

Ontario's Ring of Fire An Overview



Ministry of Northern Development and Mines
Ring of Fire Secretariat

September 17th, 2014

Ring of Fire

- The Ring of Fire is one of the most promising mineral development opportunities in Ontario in almost a century.
- Currently no infrastructure linking the region to existing roads, rail or electricity, making economic development expensive.
- Ring of Fire developments would support new infrastructure and job opportunities for not only the remote First Nations communities in the area, but for all of the North.



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Ring of Fire Opportunity

- The Ring of Fire is a geologically rich area of mineral deposits in Ontario's Far North. 20 companies currently hold claims in the Ring of Fire belt.
- Located about 535 km northeast of Thunder Bay, exploration to date indicates that it holds significant deposits of minerals including chromite, nickel, copper, vanadium, platinum group metals and gold, among others.
 - *Chromite*: It is estimated that the Ring of Fire could hold one of the richest chromite deposits in the world. It is not currently mined in North America. Chromite is the key ingredient in stainless steel. It has no substitute. It has been identified as a strategic mineral by countries such as the United States, given its importance in building infrastructure and defense materials.
 - *Nickel*: The Ring of Fire is also estimated to contain significant deposits of nickel. In 2012, nickel was the 3rd leading mineral produced in Ontario, supporting about 5,600 direct jobs across the Province. Nickel is a huge economic driver to the city of Sudbury, which is home to the Province's two largest producers of nickel: Glencore and Vale.
- Chromite and nickel deposits alone have a potential value of \$60B with a 30 year mine life. Given the volume of the deposits, it is estimated that the Ring of Fire could support mining operations for more than a century.

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Potential Economic Impact

The Ontario Chamber of Commerce released [Beneath the Surface: Uncovering the Economic Potential of Ontario's Ring of Fire \(Feb. 2014\)](#).

This report estimates the economic potential of the region.
 ".....within the first 10 years of its development, the Ring of Fire will make significant contributions to Ontario's economy, and will:

- generate up to \$9.4 billion in Gross Domestic Product (GDP);
- generate up to \$6.2 billion for Ontario's mining industry;
- sustain up to 5,500 jobs annually (full time equivalents); and
- generate nearly \$2 billion in government revenue ...” (*all levels of government*).

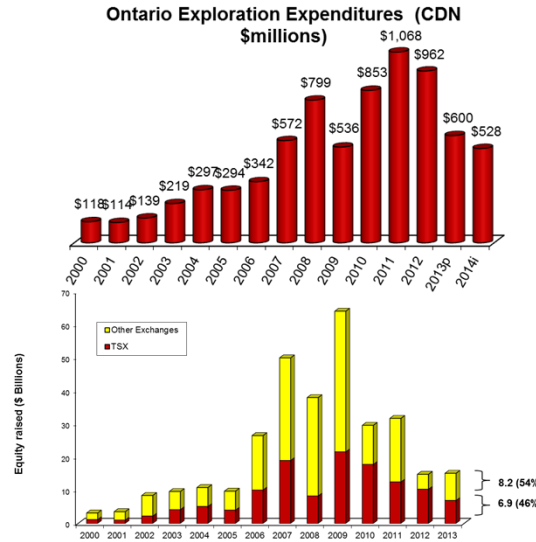
This independent report confirms the economic opportunity that Ring of Fire developments offer.

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Current Industry Context

- Demand for base metals and iron ore has decreased with slower growth rate in China and other BRIC countries
- Investment capital has become increasingly scarce
- Exploration investment in Ontario, Canada and the world has decreased over the past few years.



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Ring of Fire Vision



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Key Commitments

- Ontario is committed to supporting these developments while ensuring that development moves forward in a socially and environmentally sustainable manner and is respectful of Aboriginal and treaty rights.
- In May, 2012, Ontario committed to supporting infrastructure development into the Ring of Fire, and to a First Nations' Framework that focussed on participation and benefits from development, through a community-based approach, including:
 - Socio-economic and community supports
 - Regional infrastructure planning
 - Regional environmental monitoring; and
 - Resource revenue sharing
- In March 2013, Chiefs of the Matawa Tribal Council met with the Premier and requested a community-based regional process of negotiation.
 - Negotiations commenced in July 2013 and are led by Bob Rae for the Matawa Chiefs and Frank Iacobucci for Ontario.
- In Nov. 2013, Ontario announced intent to establish a Development Corporation (DevCo) to facilitate development of infrastructure in the Ring of Fire Region.
 - Ontario re-iterated its commitment to a significant investment in infrastructure that would be delivered through the DevCo.
- In Feb, 2014, Deloitte was announced as the successful candidate to act as a neutral third party resource for all partners in establishing the DevCo and an approach for an infrastructure report.

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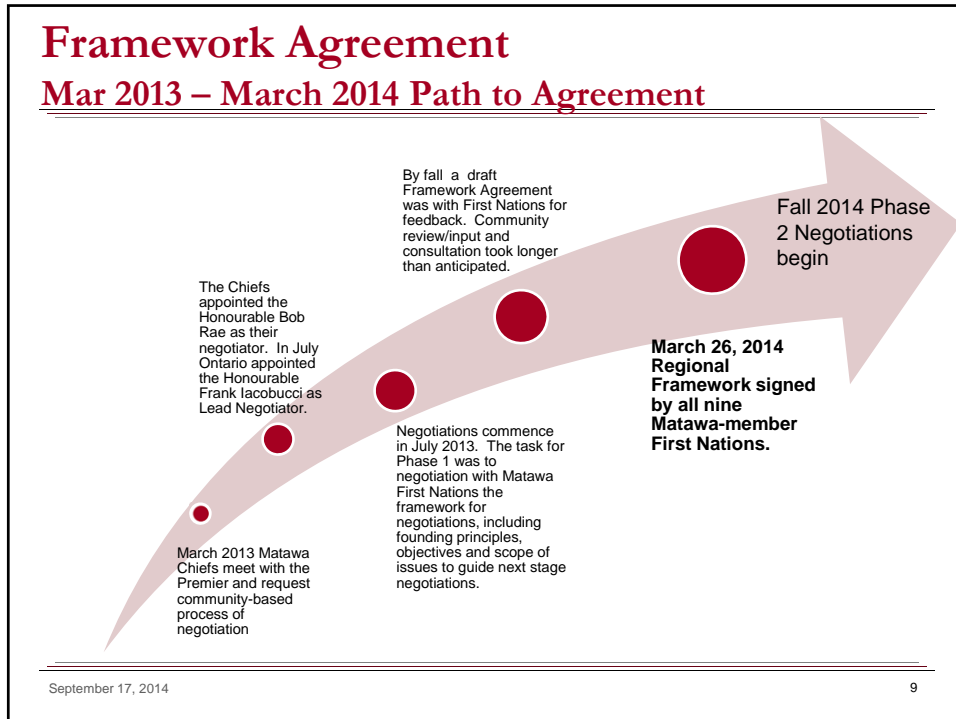
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Key Commitments (cont'd)

- **On April 28th, 2014** Ontario announced its intention to commit up to \$1B to support strategic infrastructure investment in the Ring of Fire. This includes:
 - Strategic all-season industrial infrastructure needs
 - Community transportation infrastructure
- Approach and priorities with respect to this investment will be established in partnership with First Nations, governments and industry partners through the development corporation.
- **On May 1st, 2014** Ontario released its 2014 provincial budget. In it, the Province indicated "it is willing to commit up to \$1 billion towards infrastructure development, contingent on matching investment by the federal government." The budget was passed on July 24, 2014.
- **July 3rd, 2014:** Throne Speech confirmed Ontario would establish a DevCo within 60 days (September 1, 2014). Government also re-committed to \$1B for transportation infrastructure to provide access to minerals in the Ring of Fire, not contingent on federal funding but to continue efforts to bring the federal government to the table.
- **August 28, 2014:** Ontario established a ROF Infrastructure Development Corporation with an interim Board of Directors.

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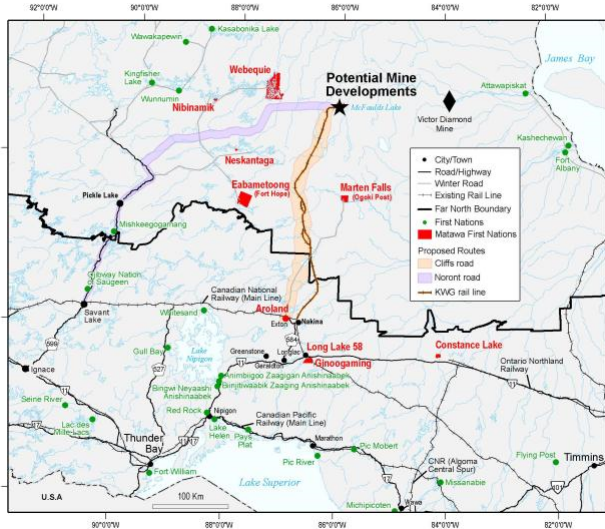
Regional Framework Signed

- On March 26, 2014 the nine Matawa-member First Nations and the Province of Ontario signed a framework agreement to move forward with a negotiation process on a community-based regional approach to development in the Ring of Fire.
- The agreement will help ensure First Nations and Ontario work together to advance Ring of Fire opportunities, including regional long-term environmental monitoring and enhanced participation in environmental assessment processes, resource revenue sharing, economic supports, regional and community infrastructure.
- First Nations agree that the top priorities for next stage negotiation are:
 - Enhanced participation in Environmental Assessment (EA) processes and regional long-term monitoring
 - Industrial and regional infrastructure, including linkages with DevCo.
 - Community Well-Being
- ****Phase 2 of the negotiations are scheduled to begin in Fall 2014**

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Ring of Fire – Infrastructure Proposals



- Transportation corridor, rail and all weather road options currently being assessed.
 - North-South Road Corridor
 - East-West Road Corridor
 - North-South Rail corridor
- Infrastructure corridor and location of processing facilities could transect a broader group of First Nations communities as well as intersect with Métis.
- Webequie, Marten Falls, and Aroland are closest to the mine site and transportation corridor; other communities may also be impacted.

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Ring of Fire Development Corporation

November 8, 2013 – Ontario announced it would take the lead on the creation of a Development Corporation for Ring of Fire infrastructure.

February 2014 – Deloitte LLP was brought in to provide neutral third party support to the partners in developing the DevCo. Deloitte began to contact potential partners in order to bring together the key parties to start work on determining the scope and governance model. Work was suspended pending finalization of the Matawa Framework Agreement and the provincial election.

August 28, 2014 – Ontario established a development corporation to support development of strategic transportation infrastructure. It has an interim Board of Directors that will provide oversight for the initial activity of the development corporation to bring together key partners to participate in the corporation through an agreement in principle. Once the partners have signed on to participate, the development corporation will be in a position to advise on key transportation infrastructure decisions, including how best to utilize the \$1B Ontario has committed

The initial Board of Directors are: Rob Dowler, Cabinet Office; Ehren Cory, Infrastructure Ontario; Linda McAusland, MTO; Bill Thornton, MNDM; Doug Carr, MAA.

Potential partners include key mining companies, First Nations, federal and provincial governments. First Nations participation will be co-ordinated through the Regional Framework process.

"Infrastructure is vital to developing the Ring of Fire. People need to get in to work and products need to get out to the global market. We need to determine what infrastructure will be most appropriate."

– Michael Gravelle, Minister of Northern Development and Mines.

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Community Readiness

Socio-Economic Development Supports – Work force readiness; skills development, training and mentorship programs; mechanisms for access to capital; and business development opportunities to ensure local enterprises have the tools they need to succeed.

Community Wellness – Focus on improving access to timely health services, reduce incidences of preventable or communicable diseases, address prescription drug abuse, and ensure that families have access to programming and other supports needed to promote a high quality of life.

Ontario is working with First Nations communities

- To support capacity, skills and training within Matawa First Nations
- Capacity supports for Matawa Tribal Council and impacted First Nations
- Coordinating with the federal government on programs and services to help identify gaps and meet community priorities – capacity funding, business opportunities and health and social programming
- Expansion of existing programs including the full delivery of Ontario Works and micro-lending supports for women entrepreneurs.

Health and Well-Being

- Ontario recognizes that a healthy and skilled workforce is a necessary precondition for First Nations communities to actively participate in opportunities related to the Ring of Fire.
- From kids to seniors, Ontario is making smart investments that matter to communities:

Youth Opportunities

Partnering with organizations such as Right To Play and One Laptop Per Child to deliver youth programs.

Mental Health and Addictions

Enhancing programming and resources focused on mental health and addictions including dedicated workers, new telemedicine equipment and advice from experiences professionals.

Community Safety

Additional supports for victims of crime through counselling and referral services as well as partnerships with the federal government focused on community safety and crime prevention.



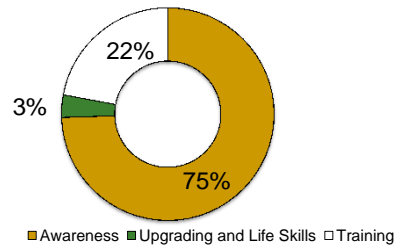
Investments like this one are important to helping ensure our youth have access to high-quality health services. This new support means hiring and training a dedicated mental health and addictions worker who can provide the young people living in our community with counseling, therapy and other critical supports. Chief Wabasse, Webequie First Nation, on Ontario's investment in Mental Health And Addictions Workers in the Ring of Fire.

Skills and Training

- Ontario is also making focused skills and training investments to support First Nations members.
- Since 2012, over 1300 have participated in programs ranging from:
 - Awareness activities about mining and mineral development and associated careers;
 - Upgrading and Life skills courses that have allowed individuals to complete their high school education; and
 - Training ranging from Heavy Equipment Operators, Diamond Driller Helpers, Remote Cook training, etc.



Types of Programs Being Offered



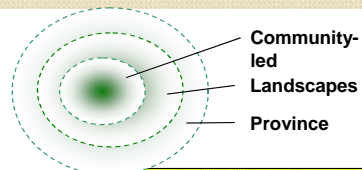
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Community Based Land-Use Planning

Community Based Land Use Plans are underway in the Ring of Fire area under the Far North Act.

- Plans are prepared by a joint planning team (First Nations and Ontario).
- Developed through a *consensus* based approach.
- Built on the best information available



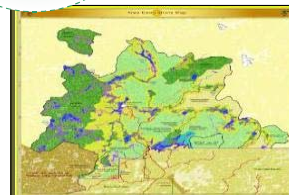
GOAL: Shared understanding, goals, and interests.

First Nations Role

- Local knowledge of and historical relationship to the land.
- Community interests for economic development, traditional use of the land, protection of sensitive sites.

Ontario Role

- Communicate Provincial interests in economic development and conservation
- Provide broad scale mapping and information
- Provide opportunities for public input



★ Denotes public consultation opportunity

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Science Assisting in Decision-Making

- MNDM, MOE and MNR are continually working together to collect scientific data in the Ring of Fire for purposes other than directly supporting community based land use planning in the Far North.
- Scientific data can support environmental assessments
 - Surface water biological sampling
 - Stream water sampling
 - Groundwater sampling
 - Terrestrial sampling
- Scientific data will be the foundation of the proposed regional long term environmental monitoring program
 - Far North biodiversity project 2013: (Marten Falls – Nibinimik)
 - Climate change and peatland carbon studies
 - Far North hydrology baseline monitoring and research: 2013-2014
 - Mercury in northern fish populations 2014



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Next Steps

- Continuing **work with communities** to ensure their priorities are supported and working with the federal government to deliver programs and services to advance **Community Readiness**.
- Implementing the **Regional Framework Agreement**: working with Matawa-member communities to establish and implement Phase 2 of the regional processes to explore and plan enhanced participation of First Nations in environmental assessments, long-term environmental monitoring, regional infrastructure, and community capacity supports such as training. The processes will include roles for First Nations, the Province, and the Federal government.
- Facilitating the agreement-in-principle process to bring key partners into the ROF Infrastructure Development Corporation, operationalizing the DevCo and commissioning an **Infrastructure Study** to provide neutral third party information for all partners.
- **Regulatory Coordination**: Ensuring effective and efficient processes for coordination and delivery of environmental assessments, permitting and approvals across provincial ministries and with the Federal government.
- **New Business Opportunities**: Working with regional and local economic development organizations to identify service delivery and business development opportunities.

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Ring of Fire - Commercial Projects

Cliffs Natural Resources

- Cliffs Natural Resources (Cliffs) is an international mining and natural resources company producing iron ore and metallurgical coal with head offices in Cleveland, Ohio.
- Cliffs' business lines stretch across the U.S. (Michigan, Minnesota, West Virginia and Alabama) with additional projects located in Eastern Canada, Latin America and the Asia Pacific.
- Cliffs proposed \$3.3 billion chromite mining project consists of an open pit mine, concentrator, an all-season North/South road and ferrochrome processing facility in Capreol, north of Sudbury. Cliffs has estimated approximately 300mw of energy usage for its processing facility, with up to 25mw to be used to provide energy to its mine site, using diesel or natural gas.
- Cliffs' 30 year mine project has a chromite reserve of approximately 112 million tonnes with annual production rates of 2.3 million tonnes of chromite concentrate.

Noront Resources Limited

- Noront Resources (Noront) is a junior mining company that is engaged in the development, exploration and acquisition of properties prospective in base and precious metals, including: nickel, copper, platinum group elements, chromite, iron, titanium, vanadium, gold, and silver.
- Noront's current focus is development of its Eagle's Nest project in the Ring of Fire. With an expected life of 11 years, this \$609 million project consists of an underground mine, concentrator and would require additional investment to support the development of an east/west all season road. If brought into production, it is estimated that the project would yield approximately 150,000 tonnes of nickel concentrate, which is expected to be processed at existing facilities in Sudbury. Noront expects their mine site to require 22mw from diesel generation
- This would be the first mine project for Noront, which could help support future mining developments in the area. In addition to their nickel holdings in the region, Noront also holds significant chromite deposits that could be pursued in future, depending on overall economics.

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Status of Commercial Projects

- **Cliffs chromite project:** On November 20, 2013 Cliffs Natural Resources announced that it was indefinitely suspending work on its Chromite development project, but have signalled their continued interest in the potential of the Ring of Fire and are continuing to engage in discussions with Ontario and with First Nations communities.
- Cliffs Natural Resources requires about \$3.3 billion investment, including mine, transportation system and a processing facility.
- **Noront nickel project :** Noront announced that its plan for the development of its deposits in the Ring of Fire has not changed in light of the announcement made by Cliffs. Noront has continuously developed alternative plans, including use of an east/west corridor:
- Noront Resources estimates their project represents a \$609 million capital investment.

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Ring of Fire - Energy

- Remote First Nation communities in proximity to the Ring of Fire receive electricity through diesel generation
 - First Nations have stated that this limits the potential for economic development opportunities given costs.
 - Environmental issues
 - Ontario is also committed to working together with First Nations to plan for, and deliver, the core infrastructure needed for communities to thrive, including:
 - Reliable and adequate sources of electricity to support social and economic development;
 - Access to alternative and innovative energy technologies;
 - Increased and improved transportation options, such as all-weather roads and future inter-modal transportation systems; and
 - Businesses having access to information and communications technology, including broadband and wireless.
 - Funding flowing for feasibility now.
 - Commitment to regional infrastructure discussions with Matawa-member First Nations as part of the framework agreement, including energy generation and transmission.
- North of Dryden Report
- Integrated Regional Resource Plan that identifies and assesses near medium, and long-term electricity supply needs.
 - Anticipated increase in demand for energy in the North of Dryden region of the Province due to potential mineral developments both within and outside of the Ring of Fire, potential revitalization of the forestry industry and anticipated population growth in remote First Nation communities.
 - The plan proposes two initiatives to meet the near-term electricity needs north of Dryden:
 - building a new transmission line from the Dryden / Ignace area to Pickle Lake
 - upgrading the existing transmission lines from Dryden to Ear Falls and from Ear Falls to Red Lake.
 - Ontario Power Authority conducting extensive engagement with municipalities, First Nations and industry over the last 18 months. More to follow.

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Long-Term Environmental Monitoring

- Regional long-term environmental monitoring may provide protection from any combined environmental effects of large projects:
 - The collection of **baseline data** to support future regional and cumulative impacts evaluation, and ongoing monitoring.
 - Direct engagement of First Nation and local communities, providing the opportunity to **participate in planning and implementation** of long-term monitoring of environmental impacts.
 - Working with First Nation communities to identify how **traditional methods** might be incorporated into any data collection and monitoring programs, and identifying opportunities for direct communities participation
- Long-term environmental monitoring would complement existing environmental assessment and land-use planning processes.

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