

**SPECIAL  
RELEASE**

INTERNATIONAL  
CHROMIUM  
DEVELOPMENT  
ASSOCIATION **icda**<sup>Cr</sup>  
# DECEMBER 22, 2020

# CANADA'S **RING OF FIRE** WHERE WE STAND AND WHAT'S UP AHEAD **ON THE ROAD TO 2027 !**

For the past 10 years, our industry has heard intermittently about Canada's Ring of Fire deposits and about the chrome ore which lies beneath the remote plains of Northern Ontario. In the spring of 2018, at our Member's Meeting in Paris, we heard from KWG, one of the companies with a goal to mine the Ring of Fire, we heard from the Marten Falls First Nation, on whose land some of the deposits are, and we heard from Natural Resources

Canada, the department of Canada's federal government in charge of handling natural resources questions.

In order to bring you the latest information on this topic and in order to paint the clearest picture possible of the road ahead for Canada's chromium industry, we've reached out to the federal government of Canada, via Natural Resources Canada, to the provincial government of Ontario, via their Ministry of Energy, Northern

Development and Mines and to Alan Coutts, CEO of Noront, who intends to produce chrome ore and ferrochrome by the end of the decade.

They've kindly agreed to answer our questions and share their views of the perspectives for Canada with ICDA Members.

*Interview compiled by*

**VICTOR CONSTANT**  
**ICDA Senior Market Analyst**



INTERNATIONAL CHROMIUM DEVELOPMENT ASSOCIATION



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

43 rue de la Chaussée d'Antin  
75009 Paris  
FRANCE

Tel. +33 (0)1 40 76 06 89  
[info@icdacr.com](mailto:info@icdacr.com)  
[www.icdacr.com](http://www.icdacr.com)

Association loi 1901  
Siret : 332 077 007 00042  
TVA : FR 02332077007  
Code APE : 8230Z

# INTERVIEWEES



## NORONT RESOURCES

Noront Resources is based in Toronto and Thunder Bay. It acquires, explores and develops mineral properties with a focus on the Ring of Fire in Northwestern Ontario.

**We explore for base and precious metals, including nickel, copper, platinum group metals, chromite, iron, titanium, vanadium, gold, and silver.**

Noront currently has three near-term development projects in Ontario :

- **Eagle's Nest**, one of the largest, undeveloped, high-grade nickel sulphide deposits in the world ;
- **Blackbird chromite discovery**, located less than 1km away from Eagle's Nest, a significant global chromite resource and part of the Ring of Fire chromite discoveries ;
- **Black Thor chromite deposit**, located 8km to the

northeast of Eagle's Nest and the largest chromite discovery in the Ring of Fire.

Noront's goal is to establish commercial production at Eagle's Nest three years following permitting, and to use the estimated \$150 to \$200 million in annual cash flow to develop our chromite assets and fund future exploration in the Ring of Fire. Noront is planning to mine this chromite and build a Ferrochrome Production Facility (FPF) to process it.



## ALAN COUTTS PRESIDENT AND CEO

**Alan Coutts was appointed President and Chief Executive Officer of Noront on October 1, 2013.**

He has more than 30 years of domestic and international experience in mining exploration, feasibility, construction and production across a broad range of commodities.

Most recently, Mr. Coutts was with Xstrata Nickel as Managing Director, Australasia based in Perth, Australia and prior to that was General Manager at Xstrata's Brunswick Mine in Canada.

He previously worked with Falconbridge where he held a variety of roles including General Manager Raglan, Chief Geologist Kidd Creek and Regional Exploration Manager for Northern Ontario.

Mr. Coutts has an Honours degree in Geology from the University of Alberta and Professional Geoscientist (P.Geo) status in the province of Ontario.

# Canada

## NATURAL RESOURCES

**Natural Resources Canada develops policies and programs that enhance the contribution of the natural resources sector to the economy, improve the quality of life for all Canadians and conduct innovative science in facilities across Canada to generate ideas and transfer technologies.**

We are an established leader in the fields of : energy sources and distribution, forests and forestry, minerals and mining, earth sciences, energy efficiency, science and data.

**We also represent Canada** at the international level to meet the country's global commitments related to the sustainable development of natural resources.



# Ontario

## MINISTRY OF ENERGY, NORTHERN DEVELOPMENT AND MINES

**Northern Ontario makes up about 90% of Ontario, and is bigger than most provinces.**

In this rugged and varied land, you'll find everything from towns and cities to farmland and forest to muskeg and rock.

Only the most remote parts of the province are not linked by permanent roads or Internet service.

The Ministry of Energy, Northern Development and Mines advocates on behalf of Ontario's northern

region, as well as on behalf of the province's minerals industry.

**We deliver government programs and services in Northern Ontario and represent the interests of our partners and stakeholders at Queen's Park.**

## INTERVIEW



**Natural Resources  
Canada  
(NR Canada)**

**Ontario Ministry  
of Energy Northern  
Development &  
Mines (ENDM)**

**Alan Coutts  
Noront**

**1 There has been talk of extracting chrome ore and producing ferrochrome in Canada for at least 15 years, with some headway seemingly made in the past few years. Can you tell us where the valorisation projects for Canada's chrome resources stand today? How many companies are set to exploit chrome resources in the Ring of Fire? What is the government's approach to organizing and supporting these exploitation efforts?**

### **NR Canada**

Minerals, metals and other natural resources are owned and managed by the government of the province or territory where they are located.

Each jurisdiction has its own mining, environmental, and occupational health and safety legislation. Direct federal involvement in the regulation of mining operations is limited in scope.

For example, it includes but is not limited to : fish and fish habitat protection, species at risk, migratory birds, transboundary issues, navigable water, indigenous

consultations, broader regulatory responsibilities on federal land, uranium in the context of the nuclear fuel cycle, from exploration through to its final disposal, including both reactor and mine waste

The timeline to develop, build and successfully ramp up these projects depends on many factors (financial, social, environmental) external to the government.



### **Ontario Ministry of Energy, Northern Development & Mines**

Noront Resources holds approximately 50% of the claims in the Ring of Fire covering an area comparable in size to the Sudbury Basin, including 22 of the 26 significant mineral discoveries, 7 of the 9 NI 43-101 compliant resources and 2 of 2 positive feasibility stage projects.

Noront plans to leverage the successful development of the Eagle's Nest nickel-copper-platinum group mineral mine and

infrastructure to support the development of the nearby Blackbird Cr deposit.

Noront has established a Master Services Agreement with Hatch to support development of the Cr business.

Noront announced in 2019 that they have partnered with Algoma Steel on the use of a brownfield site in Sault-Ste. Marie Ontario to explore development of a FeCr Production Facility.

Noront proposes a 2 stage approach to development of Cr in the Ring of Fire.

- Firstly, developing Blackbird with modest penetration of the US market.
- Secondly, major scale mining and smelter development when the market warrants, including mining the Black Thor and / or Big Daddy resources with sales into Europe and Asia alongside the previously established North American market.

In 2014 Ontario committed CAN \$1 billion to support development of Ring of Fire infrastructure.

In 2020 Ontario, Webequie and Marten Falls agreed to work together to advance

**« In 2014 Ontario committed CAN \$1 billion to support development of Ring of Fire infrastructure. »**

a proposed Northern Road Link to connect the Ring of Fire to provincial highway system and rail access near Aroland First Nation / Nakina area. Marten Falls First Nation and Webequie are co-proponents for the Environmental Assessment process for this proposed development.

### **Alan Coutts, Noront**

The reason we've all heard about the Ring of Fire is because of the incredible amount of high-grade chrome (Cr) ores that were discovered there between 2008-2012, which is when most of the discoveries were made.

Noront made some of the discoveries and other companies (Spider Resources, KWG) made some other discoveries in the area. Very quickly this picture emerged where there was roughly about 200 Mt of high-grade Cr ore, which is a substantial amount of

resources, and, if you add in the inferred tonnages, you'd be over 250 Mt of +30% Cr<sub>2</sub>O<sub>3</sub> ore.

This is very exciting of course but the key enabler to developing the Ring of Fire is to have infrastructure developed.

A lot of exploration work was done and some very high-grade nickel (Ni) deposits were discovered as well as some copper-zinc deposits and some gold, so there's a little bit of everything in this mineral district but there's no road access and the nearest railway and paved roads are about 300 km away.

***So, until that infrastructure's in place, you're not going to see the development of these resources and their reaching the markets.***

In about 2015, Noront, who has Ni deposits in the area as well as a nice Cr deposit and who has been very bullish on the Ring of Fire, bought out the largest player at the time, Cliffs Natural Resources, and consolidated the whole region and most of the Ni and Cr resources.



The infrastructure itself is complicated because the Ring of Fire is in a remote part of Northern Ontario, in quite swampy and boggy terrain which makes things costly and complicated from an engineering point of view. It's also on the traditional lands of a number of different Canadian First Nation communities.

Taking all this into account, making this work meant finding the financing, the engineering savvy, and the willingness and participation of the First Nation communities, to bring this infrastructure in the area to serve not only the development of the mining district but also to serve the communities themselves.

That's why it's taken such a long time to get to where we are right now.

**2 We understand that, in Canada, mineral resources are managed by provincial governments. Is the provincial government on the same page as the federal government regarding the development of the Ring of Fire ?**

## **NR Canada**

The federal government collaborates with provincial governments on a range of issues, including the development of mineral resources.

This particular file is wholly within provincial and territorial jurisdiction, except as mentioned above. With respect to the Ring of Fire,

***the federal government recognizes that the advancement of the project must take place in partnership with all affected Indigenous groups.***

In order to help improve the socio-conditions of local Indigenous communities in the Ring of Fire region,

***« The Government of Canada has invested over \$150 million since 2011 in housing, health, skills development, training, and environmental monitoring. »***

The federal government continues to support the province's efforts to sustainably develop the region in collaboration with local Indigenous communities.

The Government of Canada recognizes that the Ring of Fire holds important economic opportunities for Northern Ontario.

We look forward to continuing to work with the province of Ontario, and all affected First Nations on how to move forward on these issues.

## **ENDM**

Both the federal and provincial governments recognize the value the Ring of Fire represents.

It is a major economic opportunity to create jobs, generate revenue, build infrastructure and bring economic opportunity to communities across the north, including First Nation communities. ►►►

## CONTRIBUTIONS TO ONTARIO'S ECONOMY

The Ontario Chamber of Commerce released a report in 2014 which estimated that within the first 10 years of its development the Ring of Fire would make significant contributions to Ontario's economy

**CAN \$**

9.4 billion  
6.2 billion  
nearly 2 billion

- ▶ GDP
- ▶ Ontario's mining industry
- ▶ Government revenue, divided between the federal, provincial and municipal governments.

**JOBS**

sustain up to  
5,500

- ▶ jobs annually (full time equivalents)

## ECONOMIC ACTIVITY ACROSS NUMEROUS SECTORS

Further the Chamber reported that within the first 32 years of its development, the Ring of Fire would generate more than CAN\$25 billion in economic activity across numerous sectors in Ontario, of which mining is just one. Breakdown included :

**CAN \$**

2.7 billion  
1.2 billion  
600 million  
500 million

- ▶ the financial services sector
- ▶ the wholesale and retail trade sectors
- ▶ the manufacturing sector
- ▶ for utilities sector

## GOVERNMENT TAX REVENUES

They anticipate that the Ring of Fire would also generate an estimated CAN \$6.7 billion in government tax revenues over the first 32 years of its development.

**CAN \$**

6.7 billion

- ▶ government tax revenues over the first 32 years of its development

**3** What are the current estimated chrome ore reserves and resources in Canada? Of which, how much are in Ring of Fire area?

**NR Canada**

The chromite resources in Canada are almost entirely located in the Ring of Fire in Northern Ontario. There are roughly 20 projects, half of which are active. In the Ring of Fire, there is an estimated 201 Mt of measured and indicated resources at 32% chromium oxide (Cr<sub>2</sub>O<sub>3</sub>) and 142 Mt of contained inferred resources at 33% Cr<sub>2</sub>O<sub>3</sub>.

**ENDM**

At this time there are no known significant Cr ore reserves or resources in Canada outside of the Ring of Fire.

The following values were in published NI 43-101 reports submitted to the Ontario Securities Commission. ▶▶▶

**A. Coutts, Noront**

There are no significant Cr resources outside the Ring of Fire. There are some historic past producers, but quite small with the remaining resources. In the Ring of Fire itself, Noront has a resource of about 247 Mt of measured, indicated and inferred resources, the bulk of which being measured and indicated (193 Mt) and mostly in the Black Thor, Blackbird and Big Daddy deposits which are all within about 8 or 10 km of each other.

## CHROMITE DEPOSITS IN THE RING OF FIRE

### Blackbird Chromite Resource

	Tonnes (millions)	Cr <sub>2</sub> O <sub>3</sub> (%)	Cr Fe
Measured	9.29	37.44	2
Indicated	11.17	34.36	1.95
Measured & Indicated	20.46	35.76	1.97
Inferred	23.48	33.14	1.97

### Black Thor Mineral Resource

	Tonnes (millions)	Cr <sub>2</sub> O <sub>3</sub> (%)
Measured	107.6	32.2
Indicated	30.2	28.9
Measured & Indicated	137.7	31.5
Inferred	26.8	29.3

### Black Label Mineral Resource

	Tonnes (millions)	Cr <sub>2</sub> O <sub>3</sub> (%)
Measured	-	-
Indicated	5.4	25.3
Measured & Indicated	5.4	25.3
Inferred	0.9	22.8

### Big Daddy Mineral Resource

	Tonnes (millions)	Cr <sub>2</sub> O <sub>3</sub> (%)
Measured	23.3	32.1
Indicated	5.8	30.1
Measured & Indicated	29.1	31.7
Inferred	3.4	28.1

### Black Horse

	Tonnes (millions)	Cr <sub>2</sub> O <sub>3</sub> (%)
Inferred	85.9	33.1
<b>TOTAL</b>	<b>343.455</b>	

## 4 What are the specifications of Canadian chrome ore ?

### ENDM

The grades in the Ring of Fire are comparable to some of the most valuable Cr mining deposits in the world. They demonstrate remarkable continuity, volume, orientation and size. The deposits are at or near surface and the Cr to Fe ratios are favourable.

A Blackbird chromite NI-43-101 resource estimate, completed in March 2012, showed a 44 Mt resource with grades in excess of 35% Cr<sub>2</sub>O<sub>3</sub>, and Cr to Fe ratios of approximately 2.0. In addition, the chromite mineralization at Blackbird remains open along strike and at depth.

Initial metallurgical test results indicate that a marketable high-grade chromite concentrate product with grades in excess of 50% Cr<sub>2</sub>O<sub>3</sub>, recoveries greater than 80%, and Cr to Fe ratios greater 2.1 could be produced at Blackbird.

### A. Coutts, Noront

The attractive thing about these deposits, from a geological point of view, is that they're very thick

and homogenous deposits. Black Thor for example averages over 80 m in true thickness.

This, added to the fact that the deposit is a large continuous lens, is very attractive from a mining point of view.

The ore grades average around 35% Cr<sub>2</sub>O<sub>3</sub>, so very good grades on average. In some cases what we will try to do is selectively mine some of these massive resources to produce ore products which are in excess of 40% Cr<sub>2</sub>O<sub>3</sub>.



We're looking at very high grades with good Cr to Fe ratios (2 to 1) and very amenable and good silica ratios.

We've done a lot of test work and we can produce a high-grade HC FeCr product at about 58-59% Cr, which speaks to the quality of the materials there.

## 5 In parallel to the extraction of ore, there are discussions of building ferrochrome smelters in Ontario, more specifically in Sault-Ste Marie, which would position them strategically close to the US border and on the Great Lakes. Can you tell us more about the smelter projects ? Does Noront plan on favoring beneficiation in Canada ? Does the government encourage this ?

### NRCanada

Site decisions are driven primarily by markets, economics, environmental factors, proximity to customers, and community support. Beneficiation in Canada may increase socioeconomic benefits and facilitate downstream use in North America. Access to markets, competitive costs, and capital efficiency are key considerations for mining companies and capital suppliers.

Canada and the United States are working together to address concerns about the supply of critical minerals.

*Cr was among the critical minerals identified by the United States*



which relies on stainless steel scrap and imported FeCr to supply Cr units used to manufacture stainless steels and alloy steels.

## **ENDM**

Ontario believes that the chromium deposits in the Ring of Fire are globally significant and that they warrant value added beneficiation for both Ontario and Canada.

FeCr is essentially an intermediate steel product and existing industry and infrastructure near the Great Lakes as well as Ontario's private sector experience and expertise in mining, smelting and refining will allow.

Noront Resources has proposed building this FeCr smelter in Sault-Ste. Marie, Ontario.

### **A. Coutts, Noront**

Noront's vision is not to take on the whole world of FeCr and Cr all at once.

We want to start quite modestly.

As you know, you have to demonstrate the quality of your products, you have to find customers, you have to earn your acceptance in this marketplace, so our intent is to start modestly. We have the Blackbird Cr ore deposit which is about 500 m away from the

Ni deposit we plan to develop, so this makes, in our mind, a good natural first step as we can share the infrastructure of the Ni mine and the Cr mine, which helps with the capital cost of the mine itself.

We would develop the mine and produce maybe 750 Kt/y of ore with a view of turning that into about 280 Kt/y of FeCr.

***Our idea is to provide that 280 Kt/y to the US market.***

That would represent maybe half of the domestic need of the US market, as it's a pretty small market (5-6% of the world market), but it's where we would have a competitive advantage.

If we can produce that FeCr on the Great Lakes, that's our plan, then we can float that to Chicago and to the inland canal systems and feed that FeCr product into the Northeastern United States where most of the specialty steel plants are.

Our idea is to try to get half of that domestic market in the US, be competitive because we're so close by, and compete on the marketplace with charge Cr from South Africa and HC FeCr from Kazakhstan.

Once we've established ourselves as a good, high-quality, and trustworthy producer in that marketplace, then we'll start thinking about European markets, Asian markets, etc.

One thing we don't want to do is we don't want to be producers of lumpy or concentrate that we will export to China.

The Government of Ontario and the Government of Canada are putting a lot of money into developing the infrastructure, we're talking probably around CAN\$1 billion when it's all said and done, to develop this mining district and what they'd really like to see is all that value-added uplift of taking the Cr ores to FeCr in the province of Ontario.

***For that reason, we've made plans to not only mine the deposits but also to construct a FeCr production facility on Great Lakes water in Ontario to produce the FeCr product to serve the US.***

That's our vision. We would make that FeCr production facility scalable so that we could double it in size if warranted if we

wanted to move in the European or Asian markets later. In the short term it's a modest approach to getting established in the US market and providing FeCr there.

## 6 How much chrome ore do you expect to produce annually at the start of extraction and in the longer run ?

### ENDM

Noront Resources is currently preparing a 2020 Blackbird Cr Deposit and FeCr Production Facility Preliminary Economic Assessment which will detail annual production and extraction targets.

The amount of Cr ore, FeCr and refined Cr Ontario produces will be determined by the mining companies operating in the area.

Market forces, supply and demand fundamentals for example, as well as preferred mining methods, mining rates and feasibility work will help the mining companies determine initial production rates as well as any future opportunities to increase the scale of the operations.

### A. Coutts, Noront

We would develop the Black-

bird mine first and produce maybe 750 Kt/y of ore with a view of turning that into about 280 Kt/y of FeCr.

## 7 What's your ideal time frame for this project to come into play ?

### A. Coutts, Noront

We've recently announced a new deal in the marketplace, Noront now has new major shareholder which is an Australian company called Wyloo Metals.

They're one of the biggest investment funds in Australia and they've taken a cornerstone position in Noront with this long-term view of developing the Ni deposits and subsequently the other deposits in the Ring of Fire. Our timelines depend upon the road permitting, and I'll go into a little bit of detail about that.

Traditionally the mining company is asked to be the proponent or the champion of the environmental assessments of not only the mines but also the access infrastructure (the roads).

That was the way our permitting started, the government asked us to do the environmental assessment on that 300 km road.

Upon further discussions with the province of Ontario we said: "if you, as a province, are going to bankroll the construction of the road into the region because you want all these mines developed and the economic uplift, does that make sense for us to be the proponents of the environmental assessment?" and then jointly we discussed the fact that maybe a better outcome would be if the First Nations themselves did the environmental assessment.

It's their traditional lands, we want to make sure they're on board and supportive, we want to make sure it's done to their satisfaction.

What happened is, along with the government, Noront pulled back out of that process, the government funded the First Nations, to the tune of CAN\$60 million, and they are doing the environmental assessments on the roadway.

This has been going on for about a year and half now,

***it will probably take another two years to complete and have all the environmental permits in place,***

and then at that point in time the construction of the road can start.

The construction itself will probably take two to two and a half years depending on how it gets started.

Long story short, there will be a road into the Ring of Fire that can haul the industrial ores to the railhead within a timeframe of five years.

After the next two years, Noront is really going to be starting to think about how to raise this project financing, to complete feasibility studies and environmental assessments and be ready to go when that road arrives.

Our plans are to build first the Ni deposit and very soon afterwards to build that first Cr deposit because, as I mentioned, it's within 500 m and can share the infrastructure.

When we look at our timeline,

***we're thinking production of Cr ores within seven years from now, so 2027***

and that would give us time to permit and build that FeCr facility in Sault-Ste Marie, which is the town on Great Lakes water which we've chosen to be the site of our FeCr plant.

**8 Do you believe that Canada could play a role as a chrome ore exporter to China in the light of current issues in South Africa ? Which market will Canada be looking at ? International export, domestic market or mostly regional in the Americas ?**

### **NR Canada**

Other than creating opportunities through the negotiation of tariff free access to markets, the federal government does not direct exports by companies.



### **ENDM**

Ontario's mineral sector is globally integrated from mineral exploration and mine financing right through to mining and mineral processing.

Mining companies in Ontario enjoy access to a broad range of global markets. International mining companies also enjoy access to Ontario

manufacturers in Ontario's steel sector for example. FeCr is not the only product that comes from Cr mining.

***Pure Cr is a key ingredient in specialty metals and particularly in the nickel super alloys sector.***

Ontario and Canada are already key suppliers of the premium nickel and cobalt products required for super alloys and specialty metals for manufacturers of aerospace components throughout the world as an example.

Cr from Ontario may be a natural fit and compliment the provinces nickel and cobalt mining and refining sector.

### **A. Coutts, Noront**

There's always that possibility depending on the economics.

***Digging up Cr ore, then bringing it by truck to the railhead and then railing it across the nation to Vancouver to be shipped to China is not, in our minds, a great business.***

It can be a good business at certain points in the cycle, at

certain high pricing points for lumpy and concentrate, but it's not a great business throughout the cycle so we see this idea of producing the FeCr in Canada as a better business model but that's not to say we won't be opportunistic in that area.

***The other thing that's been gaining interest is that The United States put Cr on their list of 35 critical materials,***

and we've had conversations with the Americans, through the auspices of our Canadian federal government, and we're talking with them about how to cooperate on these supply chains of minerals from Canada and value-added products like FeCr going to the US to ensure this secure supply chain which America seems to value so much these days.

The Americans are looking for these secure supplies from friendly nations because of the fact that they are worried about certain countries, China for example, having dominance and monopolies over certain commodities.

It's something we're very cognizant of, and we want to make sure that if the real

opportunity for us is in the US then we are focused on that and we're not doing anything to undermine that relationship.

**9 We understand that one of the main difficulties with beginning operations in the Ring of Fire area is access.**

**Can you please tell us what is being done to overcome this challenge and what the main hurdles to chrome ore extraction, whether technical or political, including local communities, are in Canada today ?**

### **NR Canada**

Infrastructure development is a key obstacle to resource development in the Ring of Fire, given that mineral development activities in the area will require multiple infrastructure projects (e.g. roads, airports, power) over many years.

Natural Resources Canada's Rare Earth Element and Chromite research and development initiative, a CAN\$23 million, six-year collaborative research program, which started in 2015–2016, supports the stimulation of the technological innovation needed to

separate and develop rare earth elements and Cr.

About two-thirds of funding targets rare earth elements, and the balance targets Cr.

This initiative supports an innovative "Made in Canada" approach to produce FeCr from Ring of Fire chromite, using less energy-intensive, less emissions-intensive, and lower-cost technologies.



In February 2020, the Minister of Environment and Climate Change Canada agreed to carry out a Regional Assessment in the Ring of Fire area under the federal Impact Assessment Act.

## ENDM

Ontario committed  
CAN \$1 billion to support  
development of Ring of Fire  
infrastructure.  
**2014**

Ontario, Webequie and Marten Falls  
agreed to work together to advance  
a proposed Northern Road Link to  
connect the Ring of Fire to provincial  
highway system and rail access  
near Aroland First Nation / Nakina  
area. Marten Falls First Nation and  
Webequie are co-proponents for the  
Environmental Assessment process  
for this proposed development.  
**2020**

**2018**

Webequie and Marten Falls First Nations  
as proponents for their respective  
proposed road projects, initiated  
Environmental Assessment processes for  
a Webequie Supply Road and a Marten  
Falls Community Access Road.

### ***Main challenges to development in the Ring of Fire stem from First Nation community social issues and capacity challenges.***

Ontario is supporting First Nations through individual agreements that address individual community priorities such as all-season roads, economic development opportunities, community readiness, and cultural and environmental studies.

In doing so, Ontario is enabling First Nation readiness to participate

in Ring of Fire activities. Ontario is supporting Marten Falls and Webequie as Environmental Assessment proponents for these road initiatives.

Marten Falls and Webequie First Nations are both in year 3 of a co-ordinated federal/provincial Environmental Assessment process for both their respective all-season road projects.

Both projects have submitted their provincial Terms of Reference for review and approval to MECP. The EA phase will begin after the respective Terms

of Reference are approved. The federal process is already underway for each project, with the release of the Tailored Impact Statement Guidelines in Feb 2020.

Proponents now have until February 2023 to complete an Impact Assessment Report.

The two First Nations have now come together to become co-proponents for environmental assessment for the Northern Road Link which when complete would inform decisions on advancing an all-season road to the proposed Ring of Fire developments.

**« Noront has selected the Algoma Steel Inc. brownfield site in Sault-Ste. Marie as home to their proposed Ferrochrome Production Facility (FPF). »**

The selection process for the site examined critical factors including environmental and site suitability, capital costs, operating costs and an assessment of community acceptance for hosting the facility.

Noront anticipates a lengthy and comprehensive FPF environmental permitting process which will allow the Company to engage with the citizens of Sault-Ste. Marie and other stakeholders including environmental groups and First Nations.

### **A. Coutts, Noront**

A lot of the hurdles are in the process of becoming overcome, we do have this approach with the First Nations to do this environmental assessment, we do have the government of Ontario committed to putting infrastructure into the region that will be shared with the communities and with the mining companies. The government of Ontario

would like to see the federal government contribute to financing this infrastructure, so that's always an ongoing dialogue between the province and the federal government that has to come to pass because, as I mentioned, you're talking about CAN\$1 billion to get this infrastructure in place.

How you involve the communities in the ongoing operations, and how they participate, and the jobs and businesses you can create is always something that you want to have as an outcome, so we're working on some of those issues. There is some opposition to building a smelter, it's unavoidable in a sense. Even in places where you have a history of steelmaking, like in Sault-Ste Marie,

***people are concerned about emissions, they're worried about their health, so you've got to do a lot of work in Canada to help people to understand, to have rigorous environmental assessments and provide information so that people feel comfortable with these businesses operating in these communities.***

That's all part of doing resource projects in the 21st century.

Those are some of the concerns and some of the issues. I think they're all manageable, but they take time, they take effort, and you have to be very good and responsible in your approach in order to get them done.

We've conducted a process around the site of the FeCr plant and we had four cities bidding to be the site of it. One of the reasons we liked Sault-Ste Marie was because it was on water.

There are other communities that want the plant and the associated employment because we're talking about a 100-year operation, it's a big keystone industrial development for some of these communities, but there's always some opposition that has to be dealt with, so that's always a bit of a challenge.

Money is always a challenge. Developing a Ni project like we're doing is quite understandable, the market's well understood, the need for Ni in batteries, electric vehicles, etc. is very well understood as well and is driving the market.

***The Cr market is much less understood, it's much more opaque and harder to get a grasp on,***

so that's one of our challenges as well: to educate people, to help them understand.

We have people that are unaware that all stainless steel has a significant amount of Cr in it, and things they depend on every day and use every day in their kitchens and hospitals, etc. rely on the production of Cr.

***« We need these metals in our modern lives »***

and that's a big communication effort, to let people see that all the things they have in their lives depend on mining and producing products such as Cr ore and FeCr.

The World Bank did some studies on what metals and materials will be needed for a decarbonized future. There are the obvious ones like Ni, Li, etc. but Cr was right up there because Cr and its use in stainless steel is pivotal to all sorts of things like the renewables, wind

turbines, solar cells, you name it, it's a critical metal to enable a decarbonized future through its use in stainless steel. That's a great message to put out there and we're doing our best to do that.

I'm very excited about this, the next step for us would be to publish the PEA. We find that there's not a lot of public information out about our deposits and our plants and processes. Cliff's had done a full feasibility study on the Black Thor deposit and spent over CAN\$100 million on that.

We have all that information but Black Thor will not be the first deposit we develop, the nearby Blackbird deposit will be.

There's a lot of information you can read across from the studies that were done by Cliff's to Blackbird, but they're not identical deposits. What we're doing is we're working with Hatch and others and we're putting together a preliminary economic assessment which will deal with a lot of the questions around approach, resources, how we mine this and some of the underpinnings of the economics.

We plan to put out that report into the public

domain and file it by the end of 2021. I think that will get a lot of the details and a lot of the background information (metallurgical test works, etc.) that's been done on these projects into the public domain and give people a lot more understanding and a lot more comfort about what's going on with the Noront projects.

**10 To which extent will this project benefit the local communities and what will be done to safeguard the natural environment ?**

### **NR Canada**

Canada's mining industry is a source of well-paid, middle class jobs in Canada's rural, remote and northern communities.

***The Ring of Fire region holds significant economic opportunities for Indigenous peoples and local communities in Northern Ontario.***

The Webequie and Marten Falls First Nations initiated provincial environmental assessments in 2018, on sections of road crossing their traditional territories. In 2019, Ontario upgraded a section of Highway 643

from Nakina to Aroland. In March 2020, Ontario and the Webequie and Marten Falls First Nations signed a Memorandum of Agreement to upgrade an existing Aroland forestry road.

Environmental assessments entail extensive engagement with other First Nations, governments, and stakeholders, and inform a federal regional assessment.

With respect to safeguarding the natural environment, the aforementioned federal regional assessment will allow the federal government to better understand the regional context of development in order to plan for and manage potential cumulative effects, and to inform future project-specific impact assessment decisions.

It will carry out this work in collaboration with local First Nations, and incorporate valuable traditional Indigenous knowledge into the study of work, providing a comprehensive collection of traditional and scientific data to facilitate responsible development including for natural resources.

## ENDM

***Environmental Assessments will examine all potential impacts related to each project***

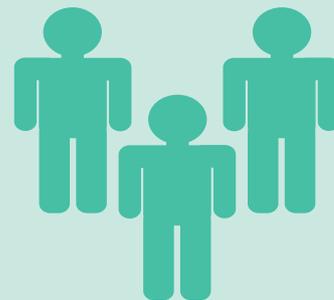
and will make every effort to mitigate those impacts through planning, design and monitoring activities.

A road to the Ring of Fire is a critical step to unlocking economic benefits in the region. This First Nation led corridor to prosperity will create reliable, all-season access that will benefit surrounding Indigenous communities by providing all-season links to Ontario's provincial highway network.

***Road access also creates opportunities to improve access to health services, economic opportunities and jobs, which contribute to the well-being of First Nation and other communities nearby.***

There is also currently a First Nation led communication infrastructure project, proposed to link 5 remote First Nation communities

to broadband internet access.



Ontario is working with First Nations interested in advancing development opportunities through individual agreements that help address individual community priorities such as all-season roads, economic development opportunities, community readiness, and cultural and environmental studies.

Given the current COVID-19 outbreak, we are moving forward with our First Nation partners in ways that are sensitive to the issues and challenges being faced by communities.

Additionally, Noront Resources has entered into Exploration Benefit Agreements with Marten Falls and Aroland First Nations which offer communities shares of the company and representation at the Board of Directors.

Discussions between Noront and Webequie First Nation are in process. The company realizes that First Nation

participation is an ingredient to Ring of Fire development progressing.

## A. Coutts, Noront

When we first started talking to the local indigenous, First Nation, communities in the area, they had a lot of concerns. They were concerned about big scale open pits, scars on the environment and big waste rock piles, tailings issues (everyone had heard about high profile tailings dam failures); they were worried about the quality of water in their region.

They had a whole bunch of concerns, so Noront listened to that and we went back to the drawing board and we redesigned our thoughts around how to develop these projects. In the end, because we got such massive high-grade resources, we thought the best approach would be to mine it all underground. Instead of having a big open pit,

***we can afford to have a bulk underground mining project, so we can eliminate big waste rock piles, big open pits and we can shrink the footprint down substantially***

Also, as we feel that we can mine a very high-grade, selective, product, we don't feel that we have to do any upgrading on the site, so we won't have a mill or any upgrading at the mine site in the Ring of Fire itself.

We will produce somewhere around a 38% or 40% Cr<sub>2</sub>O<sub>3</sub> ore and truck that down to Sault-Ste Marie, and we might do a little bit of upgrading there but it's already almost good enough to feed into the FeCr plant. I think that approach makes a lot of people happier.

The other thing is if you're in a swampy terrain, like what we're dealing with in the Ring of Fire, and you open up a really big open pit, what happens is you just flood that with water, you fill up that pit, so you're always pumping and treating water and putting it back out into the environment, and that was kind of one of the fundamental things that the communities didn't want as they were worried about the water.

***The underground approach therefore makes a lot of sense and we get a lot of buy-ins from the communities around this. This is one of the approaches on the mining side.***

On the FeCr side it's a big project. We're talking maybe only CAN\$200 million to do the first mine (Blackbird), but we're talking CAN\$1.25 billion to do the first phase of the FeCr plant in Sault-Ste Marie. Hatch, a Canadian engineering firm with lots of experience in this area, is our partner.

To build that plant, we'd take the best-in-class technology available today, DC electric arc furnaces, and we'd recycle some of the off-gasses, using some of the CO to preheat the ores to reduce the amount of greenhouse gas emissions.

# CO<sub>2</sub>

We think we can probably do this with all of these aspects and the fact that Ontario has no coal-generated power, it's all hydro or nuclear, so very very clean power.

We believe the overall footprint per tonne of FeCr would be maybe 30% of our competitors' in Asia.

You're smelting ores so you're going to have some emissions but we think we can have much lower rates and a more sustainable outcome that way.



We're thinking about this a lot because the world is changing, the sensitivity to projects and the importance of diminishing greenhouse gas emissions is there and we pay a lot of attention to that.

**11 Do you believe that Canada could play a significant role in an oversupplied but currently uncertain and disrupted chromium market and build up its position as a chrome ore exporter ?**

#### **NRCanada**

A substantial amount (roughly 500 Kt/y) of FeCr imports to North America flow directly or indirectly to the United States. Efforts to diversify the American FeCr supply present possible beneficial effects for Canada.

#### **ENDM**

Ontario is a stable jurisdiction. The deposits in the Ring of Fire are also globally significant

in terms of grade and size and they are the only viable potential source in North America. Currently the only two sources of FeCr in North America are through imports and recycling.

Cr has also been identified by jurisdictions as a critical mineral. In the U.S., Japan and Korea for example.

***It is not uncommon for markets to be oversupplied for metals at various times.***

Copper, nickel, zinc aluminum and iron ore for example, all experience periods of time where there is oversupply as well as periods of time where there is a deficit.

In the case of FeCr, there is a strong correlation with growth for demand in stainless steel and growth in GDP and historical data would suggest that it is just a matter of time before excess supply and disrupted markets come back in line with other market forces.

**12 There's been previous excitement about the Ring of Fire without much concrete results. Are you optimistic on the timelines and objectives we've discussed ?**

#### **A. Coutts, Noront**

I think I'm realistic, it seems that a five-year time frame to do environmental assessments and build a gravel road is extensive but that's the way it is.

We believe that this is a very workable time frame and because the environmental assessments are well under way there has been a little bit of road upgrading of existing forestry roads that's been completed already and because the provincial government is very supportive of these projects,

***« I do feel confident that these roads will happen. »***

Some of the other uncertainties : what's the price of FeCr going to be long term ?

These are some of the concerns that affect the fundamentals of these projects more I would say.

Those are the fundamentals and when you're talking about putting billions into these projects, having a confident long-term view on the price of FeCr and Cr is essential and that's a bit of an uncertainty we'll have to get some comfort around.



