ancillary services in that region?

Mr. Pierre Neatby: At the early stage the economic activity in the Northwest Territories for drilling is restricted to that. Once you get into construction, you need to bring in a larger workforce and there is much more activity. We're talking about hundreds of millions of dollars being spent on the construction of a mining site.

At this stage, with the exploration over 10 years, that's where we've spent the $90 million. That economic activity will dramatically increase as we get into the construction phase.

The Chair: Thank you, Mr. Leef.

Chief Paul, we'll go back to complete your presentation. You have about two minutes left. I know that the next questioner will be asking you questions. You can go ahead and complete your presentation, please, and I apologize for the technical interruption.

● (0930)

Chief Madeleine Paul: I'm not sure where I left off, but I'll start where our concerns are.

Mining has the potential to significantly affect the environment through releases of toxic substances to the air, land, and water and the creation of long-term environmental liabilities. Direct disturbance to fish and wildlife is also a significant risk, as are the displacement of other uses of the area and the disruption of uses in areas adjacent to the project and along transportation corridors due to noise, visual pollution, and dust.

Given the proximity of the project to historic and current areas of use by our peoples, and given our community's financial interest in developments such as ecotourism and ecosystem services that may not be compatible with mining, the potential impacts of the project are much more significant. We have attached a map showing our current use in the area. It's in annex B.

The project is an open-pit operation to extract and process heavy rare earth elements. Our concern is heightened by the fact that there are currently no operating rare earth mines in Canada, and the only operating facility in North America is the newly reopened Molycorp mine in the U.S. We understand that this potentially has serious environmental effects related to water management, even though it operates in a relatively arid area.

In comparison, this project is in a temperate climate with significant and unpredictable rainfall where surface waters and groundwater will have to be managed and protected. This project involves mining rare earths that are not minerals that have been mined and processed in Canada and that have unique health and environmental impacts associated with the processing and waste from mining rare earths. It's also our understanding that this project, if approved, will be the first rare earths mine in Canada, so obviously there is no government regulation or experience with this kind of mining process.

As you learned from senior staff of the federal government, Natural Resources Canada is a long way from being able to show how to manage tailings and effluents safely or even being able to say how toxic rare earth effluents are.

Quebec, Canada, Matamec, and their partner, the Toyota Tsusho Corporation, are asking our two first nations and the local Québécois population to take on risk, accepting the Matamec project in the face of considerably more uncertainty than there is with other types of mining. This is clear from the testimony that Natural Resources Canada staff has given this committee.

Our two first nations also have concerns about foreign investment in this proposed rare earth mine without our free and informed consent. Our communities and the local Québécois population are expected to take on risk while Toyota capitalizes on resources.

Natural Resources Canada staff misled the committee members regarding the degree of federal oversight. From our experience with the Kipawa deposit, the federal uranium and nuclear safety regulations will not be invoked because the ore and waste are considered naturally occurring radioactive materials in the area.

We are also concerned that the testimony from Natural Resources Canada suggests that the rare earth projects they discussed with you were supported by the affected first nations. We have had no contact with Natural Resources and cannot understand how they came to this conclusion. I'm here to provide commentary on this for Eagle Village and Wolf Lake, and we strongly encourage you to seek comments on this statement from the indigenous people affected in other projects.

From the testimony before your committee, we also see that Matamec is part of the Canadian Rare Earth Elements Network of industry and universities that are involved in promoting that Canada declare that rare earths are a strategic resource and are seeking federal funding to support the research and development of rare earths processing, which could lead to central processing facilities in Canada.

The results of our cultural and socio-economic assessments already indicate that the Matamec rare earths project will have an irreversible impact on our quality of life, our customs and traditions, and our access to and use of our traditional lands. These impacts will have to be assessed, along with the cumulative impacts from other activities in our traditional lands.

We haven't yet assessed the potential environmental impacts of the proposed Matamec rare earths project, but we know that the proposed location of the open-pit mine, the waste rock tailings, the new road construction, the processing plant, and the tailings ponds are all located close to rivers, lakes, and wetlands in several watersheds of critical importance to our communities. In addition, there will be impacts from the construction of a power line to the site from the town of Témiscaming.

Independent of our formal review process, local area residents and members of our first nations have circulated a petition against the project.

● (0935)

To date the petition has 2,809 signatures, and their efforts to oppose the project have gained the attention of local and regional media. Our two first nations strongly object to having our area considered a national sacrifice area for mining unknown toxic rare earth as a strategic resource. Neither Canada, Quebec, nor Matamec have the social licence or the free, informed consent of our two first nations for this proposed rare earth project to proceed to the development phase.

We still need a lot more technical information regarding the management of the potential environmental impacts from rare earth mining. The corporation also has a long way to go to establish trust and a positive working relationship with our two first nations.

In closing, let me emphasize that this proposed rare earth project site is in the middle of our traditional lands, and we have never experienced mining in our region, let alone something as new and unknown as rare earths. We see more potential impacts than benefits at this point to our two first nations.

We also regret that the Government of Canada and Quebec have failed to meaningfully consult our two first nations about the proposed mining rare earth projects before it advanced to the current pre-development phase. As I have already pointed out earlier, we will make our own decision whether we consent to this rare earth project mine proceeding or not on our traditional lands. It's an Algonquin process.

Thank you, *meegwetch*.

The Chair: Thank you, Chief Paul from the Algonquin Nation, Quebec Region.

We'll continue our questioning now with Ms. Moore for up to seven minutes. We're going to have to keep that on time so we can end the meeting on time and start our next one on time.

Go ahead, please, Ms. Moore.

Ms. Christine Moore (Abitibi—Témiscamingue, NDP): Thank you.

My question will be for Chief Paul. I would like to know what the main concern is for local people in your first nation. When you talk to people, what do you hear most often? Is there a difference of concern between the young and the seniors living in your community, or is it almost the same?

My second question is about the support of the federal government. Do you receive any help or support from the federal government? Do you think there are some improvements that could be made by the federal government to help first nations that have to deal with the kind of project like the one you have to deal with?

Chief Madeleine Paul: The main concerns that our people have are the potential environmental impacts that we'll have on the water, firstly, because of where it's located, the watershed that it's affecting. We don't know what these rare earths can do to the water yet. We don't have a lot of study on that. That's the main concern, but we do have a lot of other concerns, like the traditional use of the land. What is that going to be for our future generations, because it's so central to where our traditional land is? This whole project is leaving a major footprint on our territory.

For support from the federal government, there has been no support. The lack of consultation from the government is very clear, and we need resources to be able to address this because it's so unknown to us as a first nations community, let alone the Canadian government. There definitely has to be support from the federal government in this project because it's so new to Canada.

Ms. Christine Moore: Do you have some kind of idea of a precise thing that the federal government can do? Do you think you should have some kind of councillor who will help you to deal with this mine? What do you think the federal government could do to improve our relations with first nations when they have to deal with mines? Do you have some kind of idea you can propose?

Chief Madeleine Paul: What we requested in our letter to the Minister of the Environment is accepting us to be part of a joint review panel so that we can be part of the whole process of reviewing the potential impacts of this mine. This is just one example of how the government can assist first nations. We need to be part of the process.

Ms. Christine Moore: At this time I know it's not really easy, but how were you able to find information about rare earth mining? It was probably the first time you ever heard about that, when the project started. How and where did you get the information about the technical aspects of rare earth mining?

Chief Madeleine Paul: Because our resources are so limited, we have a small technical team that was able to assist us in giving us some information. MiningWatch Canada has been a tremendous help to our first nations because we knew nothing about rare earths until this project came to our attention in our territory.

● (0940)

Ms. Christine Moore: Did you receive any financial aid from the federal government to be able to do this research and get the information or to hire people to give you advice?

Chief Madeleine Paul: No, we haven't received any funds from the government. The only funds we've received were through the MOU that we signed with Matamec to address our cultural socio-economic study, the Algonquin study that we did. Those are the only funds we received.

The government has never accommodated us in any way in regard to this project, to support us financially, to even address research on it, or any concerns.

Ms. Christine Moore: How do you think that the whole process for a first nation could be improved by the federal government? How do you think first nations that have to deal with this in the future could be helped by the federal government? Do you think they need money to be able to deal with that?

Chief Madeleine Paul: Yes, for sure, because we don't have our own sources of revenue that we can use to address these situations that come to our communities.... The government could assist us financially to address the research. Going through the processes of understanding what it means is very important to any first nation in Canada. Every first nation in Canada is affected in some form by exploration, by the exploitation of resources on our territories. So it's very much needed.

Ms. Christine Moore: Do you think if you had received this help you would have been able to do the process more quickly? What I heard is that sometimes you have to find help, so it takes more time to get the information you need to find answers. Do you think getting the money would improve the process?

Chief Madeleine Paul: Sure, because when you have the financial capacity to hire the experts you need, it's going to go much faster than trying to figure it out on your own, guaranteed.

Ms. Christine Moore: Thank you so much, Chief Paul, for your answer.

The Chair: Thank you Ms. Moore.

We go now finally to Mr. Regan for up to seven minutes.

Go ahead please, sir.

Hon. Geoff Regan (Halifax West, Lib.): Thank you very much, Mr. Chairman.

I'm sorry that we have so many witnesses jammed into what really is a very small time, but I'd better get started because I only have seven minutes.

Let me ask you, Mr. Neatby, to start off with. You talked about the need for public support for what you're doing particularly in terms of capital markets and confidence in the capital markets. What do you see this as meaning? What are the issues in terms of competition for Canada with companies like those in Australia? How critical will this be? What do you see developing? Where is investment going at this point and how difficult is it for Canadian companies?

Mr. Pierre Neatby: There are two things I'd like to point out. Canada has a history of mining excellence and companies that are looking for rare earth products outside of China are looking for a culturally, politically stable country to invest in, and Canada fits that description. Some of the other projects that we're competing against, whether they be in South Africa, Kyrgyzstan.... Those countries may not be seen as being as politically stable as a Canada, or a U.S., or an Australia. So having the Canadian government make a signal to these potential investors that Canada is supportive of rare earths would help us tremendously in attracting that investment.

For example, the Australian government has made a public statement that they want to be the supplier of rare earths to Japan. That is a strong, bold statement. I don't think it's very costly to make that statement but it certainly rings in Japan in a very positive way and we'd like to see that same kind of statement from the Canadian government.

● (0945)

Hon. Geoff Regan: How important—in addition to that—would R and D support be and what do you see the key areas of research and development being?

Mr. Pierre Neatby: I think as was mentioned earlier, most of the rare earth deposits are different, with different mineralogy. Some of that mineralogy is relatively new with respect to processing rare earths. I think research and development in processing these minerals, which contain rare earths, would be very valuable in accelerating the pace of development for the Canadian rare earth industry.

I think that Canadian companies that are represented here today are spending large amounts of money in this development, but I think that the Canadian government can help in funding research that would help the whole industry accelerate and raise the level of this industry.

Hon. Geoff Regan: Thank you very much.

Professor Chakhmouradian, if you were asked to give the top three areas of research that you think need to be done or engaged in, what would they be?

Dr. Anton Chakhmouradian: Do you mean in Canada?

Hon. Geoff Regan: In relation to rare earth elements, yes.

Dr. Anton Chakhmouradian: But specifically in Canada?

Hon. Geoff Regan: Yes.

Dr. Anton Chakhmouradian: Specifically in Canada, investing in recycling is not going to work particularly efficiently just because of the low population density.

Looking into substitute materials, as they're doing in Japan, will not be a particularly efficient approach to the existing or looming shortages of rare earth elements either, just because of the current lack of expertise in Canadian academia.

Ultimately, I think the emphasis should be put on exploration. In my opinion, Canada at this point has not come up with a competitive exploration target that would place Canada on the map in terms of rare earth mining and extraction.

The problem, as I've already emphasized, is the unconventionality of the materials being proposed as a source of rare earth metals by current or active advanced projects, including Nechalacho, Strange Lake, Kipawa, and all of these projects. The type of material they're proposing as a source of rare earth metals has not demonstrated its amenability to profitable recovery of rare earth elements on a commercial basis to date.

I think the Canadian government, as well as the provincial and territorial governments, should keep investing into looking for new projects, into looking outside the box, so to speak, rather than focusing on something that's already known as a localized concentration of rare metals, including rare earth metals, across this country.

That's precisely what has been happening in the past three decades. Companies have been focusing on things that are already in existence, that are already known, as these potential rare earth deposits. I think we should start looking outside the box and start supporting research and training programs to educate the exploration community as well as the rare earth community in general about some of the intricacies and complexities involved in exploring for rare earth elements, as well as in all of the subsequent work, such as figuring out the extraction codes for rare earth metals from these types of ores.

Of course, as Pierre Neatby already emphasized, it would be extremely beneficial for Canada to look into the existing proposed rare earth resources to see if they can be processed profitably on a commercial basis. In that sense, the federal government could come up with support for these types of initiatives and sponsor, to a degree, the research involved in figuring out these technical issues.

Hon. Geoff Regan: Thank you.

Mr. Neatby, we heard from Chief Paul the fact that apparently the Government of Canada has not been in touch with her first nation at all in relation to proposed projects in that area, the Kipawa area. Is this something that you see elsewhere? I mean, I find this alarming, but what would you expect of the Government of Canada in terms of its duty to consult and accommodate? When do you think it ought to be getting involved in these projects or with these communities?

● (0950)

The Chair: Thank you, Mr. Regan.

We'll need a very brief answer, please. Go ahead, Mr. Neatby.

Mr. Pierre Neatby: Unfortunately, that's not my area of expertise. I guess we haven't faced that kind of issue in the Northwest Territories, so it's a bit out of my realm of expertise.

The Chair: Thank you and thank you to all the witnesses for what was an all too short time today. Dr. Chakhmouradian from the University of Manitoba, Mr. Neatby from Avalon Rare Metals, Dr. Schreiner from Saskatchewan Research Council, and Chief Paul from the Eagle Village First Nation, thank you to all of you. We do have your presentations translated, so we have that to refer to.

We will end this meeting, but just before we finish and go on to our next meeting, I would just like to remind all members of the briefing at 11 o'clock on the Energy Safety and Security Act. The full name is a long handle, but you know what it is, Bill C-22. I encourage you all to come, so that we're as well prepared as we can be as we go into debate and eventually receive the bill.

Again, thank you very much to all the witnesses.

This meeting is adjourned.