



Government
_____ of _____
Saskatchewan

Opportunities in the Saskatchewan Mining Supply Chain

Northern Opportunities Forum

La Ronge, SK

October 22, 2014

Monique Lischynski

Manager, Supply Chain Development

Ministry of the Economy



Government
of
Saskatchewan

Safety Moment



Government
of
Saskatchewan

Ministry of the Economy

- Mission to: “advance economic growth to generate wealth and opportunity in Saskatchewan.”

It has three core lines of business:

- To advance and regulate responsible resource development
- To develop, attract and retain skilled workers
- To enhance economic growth and competitiveness in the province.

Provide a more integrated approach to the province's economic growth.



Economy – Supply Chain

Overall:

To increase local goods and services content in resource industries including mining, energy and value added agriculture industry.

- To assist local companies to understand supply opportunities
- Team of three: *Michele Grella, Shelley Kent, Monique Lischynski*



Outline

- Overview of minerals exploration and production
- Examples of goods and services required
- What is important to buyers
- Strategies for market entry
- Resources
- ECON's roles and services



Overview

- Between 2008 - 2012, mining companies in SK invested over **\$13 B** in projects
- Expansion capital expenditures peaked in 2011-2012
- Cost escalations, declining revenue and reduced profits has resulted in project deferrals, cancellations and layoffs
- Shift to ongoing operational focus
- Over \$2.5 billion annually on wages, goods, services



Overview

Long Term Industry Drivers:

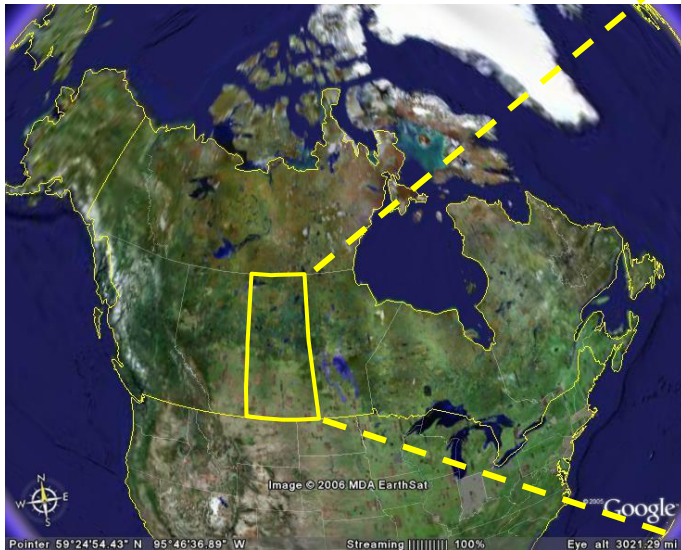
- Expanding global population
- Growing middle class in developing countries
- Increase need for food quality, power and industry
- Increased energy consumption
- Increased crop production



Saskatchewan

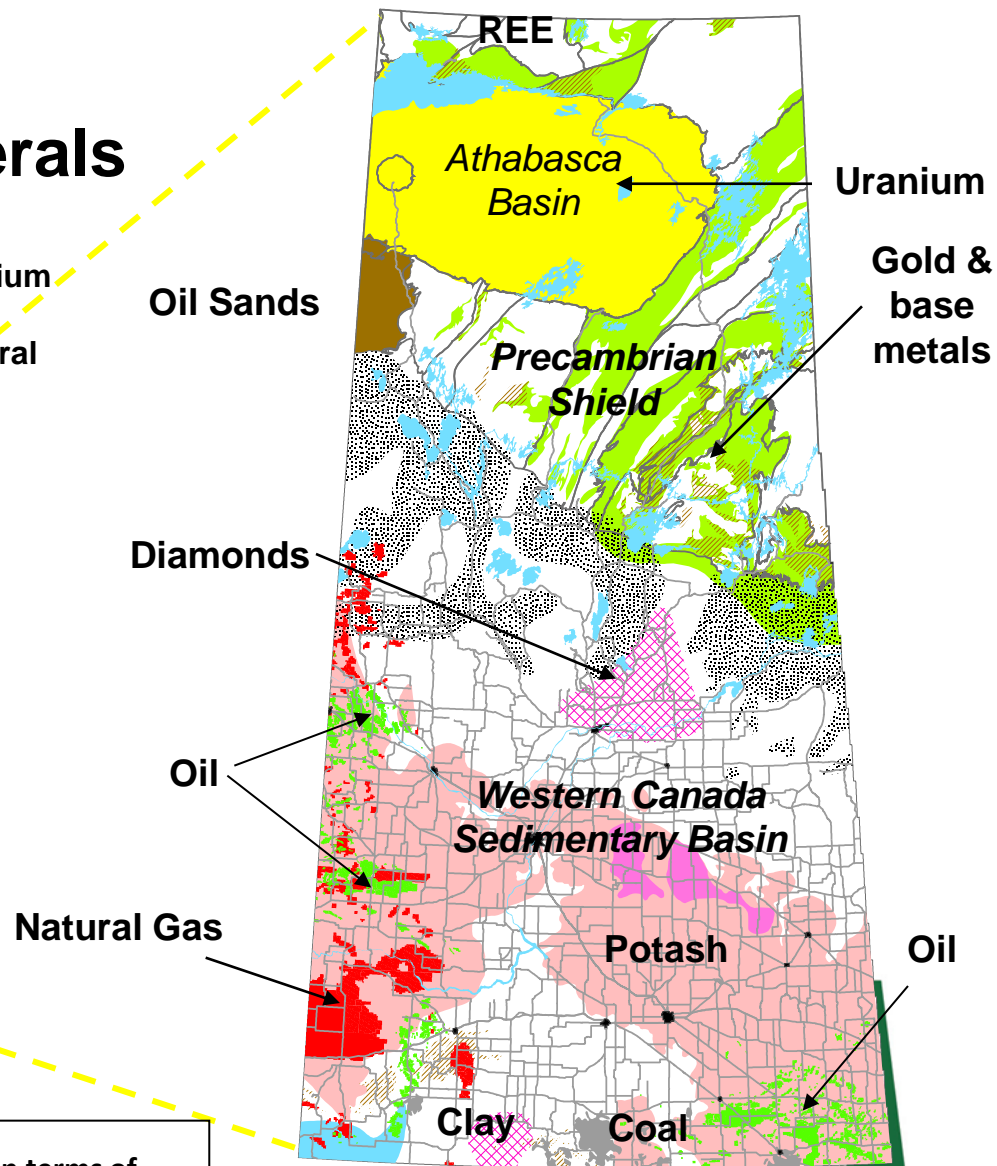
Rich Endowment of Minerals

- World's largest potash producer and 2nd largest uranium producer
- Canada's 2nd largest oil producer and 3rd largest natural gas producer



651,036 km²

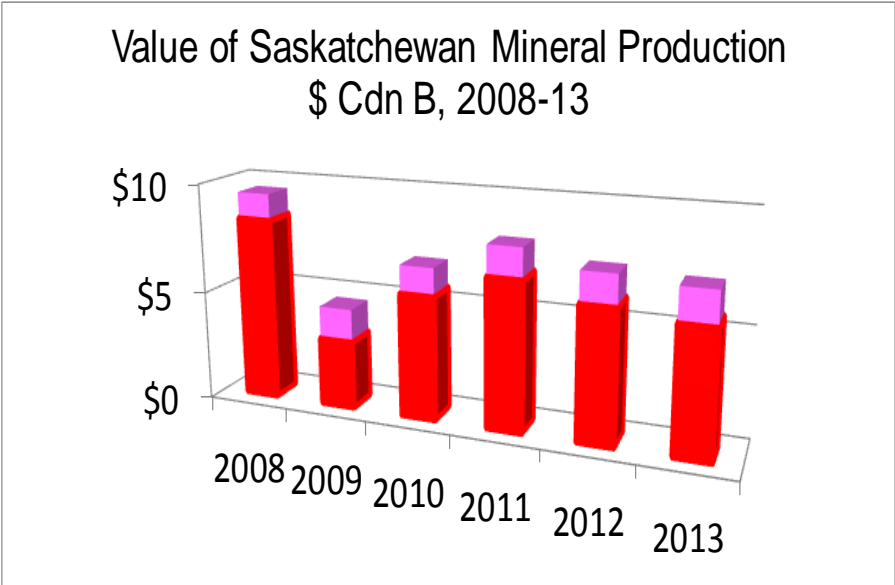
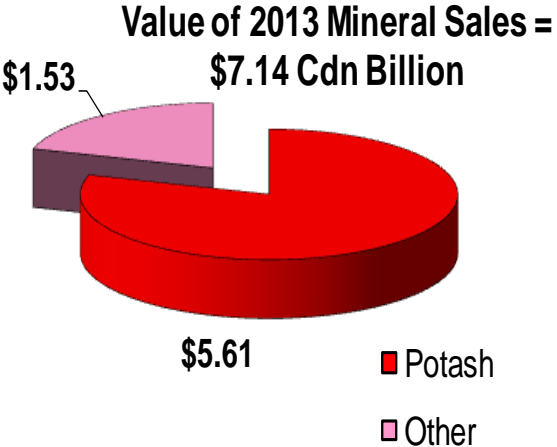
Ranked 1st in Canada and 5th overall out of 96 jurisdictions in terms of Mineral Potential, assuming current regulations and land use restrictions (ie investment attractiveness) in 2012/13 Fraser Institute Mining Survey.



Saskatchewan Value of Mineral Production

2013:

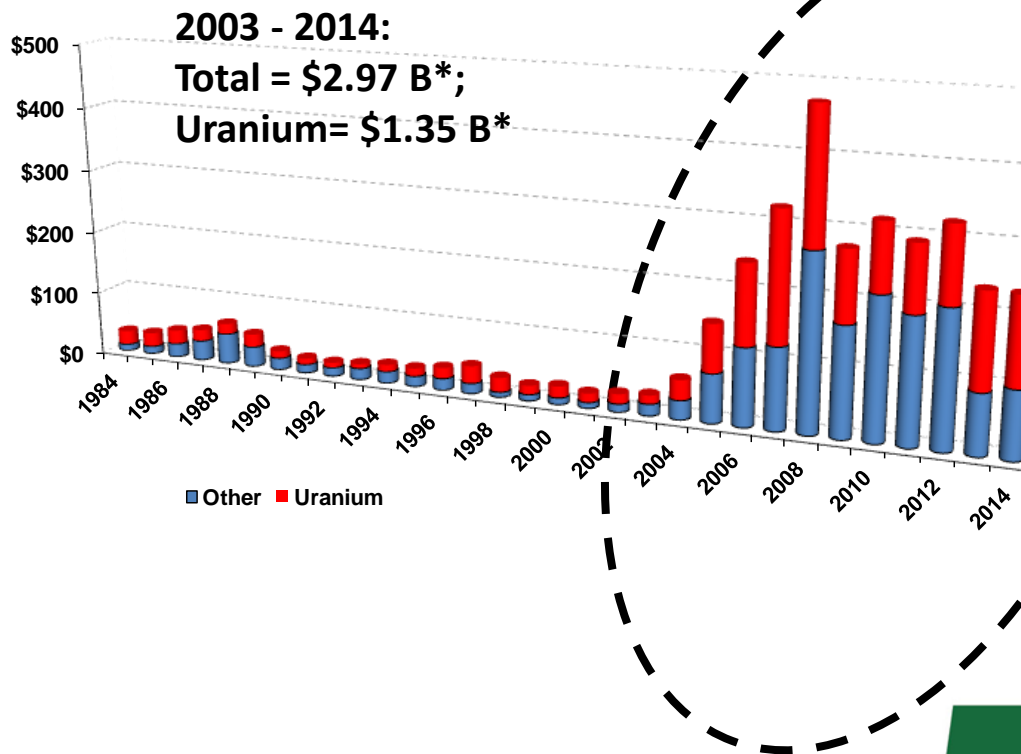
- Production: Potash, uranium, coal, gold, base metals, silver, salt, sodium sulphate, potassium sulphate, bentonite, silica sand and kaolin;



\$ Cdn Billion



Saskatchewan Mineral Exploration: 1984 – 2014

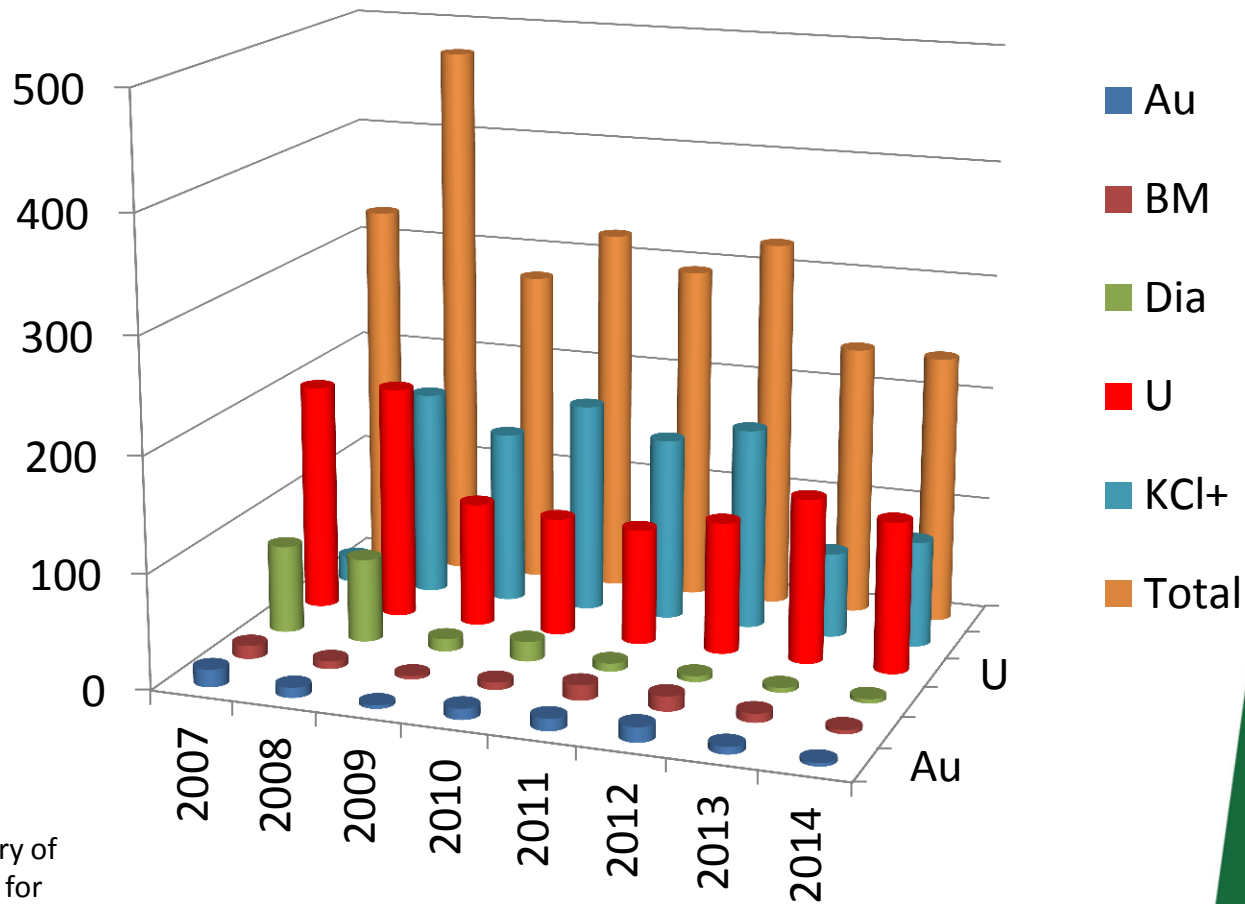


* Data from the Annual Survey of Mineral Exploration Expenditures by the Saskatchewan Ministry of the Economy. Note data for 2014 are a preliminary estimate.



Government
of
Saskatchewan

Mineral Exploration Expenditures By Mineral(s) Type 2007 –2014



Data from SK Ministry of the Economy (data for 2014 are an estimate).



Government
of
Saskatchewan

Uranium



2014:

- Mining of high grade Cigar Lake deposit begins

2013:

- McClean Lake Mill restarts
- 3 Projects at Feasibility/Prefeasibility
- 7+ Advanced Stage Projects

Exploration 2003-2013:

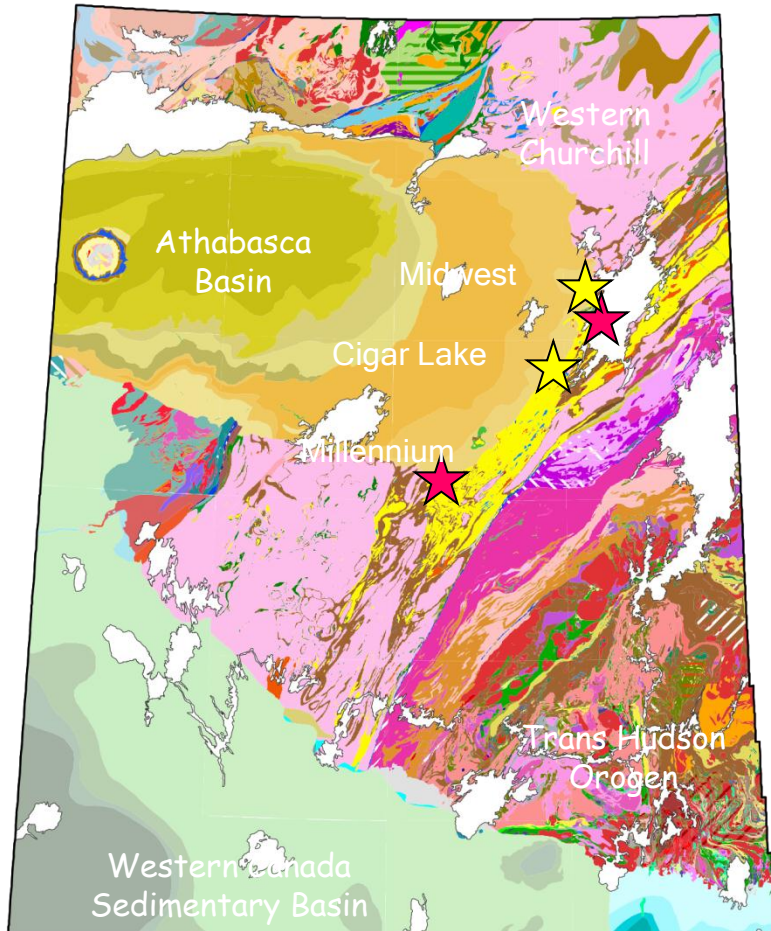
- \$1.2 Billion spent
- 16+ new discoveries from 100's of projects

Production by 2017 could climb to 17,000 t/U



Government
of
Saskatchewan

Uranium Development

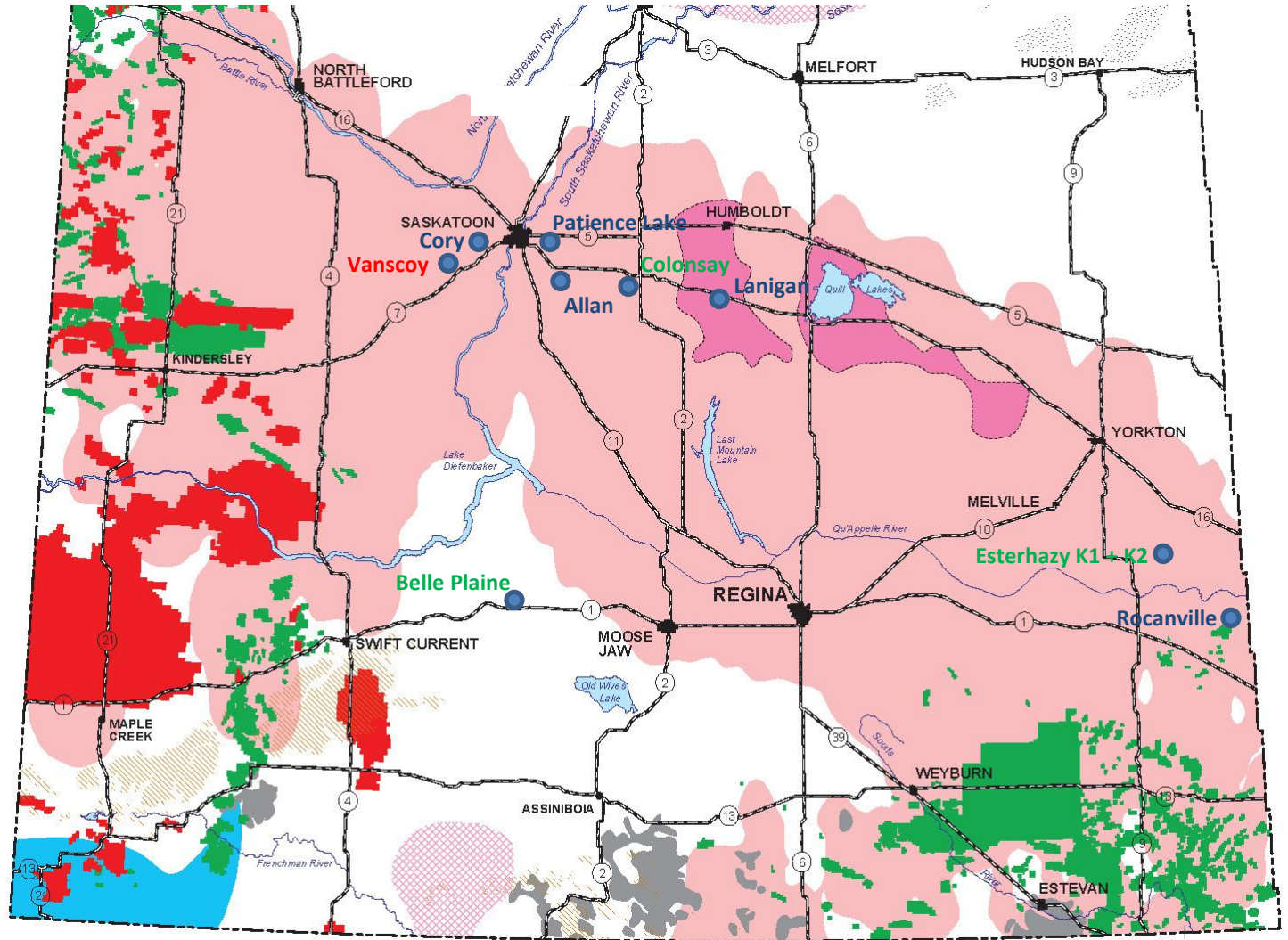


- **★ Uranium Development**
 - Midwest (TBD)
 - Millennium (TBD)
- **★ Feasibility**
 - West Bear
 - Hidden Valley
 - Raven and Horseshoe
- **Major Players**
 - Cameco, Areva, Denison Mines, Rio Tinto (Hathor), UEX, JNR, CanAlaska, Bayswater, Pitchstone, Eagle Plains, Purepoint



Saskatchewan Potash Mines

Agrium
PotashCorp
Mosaic



Potash

- 8 conventional underground mines
- 2 Solution mines
- 2013 Production: 15.96 Mt KCl



- Each of the potash mines have recently increased, or plan to increase their production capacity.
- Planned expansions of 13 Mt KCl by 2020
- This represents a 90% increase over 2004
- Total estimated cost of expansions: \$11 B



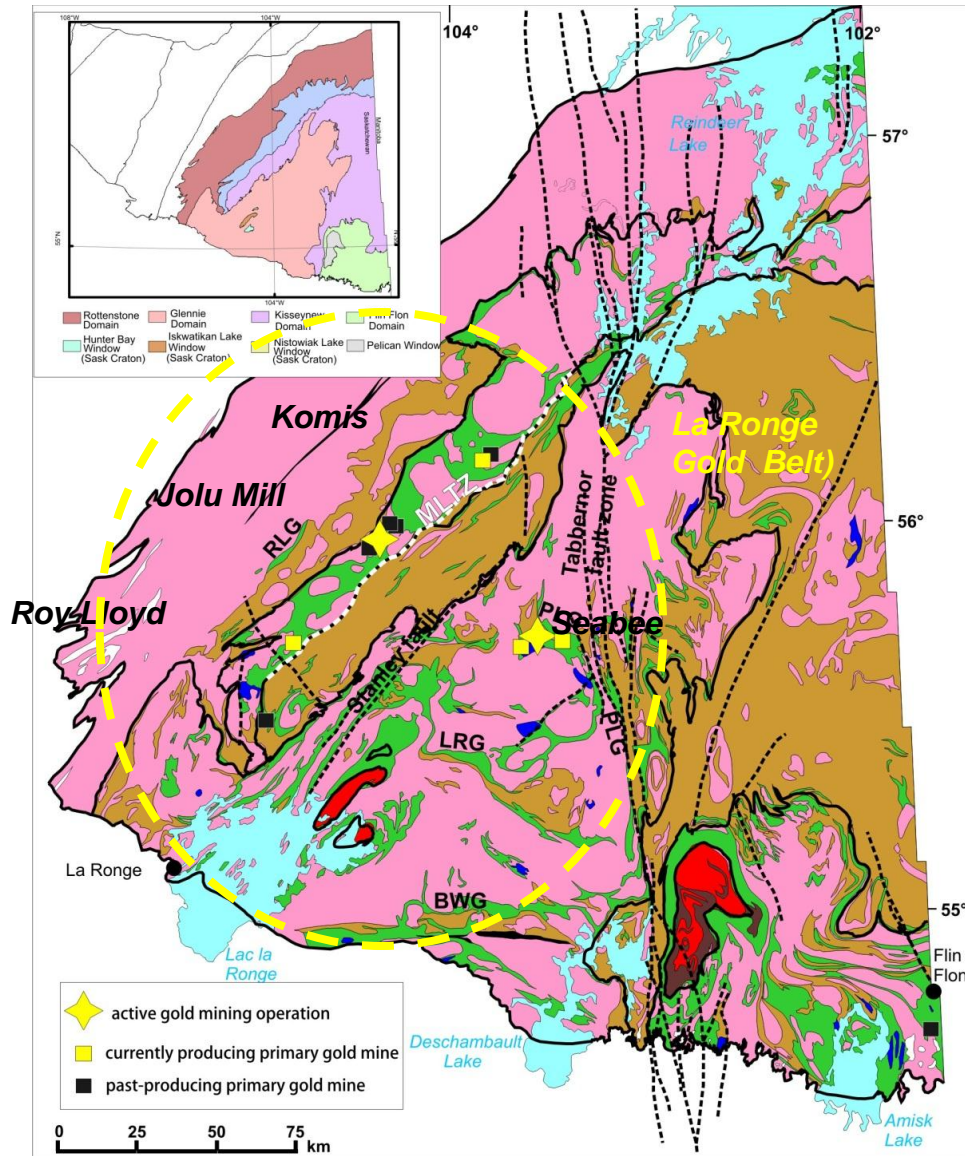
Gold

Current Operations : Claude Resources

- 2 mines (Seabee, Santoy 8,)
- produced 1 millionth oz in August 2012
- 2012: 49,570 oz Au

Golden Band Resources: La Ronge Gold Project:

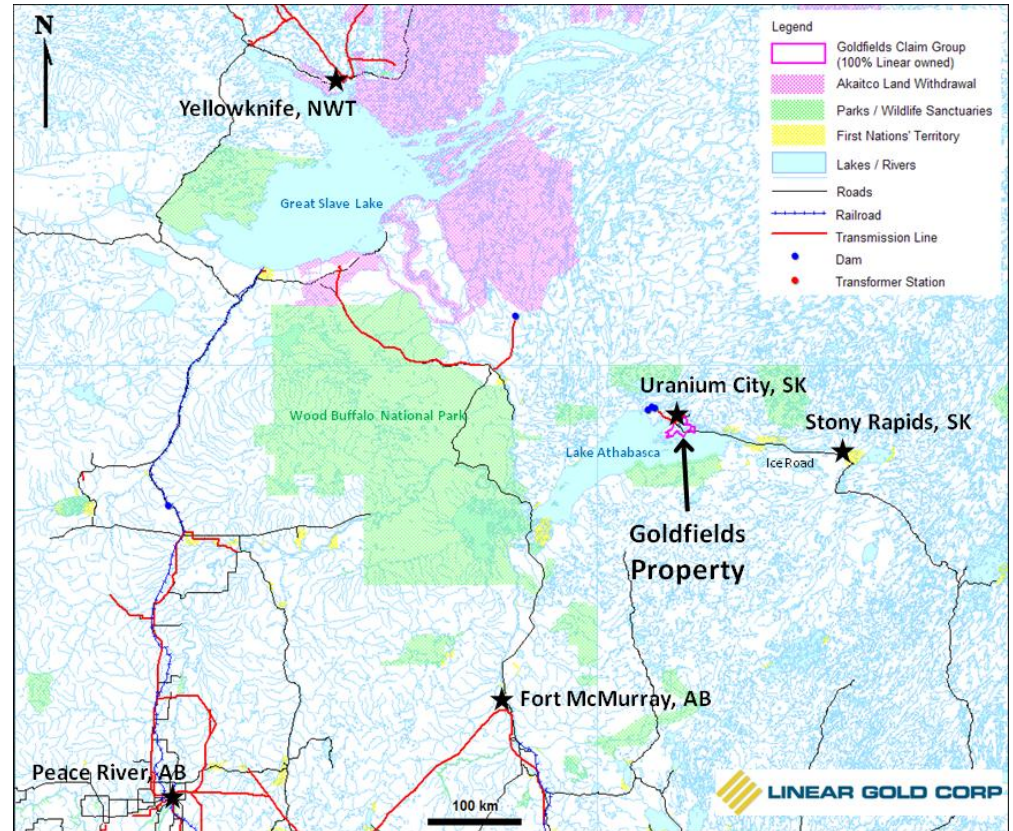
- production at three mines over past year (Roy Lloyd, EP, Komis) at Jolu Mill
- 41,932 oz Au produced in 2012 fiscal year
- not currently producing (sept 29, 2014)



Gold

Developer:

- Brigus Gold Corp.
Goldfields Project,
Uranium City area
- Others:
Wescan Goldfields
Fuhua Mining



Government
of
Saskatchewan

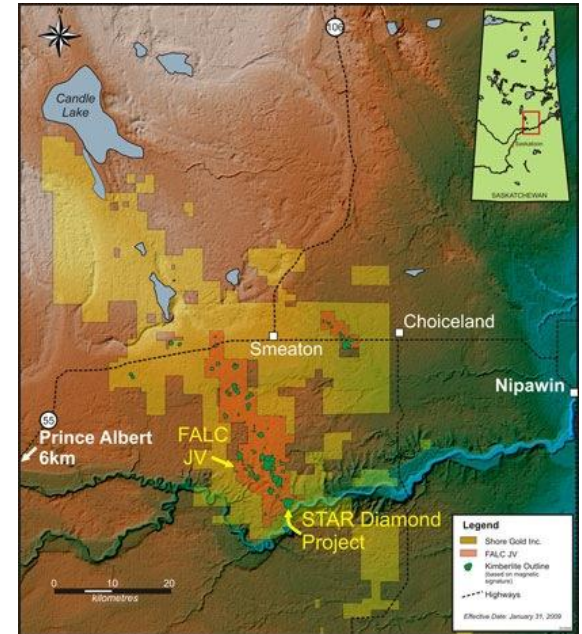
Diamond: Exploration

Shore Gold

- Star & Orion S. Project,
- Final stage of EIA, Open pits

North Arrow Minerals

Pikoo Project, kimberlite found in 9 holes out of 10 drilling holes



Government
of
Saskatchewan

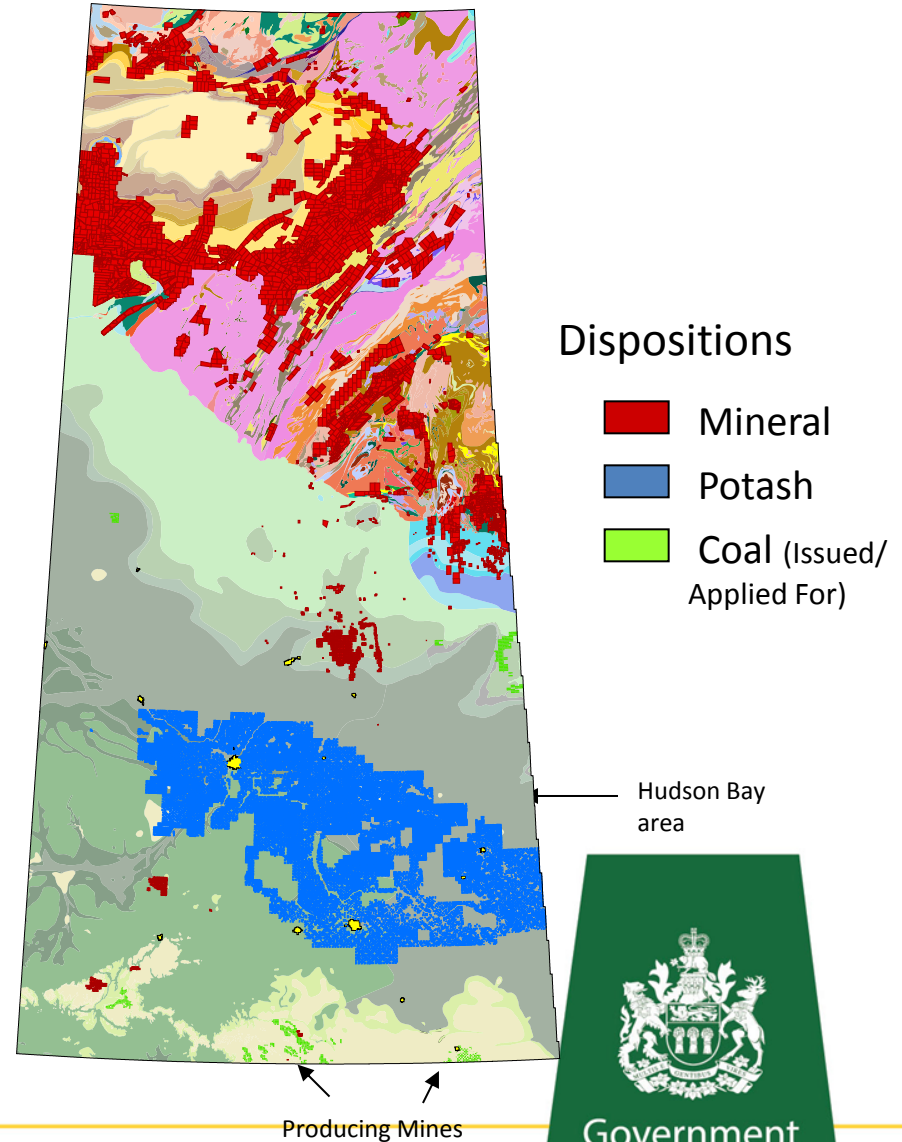
Coal

2013 Coal Production for 2013 8.9 Mt Sherritt International

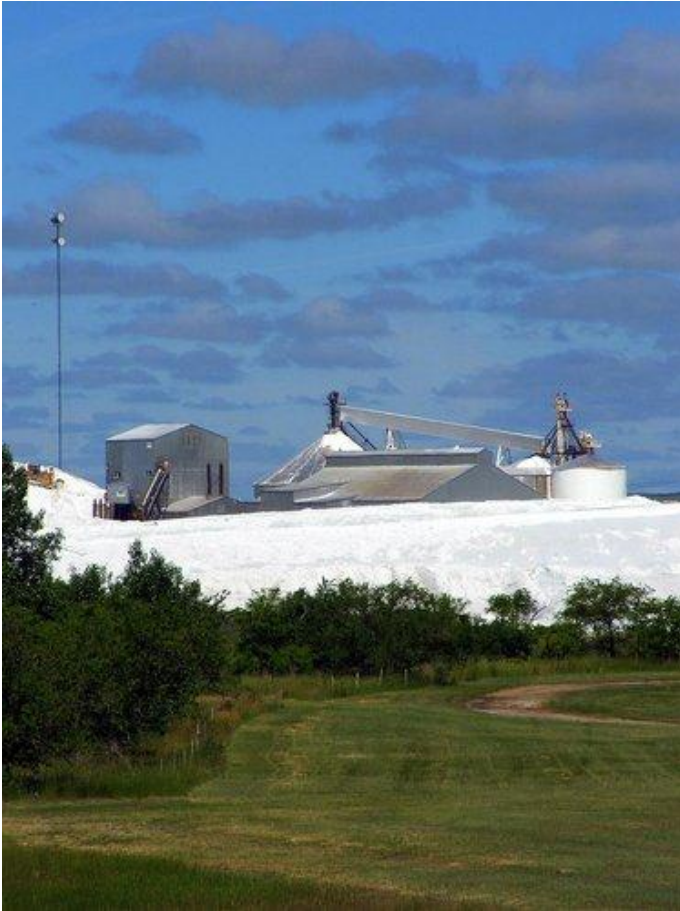
- Bienfait: 0.6
- Boundary: 5.0
- Poplar River 3.3

Coal Exploration

Hudson Bay area



Saskatchewan Other Mineral Production and Exploration



Sask Minerals Chaplin Sodium Sulphate Mine – photo by Lilypon (Google Earth post).

Production:

- sodium sulphate
- high-value silica sand
- potassium sulphate
- limestone
- salt
- bentonite and other clay products
- aggregate.

Exploration:

- base metals
- diamonds
- rare earth elements
- graphite



Saskatchewan

Mineral Sector in Fall 2014

Long term outlook is fairly positive, however, still uncertainties:

- direction of global markets
- pace and scope of uranium recovery

Commodity prices are down

Many mining companies are in cost control mode

Appreciate impact on current procurement focus

- companies have existing supply chains
- moving to strategic sourcing
- will be working with them to reduce costs
- extra challenge for new suppliers



Mining Supply Chain - Uranium

Major Activities	Years	1-10	11	12	13	14	15	16	17	18-48	49-54	55 +
Exploration		█										
Regulatory Licences/Permits/Approvals			█	█	█	█	█	█	█			
EPCM			█	█	█	█	█	█				
Mine/Surface Facilities Construction						█	█	█				
Commissioning/Ramp-up								█	█			
Operations/Maintenance										█		
Closure/Reclamation											█	
Long Term Site Monitoring												█

Figure 5:1 Typical Saskatchewan uranium mine project life cycle



Exploration

Supply Chain Opportunities

Exploration:

- Geology (geologists, technicians, prospectors)
- Professional and technical consulting
- Camp/lodging
- Drilling
- Geochem analysis/analytical services
- Field Supplies and Equipment
- Communication and Freight



Government
of
Saskatchewan

Regulatory Licenses, Permits and Approvals

- Uranium mines and mill facilities in Saskatchewan are regulated both federally and provincially from exploration through closure and abandonment.

Services Required Include:

- Baseline environmental studies
- Stakeholder management consulting
- Environmental impact specialist services
- Radiation management specialist services
- Geotechnical services
- Legal services - environmental



Government
of
Saskatchewan

Engineering, Procurement, and Construction Management (EPCM)

- Typically make up 15 to 20 percent of total project costs
- May be carried out by single engineering firm or divided between specialist firms and owners

Procurement – specification, work packages, bidders lists, request for quotations/proposal, bid analysis/recommendations, purchase orders, expediting, shipping and logistics

Construction – work site safety, environmental protection, contractor management, commissioning etc.



Mine and Surface Construction

Supply Chain Opportunities

- New mine and mine expansion
- Key goods required:
 - Concrete
 - Steel and fabrication
 - Electrical
 - Pumps and piping
 - Valves and fittings
 - Equipment
 - Miscellaneous



Surface Construction

- Heavy civil construction
- Mechanical rotating equipment
- Mill/product storage/flotation buildings
- Electric, instrumentation, controls
- Concrete
- Scaffolding
- Cyclones
- Grinding equipment
- Scrubbers
- Pumps & piping
- Dryers
- Thickeners
- Tanks and storage bins
- Conveyors
- Bucket elevators
- Boilers
- Centrifuges

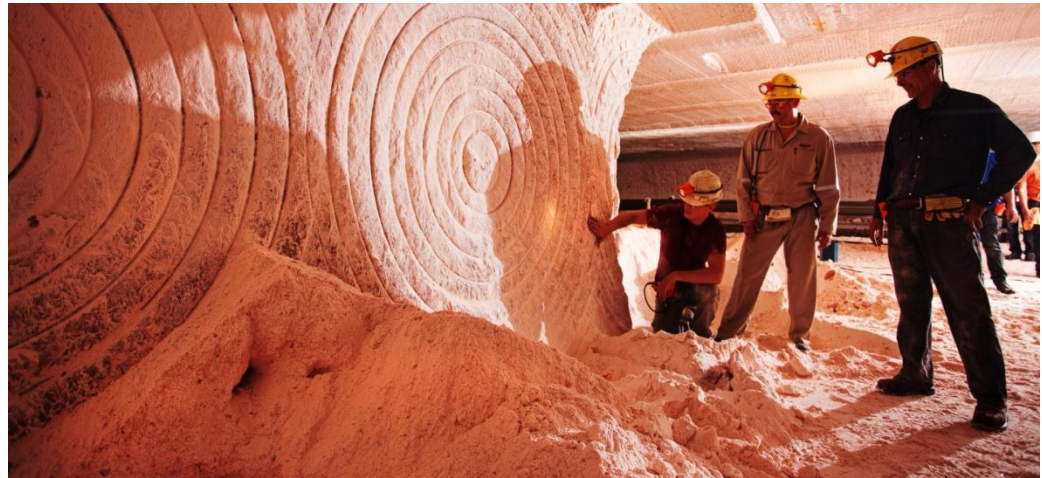


- Overhead cranes
- Compressors
- Agitators
- Belt scales
- Transformers
- Fire protection systems
- Process control equipment
- Process chemicals
- HVAC equipment



Underground Construction

- **Walking/drill rigs and drill bits**
- **Ultrasound measurement equipment**
- **Hoist rope/wire rope**
- **Winch**
- **Pumps**
- **Electrical equipment**
- **Hydraulic motor**
- **Conveyor and conveyor components**
- **Fans**
- **Scoop trams**
- **Limit switches**
- **Cranes**
- **Crushers**
- **Screens**
- **Rock drill lifts**
- **Instrumentations**
- **Shovels**
- **Load and hauling machinery**
- **Raise bore systems**
- **Specialized mine vehicles**
- **Rock tools**
- **Explosives and suppliers**
- **Rock drills**



Operating Mines (Potash)

- Chemicals – potash flotation, water conditioning for heating systems
- Fuels and Lubes
- Dedust oil for potash
- Mobile equipment-trucks, dozers, front end loaders, etc.
- Conveyor belting for underground
- Bearings, seals and power transmission parts
- Electrical consumables such as breakers, fuses, switches and fixtures
- Pipes, valves and related fittings (ie. steel, PVC, copper)



Operating Mines (Uranium)

- Nuclear materials and process equipment, mechanical components, tooling, maintenance components
- Boilers, piping, forged components
- Electronics and instrumentation
- Logistics, handling and storage
- Reagents and environment
- Bulk cement, explosives
- Diesel fuel, propane
- Maintenance parts – mobile equipment
- Computers and telecommunication
- General service



Site Services

- Water
- Waste disposal
- Catering
- Camp Accommodation
- Janitorial Services
- Pest Control
- Security on site
- Medical on site
- Transportation
- Internet and phone
- Storage shelters



Closure, Reclamation, Long Term Monitoring

- Approval, site and decommissioning management will be required.
- Decommissioning:
 - Ore and waste rock storage areas
 - Mill and mill facilities
 - Mine water management
 - Utilities and essential services
 - Industrial waste, hazardous and radioactive materials
 - Surface and support facilities
- Site and general reclamation
- Environmental monitoring and related services



Northern Mines

Surface lease agreements

- Best efforts to source locally
- \$1.36B goods and services purchased in 2013
- \$558 M (41%) purchased from northern companies and joint ventures (uranium and gold mines)

Northern Administration District



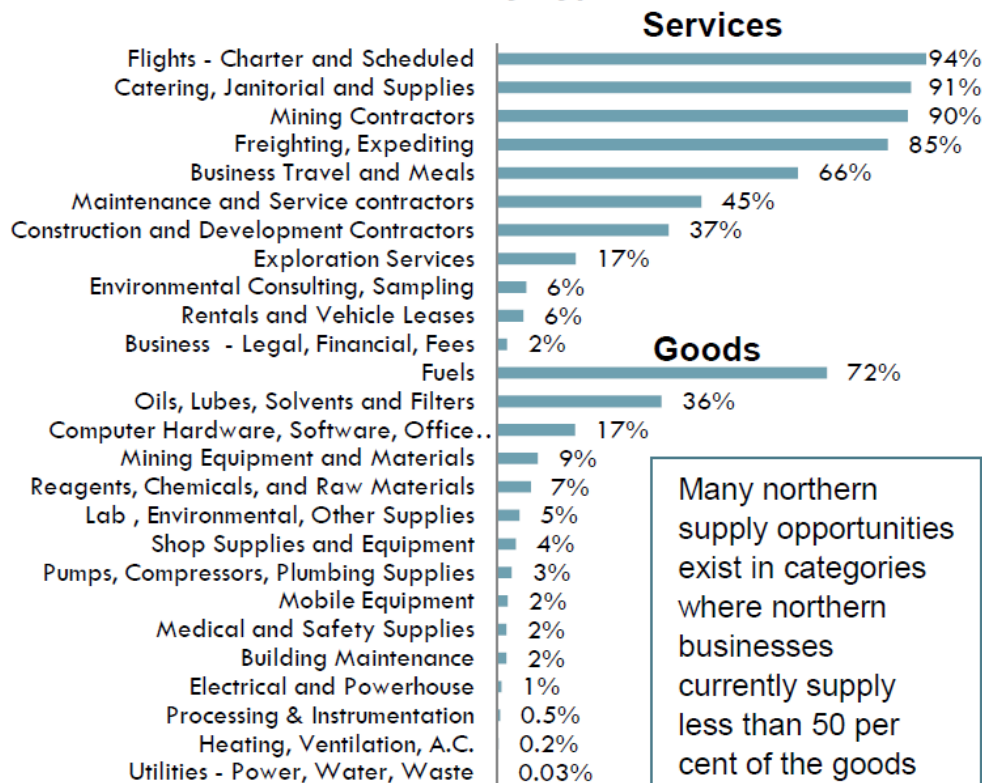
Northern Mines

- McArthur camp expansion, Cigar Lake construction and decommissioning and demolition of Cluff Lake
- Expenditures expected to decrease as expansion and construction projects wind up.
- 2014 Cigar Lake transition to production
- 2016 upgrades to McClean Lake mill to scheduled to be complete



Northern Mines

Percentage Northern Goods and Services Purchased - by Type 2013



Many northern supply opportunities exist in categories where northern businesses currently supply less than 50 per cent of the goods and services

49% of services and 18% of all goods were supplied by northern businesses/joint ventures

Source: 2013 Northern Benefits Summary – Saskatchewan Mine Surface Lease Agreements

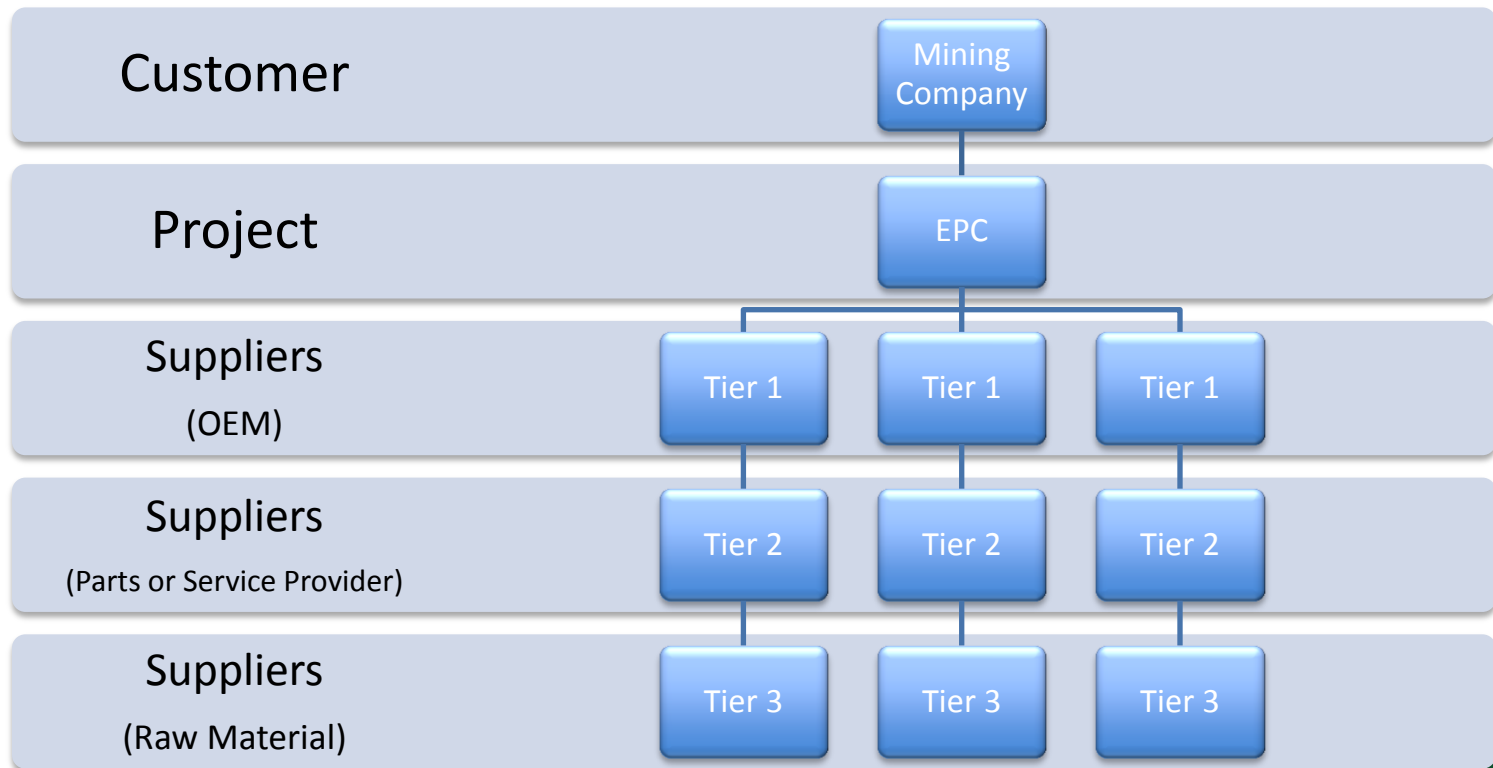


Understanding the Supply Chain



Project Supply Chain

EPC Example



EPC – Consulting company which provides engineering, procurement and construction support to mining company.

Used extensively in new projects/expansions.



Government
of
Saskatchewan

Project Perspective

Engineering view:

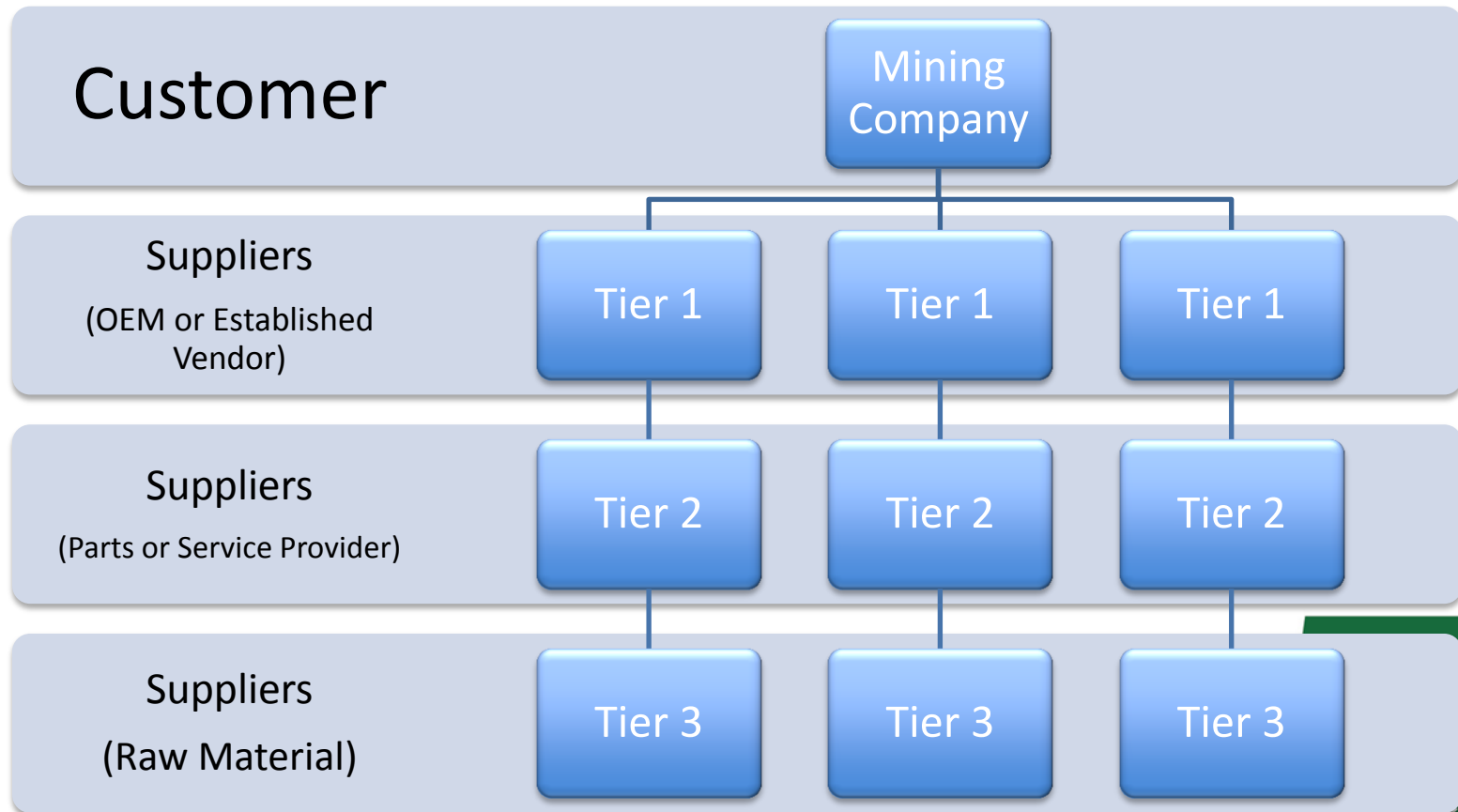
- On-time, on-budget, reduced risk
- Prequalification systems
- Supplier experience and know-how critical

New Supplier:

- Not long term
- Projects in different locations



Operations Supply Chain



Operations Perspective

Mining view:

- Long term strategic decision
- What do you offer that adds value

New Supplier View:

- Long term
- Consistent location
- Potential for market growth



Strategies for Market Entry

- Direct to mining companies
- Work with existing OEM, supplier and service providers to mining companies – supply to the supplier
- Partnering with other suppliers of goods and services

Saskatchewan Manufacturers Guide

www.economy.gov.sk.ca/mfgguide



Government
of
Saskatchewan

Preparing for the Market

Do your homework:

- market research – understand your potential customer
- Understand what your good at (core competency)
- Understand your competition
- Think through the 4 P's
product, place, price, promo

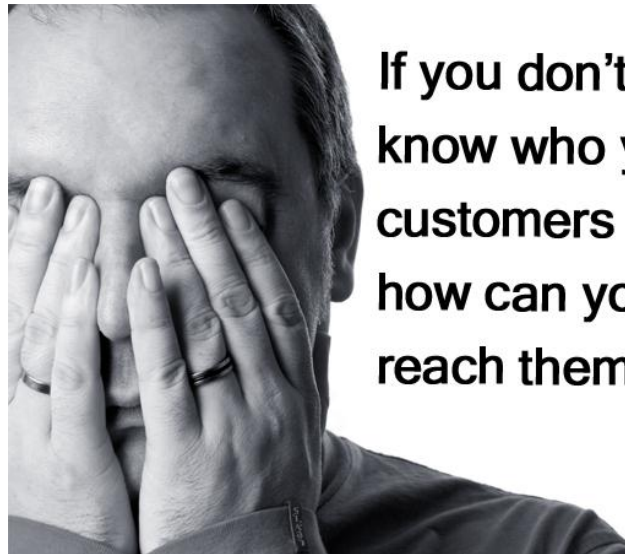
*Pitch: Three floor elevator ride
“why you should buy my product”*



Government
of
Saskatchewan

Practical Advice

- **Know your customer**
- **Know your competition**
- **Know your product**



If you don't know who your customers are how can you reach them?

Photo credit: Hel Black_MorgueFile
www.imaginedpartners.com



Government
of
Saskatchewan

Making the Pitch

- Review procurement policies and procedures
- Make an appointment
- Conduct a “lunch & learn”
- Provide product literature, catalogs (electronically), web site address
- Request to be added to the bidders list
- Complete prequalification process
- If not added to the bidders list, ask why, constructive feedback and adjust



Making the Pitch

What buyers like:

- **Become a qualified bidder**
- **Tailor your offering to the business**
- **Ask customer what they are looking for or problems they want solutions for.**
- **Offer how your product is different from your competitors**
- **Be persistent**



You Get the Order

Now What?

Supplier evaluations:

- **Product quality**
- **Delivery**
- **Price**
- **Health, Safety, Environment**
- **Experience**
- **Spec compliance**
- **Turnover packages**



Government
of
Saskatchewan

Becoming a Preferred Supplier

For the long term:

- **Safety**
- **Service**
- **Quality**
- **Technical competency**
- **Relationships**



Government
of
Saskatchewan

Resources

used in this presentation

How to Successfully Access the Mining Supply Chain - Source of information for this presentation. Detail on potash and uranium including company background, contracts, existing supply chains, procurement methods, contacts

www.economy.gov.sk.ca/supply_chainopp

Uranium Mining Supply Chain Requirement Guide - This guide provides information on the quantity, value and scheduling of supplies and services purchased by typical Saskatchewan uranium mining project owners and/or operators to discover, develop, operate, maintain, decommission and close out projects.

<http://economy.gov.sk.ca/UraniumRequirementGuide> "NEW"

Potash Mining Supply Chain Requirement Guide - goods and services required to support the development/ operation for conventional and solution mine.

www.economy.gov.sk.ca/PotashRequirementGuide

Mining Supply Chain Forum - Presentations from mining and engineering companies.

www.economy.gov.sk.ca/MiningSupplyChainForum



Government
of
Saskatchewan

Other Events

- 45th Annual Saskatchewan Geological Survey Open House
December 1-3, 2014 Saskatoon
- 7th Annual Mining Supply Chain Forum
April 14 – 15, 2015 Saskatoon
- PDAC 2014 – Prospectors and Developers Association of Canada (PDAC)
March 1-4, 2015 Toronto
- Canadian Institute of Mining (CIM)
May 9 - 13, 2015, Montreal



How we can help...

- Information on the mining industry and supply chain opportunities
- Information on the Saskatchewan business environment and related business costs tailored to individual business case
- Connections to mining and supply companies

www.economy.gov.sk.ca/



Government
of
Saskatchewan



Saskatchewan Industrial
and Mining Suppliers
Association (SIMSA)

*Promoting Saskatchewan solutions for the
global resource industry*

Alun Richards, Executive Director
Phone: 306-230-7000
Email: info@simsa.ca
Web site: simsa.ca

Questions???

Monique Lischynski, M.Sc.

Manager, Productivity and Supply Chain
Development

Phone: (306) 933-7484

Cell: (306) 220-6279

monique.lischynski@gov.sk.ca



Government
of
Saskatchewan