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Exploration

Mining... GREAT for Saskatchewan

EXPLORATION PROCESS

- Exploration is the key to sustainability in the mining industry – it is often referred to as the “R & D” (Research & Development) of the industry. New resources are required to replace ore that is mined out.
- It takes between 10 and 20 years to bring an exploration discovery into production.
- Because mineral components are found in almost all consumer goods, mining will continue to be a dominant industrial sector in our global economy as emerging economies such as China require more metals to support their growth.
- Exploration has evolved into a highly sophisticated, multi disciplinary science using principles of geology, physics, chemistry, and even biology to probe deep beneath the earth’s surface.
- Exploration is the high risk end of the industry as it involves investing large sums of capital for which there is no guaranteed return.
- Less than 2% of mineral showings or initial discoveries will actually evolve into mines.
- In Saskatchewan most of the mineral rights are owned by the province and companies or individuals obtain the rights to explore by staking a claim or acquiring a permit or a lease.
- The first stages of exploration are low impact, involve making observations about the rocks or soils on the land surface (geological mapping), and taking samples for various types of chemical analyses. Computer-processed images of the land surface taken from satellites are also used to evaluate structures that may identify areas of mineralization.

- Later stages may consist of measuring the physical, magnetic, or electrical properties of the rocks using high-tech instruments located on the ground or in an aircraft flying over the land surface. Extensive computer processing and scientific interpretation are used to interpret what lies beneath the surface.
- If enough evidence is found to indicate mineralization, drilling equipment is used to obtain rock samples from below the surface. In circumstances where the minerals are not buried deeply, shallow pits or trenches may be excavated, again, to obtain additional samples.
- Mineral exploration provides employment, particularly for aboriginal residents of northern Saskatchewan and the northern service sector.

EXPLORATION EXPENDITURES

- In 2014, Saskatchewan exploration and deposit appraisal expenditures are anticipated to be around 194.5 M, representing 9.2% of the total \$2.1 B in Canadian expenditures. Ontario, British Columbia and Quebec remain the top Canadian destinations for exploration and deposit appraisal capital accounting for 67% of expenditures.
- In 2013 exploration expenditures in Canada were \$2.3 billion and are expected to further decrease in 2014 to \$2.1 billion.
- 2013 exploration expenditures in Saskatchewan, as collected by Saskatchewan Energy and Resources, were \$297 M including \$153.5 M for potash, \$122 M for uranium, \$9.9 M for base metals; \$7.5 M for gold, and \$4.1 M for diamonds.



MINERAL COMMODITIES

- In Canada, 2014 exploration expenditures are primarily focused on precious metals, followed by base metals and then “other” (predominantly potash).
- The Saskatchewan commodity basket of potash and uranium is distinct from the national trend.
- In Saskatchewan, 2014 exploration expenditures for industrial minerals (potash) will continue to be predominant over historical favorites uranium. There is some strengthening of the base metals, diamonds and gold sectors.
- In the past 5 years, over \$1.25 billion has been invested in mineral exploration in Saskatchewan, primarily for potash and uranium.
- Potash exploration continues, fueled by growth in the fertilizer industry that is responding to increased consumer demand in emerging economies in China, Brazil and India.
- Saskatchewan has significant untapped mineral resource potential, not only for the commodities that we are well known – potash and uranium, but also for a variety of other minerals including diamonds, gold, platinum and palladium, rare earth elements, copper, zinc, nickel and mineralized brines.
- The bulk of the mineral exploration activity currently takes place in north and central Saskatchewan. Potash exploration is occurring in a NW – SE oriented 200 km wide band stretching across the province from Saskatoon – Rocanville; coal exploration is occurring in regions adjacent to the traditional coal mining areas in southern Saskatchewan as well as a newer play in the area around the town of Hudson Bay; diamond exploration is currently being focused on an area east and northeast of Prince Albert; gold exploration is primarily north-east of LaRonge, base metal activity is west and southwest of Creighton and uranium exploration activity is in the Athabasca region.

REGULATION

- The Exploration industry is primarily regulated by the Ministry of Environment and Ministry of Energy and Resources. The Ministry of Environment requires permits for all surface activities related to mineral exploration projects including, but not limited to, the development of trails and roads; camp permits, drilling, line-cutting, and shore alteration (such as docks).
- The SMA Exploration Committee has worked with government regulators to develop 14 Best Management Practices for Mineral Exploration Activities to assist government and industry in the application and approval process for activities on land administered by Saskatchewan Environment. This guide provides information to assist in the planning, initiation and completion of a mineral exploration program in a fashion that will help minimize environmental impacts and meet relevant legislative requirements.
<http://www.saskmining.ca/news/News/Main/Best+Management+Practices/news.html>

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