



Lithium- Li

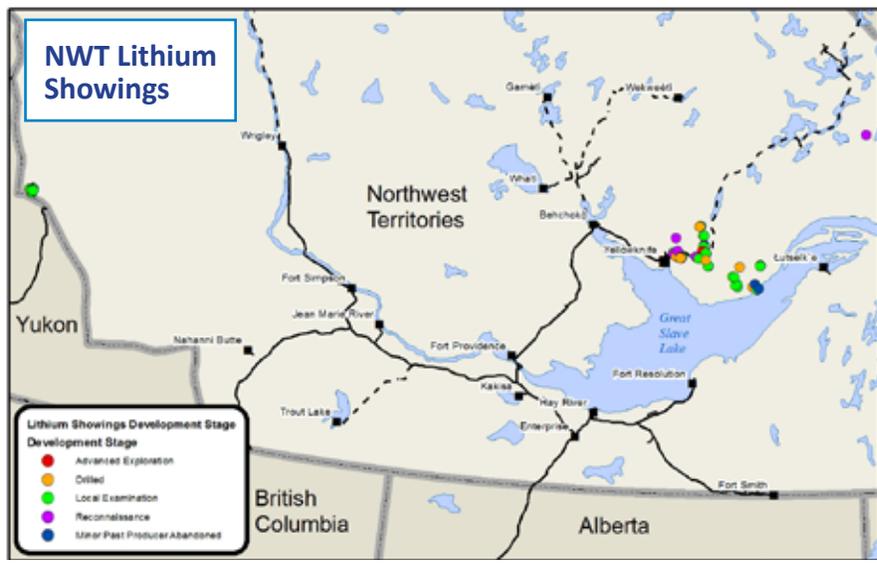
Investment Opportunities NORTHWEST TERRITORIES

Government of
Northwest Territories

“Lithium- energy for a greener planet”

Demand is growing fast for lithium, the wonder metal powering electric vehicles, smart phones and space exploration. Based on past work, the Yellowknife area has high potential to become a hub for lithium-bearing pegmatites that were the focus of extensive exploration in the mid to late 1950s.

In the mid to late 1970s, numerous pegmatites were discovered within a 100-km radius east, northeast and southeast of Yellowknife. Historic (pre NI 43-101) inferred tonnage for eight of those deposits varied from 2.3 million tonnes (grading 1.5% Li_2O) to 13.9 million tonnes (grading 1.2% Li_2O).



Pegmatite is an exceptionally coarse grained igneous rock, similar to granite, with interlocking crystals, that was formed by the consolidation of magma that intruded into other rock, and is usually found as dykes, lenses or veins. Pegmatites are a host material for lithium.

Production and current activity

Destaffany Mine southeast of Yellowknife produced some 17,052 lbs of lithium in the late 1940s and early 1950s, before the mine closed due to lack of demand.

Erex International (a private company) holds mineral leases on the majority of the large known deposits, including the Big/Murphy lithium deposit, 21 km east of Yellowknife, which was first staked in the 1950s. **92 Resources Corp.** has picked up claims in the vicinity and is actively mapping and sampling.

Clean Commodities Corp. has picked up the Phoenix lithium project from North Arrow Minerals Inc., about 300 km north of Yellowknife. 2009 drilling results are highlighted by a hole that cut 34.3 metres that assayed 1.24% Li_2O .



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Prospects

Name	Commodity	Owner	Historic Inferred Resource (tonnes)	Grade Li ₂ O
Big/Murphy	Li	Erex International Ltd.	7.15 million	1.47%
FI Main Dyke	Li	Erex International Ltd.	6.5 million	1.49%
Echo-Thor	Li	Erex International Ltd.	1.7 million	1.5%

Uses

- Lithium, the lightest metal, is extremely soft, highly reactive and flammable.
- Automakers around the world are now competing to develop electric cars that are expected to use large, rechargeable lithium-ion batteries.
- Highly efficient, rechargeable, lithium-ion batteries are used extensively in portable electronic devices such as cell phones, cameras, music players, and GPS units, and as batteries for electric tools.
- Lithium is an ingredient in high temperature lubricating greases.
- Alloys are used to create high performance aircraft parts.
- Lithium is used to remove carbon dioxide in space vehicles and submarines.

- Lithium also has a medical use, as it appears to lighten moods.
- Glazes containing lithium are used for ovenware.

Lithium is in world demand

China dominates the world lithium market. China is also stepping up production of electric vehicles, including buses. South Korea, Japan and Hong Kong buy significant quantities of lithium for battery use. In the United States, Tesla Motors is planning to produce lithium-ion batteries for up to half a million cars. Lithium can also be used to store electricity generated by wind or solar power. Tesla Motors has announced it will be selling and installing battery packs for US and Australian homes to store solar-generated energy. Power utilities, including one in Alaska, are testing the viability of giant lithium-ion

back-up battery packs to store power for use at peak demand times.

The demand for supplies of lithium was expected to grow by some eight percent annually in 2014. However, with the creation of mega lithium-ion battery factories, analysts believe demand will double.



Little Nahanni pegmatites in the Mackenzie Mountains.

This publication is produced by the Department of Industry Tourism and Investment (ITI). The Northwest Territories has one of the most diverse geological environments of any jurisdiction in Canada, one that includes the oldest rocks in the world and geological features that have resulted from modern and ongoing processes. The Northwest Territories Geological Survey (NTGS) surveys, collects, analyzes and makes available public geoscience information gathered from a variety of sources, including information on mineral deposits and geology. The Geological Survey, ITI and the NWT and Nunavut Chamber of Mines host the Yellowknife Geoscience Forum each year in November: www.geoscienceforum.com

For more information about these deposits, please refer to Guide to Selected Mineral Deposits of the Northwest Territories www.iti.gov.nt.ca/en/files/guide-mineral-deposits-northwest-territories

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