



TORNगत

Rare Earths to Power Electric vehicles and the Low Carbon Economy

OVERVIEW

- Strange Lake miarolitic pegmatite deposit is one of the world's largest containing 4.9 million tonnes of REO with a 30+ year mine life and significant future expansion potential
- Will produce ~14,000 tonnes per year of heavy and light rare earths, including separated, high-purity oxides of Nd, Pr, Dy and Tb for the permanent magnet supply chain for electric vehicles
- Will be one of the largest suppliers of Dy, 520 tonnes per year, which is predicted to have the most significant market supply gap
- Highest level of environmental, social and economic sustainability built into approach and plans
- PEA to 43-101 standards completed December 2019; PFS to be completed by 2021; production start in 2024
- All-in capital ~US\$615M
 - Open pit mine with on-site beneficiation operating year-round at Strange Lake
 - Refining and high-purity separation at a new facility in Bécancour



MAJOR BREAKTHROUGHS

- Low capital and operating costs due to a new explicit geological model, enabling selective mining and high-grade ore sorting; further cost reductions expected through large volume process piloting with world leading partners
- No new road to be built since Lockheed Martin cargo Hybrid Airships will economically transport the beneficiation concentrate from Strange Lake to Schefferville and then by existing transportation infrastructure to Bécancour



Lockheed Martin's Hybrid Airships will be used to transport ~100,000 tonnes per year of concentrate from Strange Lake



Permanent magnet supply chain



Torngat Metals

OPPORTUNITY

- Rare earths are used in numerous applications; highest value demand for rare earths is for permanent magnets, which are growing by 7-10% annually, driven by growth in electric vehicles, wind turbines, industrial robots and electric motor applications
- China currently supplies ~80% of the world market but will not be able to supply future growth; China has already begun to import rare earths; there is a growing interest in supply diversification to reduce risk and dependency on a single point of supply
- Strange Lake has the full suite of rare earths for permanent magnets, which will be in tight supply with market shortages possible
- Some rare earths will continue to be oversupplied; Strange Lake does not rely on revenues from these for economic viability
- Torngat's key differentiators:
 - Rare earths in the Strange Lake deposit are skewed toward the high value rare earth elements, one of the few deposits that can supply meaningful volumes of dysprosium, 520 tonnes per year
 - A simple, low cost industrial process for separating the individual rare earths from the mined ore
 - A strong competitive cost position with the highest levels of environmental sustainability and commitment to social licence
 - Québec is one of the best mining jurisdictions in the world
 - Attractive economics (projected EBITDA 54%, pre-tax IRR 24%, 5 year payback)
- With reliable supply of rare earths, opportunity exists to grow downstream value chain outside of China, potentially in Québec

NEXT STEPS

- Prefeasibility Study (PFS) - US\$6 million
 - Full piloting of all processing steps – beneficiation, sulphation, hydromet
 - Piloting to be done by world leading experts and equipment manufacturers (Corem, Outotec, ANZAPlan, Eramet, Carester) at a scale that will enable performance guarantees
 - Engineering (FEL2) supporting a capital estimate of +/- 20%
 - Revised economics (43-101 report)