CORE EXPLORATION LTD

Developing NT's First Lithium Resource

Mining The Territory Conference

Darwin August 2017

ASX code: **CXO**

Developing the first Lithium Resource in the NT

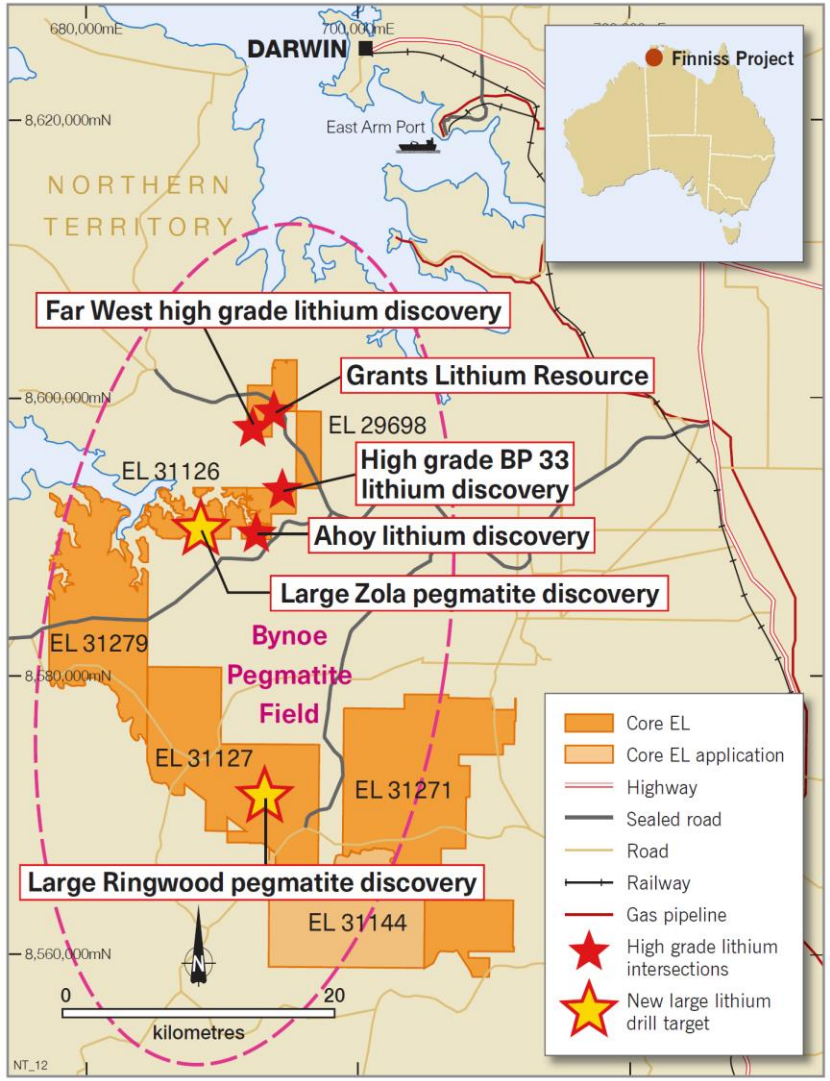
- Core has established the first Lithium Resource in the NT near Darwin
- Grants Lithium Resource one of the highest grade lithium deposits in Australia
- Development supported by arguably the best logistics chain to China of any Australian Lithium Project – HOA with Darwin Port for export
- Met. work produces high quality 6% Li_2O spodumene concentrate at +80% recovery
- Preliminary Mining Study shows strongly positive outcomes for Direct Shipping Ore (DSO) at Grants
- Discussions maturing with potential offtake partner/customer
- Core preparing to lodge mining lease application at Grants
- Significant potential to grow Resources : Grants Resource is only one of many lithium rich pegmatites identified within Core's large Finniss Lithium Project in the NT
- Exploration and Further Resource drilling planned in 2017

FINNISS LITHIUM PROJECT :

Advanced Project with Large-Scale Upside

Core's dominant position in the Bynoe pegmatite field at the Finniss Lithium Project includes:

- One of Australia's Highest Grade Lithium Resources
- Large Area ~400km^2 of Granted Tenements
- High Grade Spodumene drill intersections at multiple prospects
- Mt Finniss Mine - the largest pegmatite mine in the NT
- 25 other historic smaller pegmatite mines
- Other additional new large pegmatite targets
- Easy trucking distance by sealed road to Port Darwin



CXO FIRST LITHIUM RESOURCE IN THE NT

Core's 2016 drilling discovered and in 2017 defined maiden Resource - 1.8Mt at 1.5% Li_2O at Grants

Grants Lithium Resource is one of the highest grade undeveloped lithium deposits in Australia

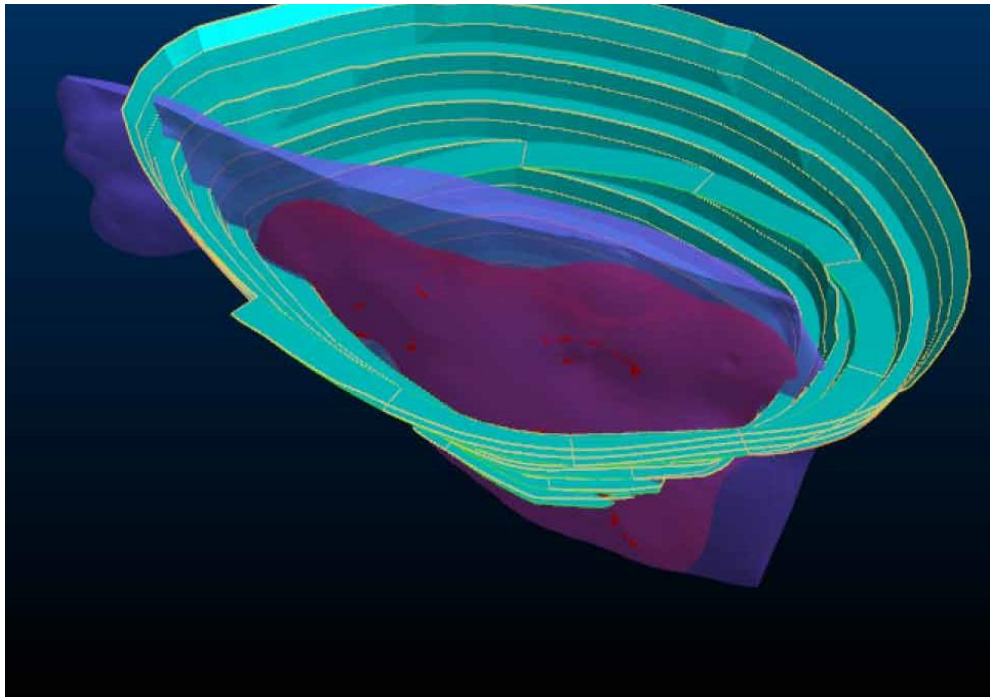
Preliminary Mining Study shows strongly positive outcomes for potential development of DSO Spodumene Operations based on the modest scale of Grants Resource

High 1% cut-off and flat grade-tonnage curve highlights 1.5% Li_2O "sweetspot" for DSO spodumene production

Simple Open Pit Mining

Grants only a short trucking distance by sealed road to Port Darwin

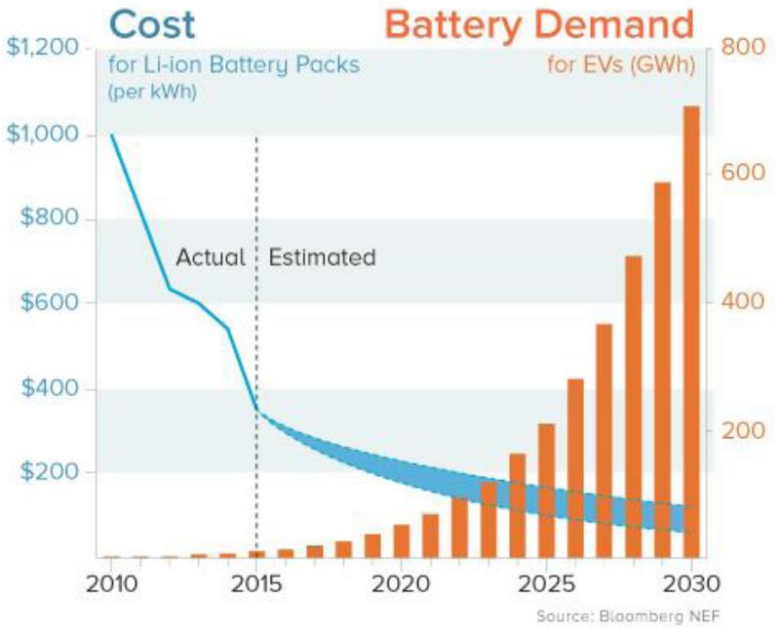
Core preparing Mining Lease Application at Grants

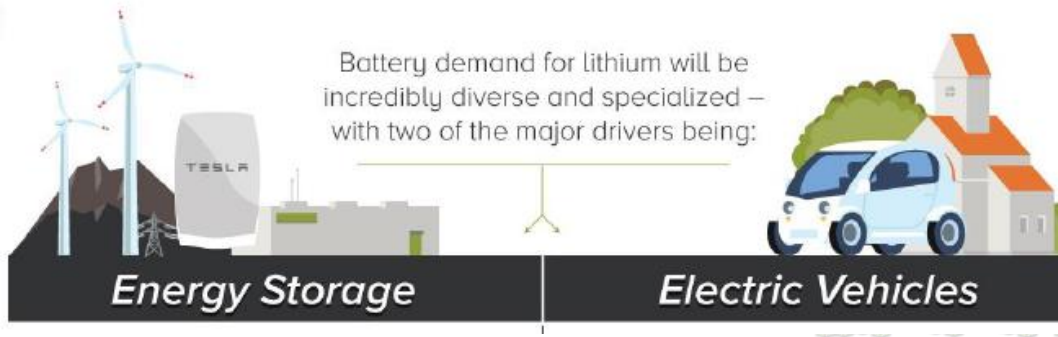


Mineral Resource Estimate for Grants Deposit, Finniss Lithium Project							
Domain	Cut-Off	Indicated			Inferred		
All	%	Tonnes	% Li_2O	Li_2CO_3 Eq	Tonnes	% Li_2O	Li_2CO_3 Eq
Grants	1.0	492,000	1.5	19,000	1,312,000	1.5	49,000
Total		492,000	1.5	19,000	1,312,000	1.5	49,000

Massive Expansion of Lithium Battery Making Capacity Underway

- Global Boom in Lithium Battery Storage expected to continue long term
- Lithium-ion Batteries growth driven by Electric Vehicles and Energy Storage
- Lithium raw materials are the vital ingredient for lithium ion battery technology
- Lithium in Australia is sourced from hard-rock mining of spodumene deposits
- Australia is the world's largest producer of spodumene with three mines in production in WA
- Core aiming to be the first lithium producer in NT





Australia's First Lithium Battery "Giga-Factory" set for Development in Darwin

- Energy Renaissance recently announced plans to build a lithium ion battery manufacturing plant in Darwin
  - Planned Annual production capacity of 1GWh - commencing 2018
- Builds on Darwin's strategic advantages of proximity to market
- Battery storage an important element of the future renewable energy in the NT, SA and globally
- Tesla also to supply the world's largest lithium battery in SA to support renewable energy capacity
  - early local example of how renewable energy and battery storage will be linked in the future on a global scale
- Core to evaluate potential synergies of domestic lithium supply chain

Finniss Lithium Project near Darwin : 100 years of Exploration & Mining History

Pegmatites are currently mined for extractive materials and have been mined successfully for tin and tantalum for over 100 years on the Cox Peninsula

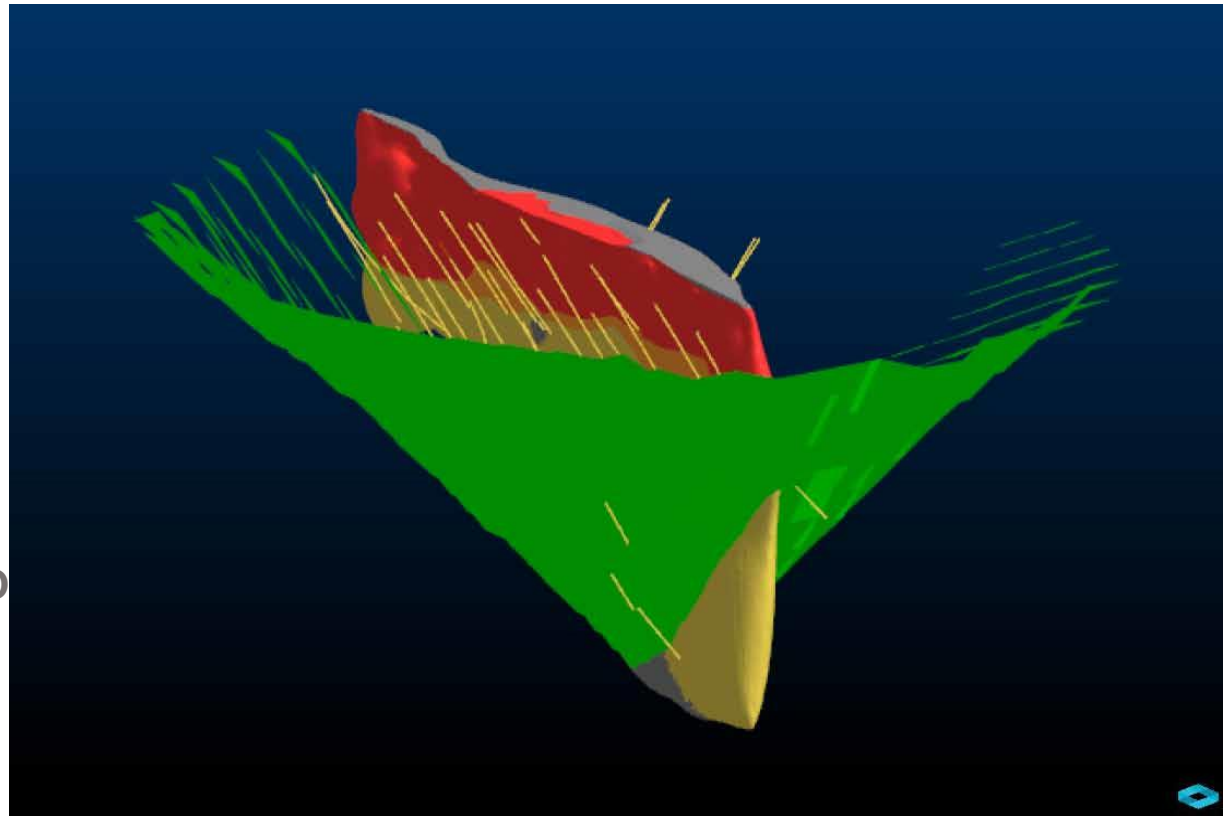
Year	Activity
1886	Tin was discovered in the Bynoe Harbour area
1890 - 1902	Leviathan Mine and the Annie Mine were discovered and worked
1903 - 1907	Hang Gong Wheel of Fortune Mine was found and tin concentrates were produced
1907 - 1909	Leviathan and Bells Mona Mines operated
1925	Exclusive prospecting licences granted over an area in the Bynoe Pegmatite Field
Early 1980's	Bynoe Pegmatite Mines were reactivated during a period of high tantalum prices by Greenbushes
1980 - 1990	Greenbushes explored and mined the Bynoe pegmatite field and produced tin and tantalite
2000 -	Pegmatites mined extractively (for aggregate/construction materials) by multiple parties
2016	Core started exploring EL 29698 for lithium mineralisation
2017	Core defines first lithium resource in the NT in the Bynoe

What is Pegmatite ?

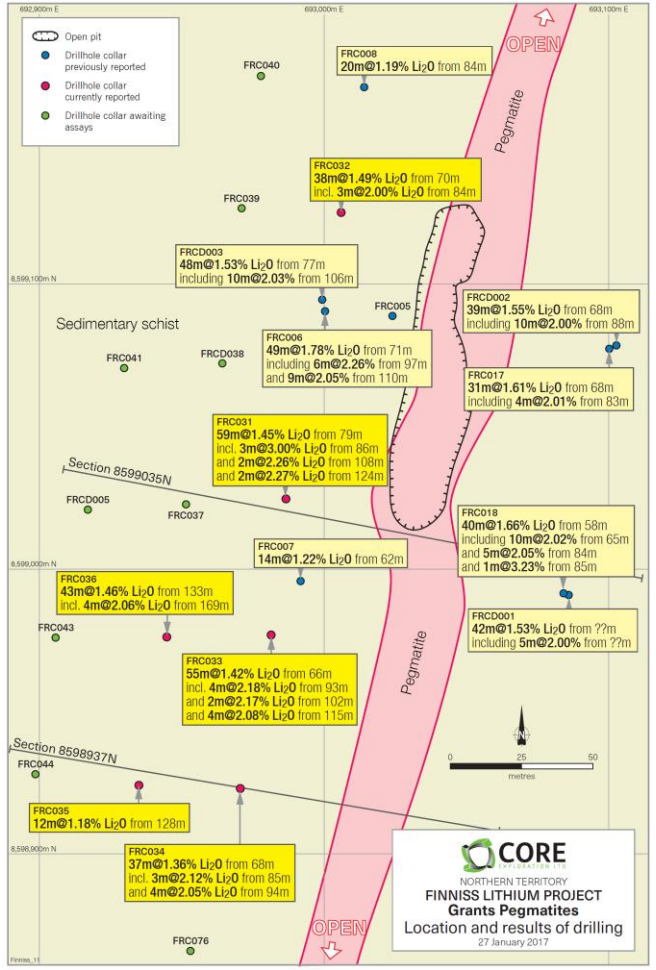
- Pegmatite is a type of granite with large crystals
- Like granite, the Grants Pegmatite is made up of common minerals quartz, feldspar, pyroxene and mica
- Similar to the minerals in a granite bench-top or granite building stone
- The pyroxene mineral in this case is the lithium rich mineral Spodumene
- Spodumene Pegmatite is geochemically benign
- Pegmatites mined for over 100 years in the Bynoe area

High Grade Lithium discovery drill results by Core at Grants in 2016/2017

- **59m @ 1.45% Li_2O from 79m, including 3m @ 2.12% Li_2O (FRC031)**
- **38m @ 1.49% Li_2O from 70m, including 3m @ 2.00% Li_2O (FRC032)**
- **55m @ 1.42% Li_2O from 66m, including 4m @ 2.18% Li_2O (FRC033)**
- **43m @ 1.46% Li_2O from 133m, including 4m @ 2.06% Li_2O (FRC036)**
- **53m @ 1.59% Li_2O from 136m, including 6m @ 2.00% Li_2O (FRC038)**
- **42m @ 1.60 % Li_2O from 130m, including 6m @ 2.14% Li_2O (FRC037)**
- **34m @ 1.37% Li_2O from 201m, including 3m @ 2.04% Li_2O (FRCD005)**
- **23m @ 1.51% Li_2O from 188m, including 4m @ 2.23% Li_2O (FRC041)**



CORE DRILLING of GRANTS HIGH QUALITY SPODUMENE IN 2016/2017



GRANTS SPODUMENE RESOURCE
SIMPLE OPEN PIT MINING

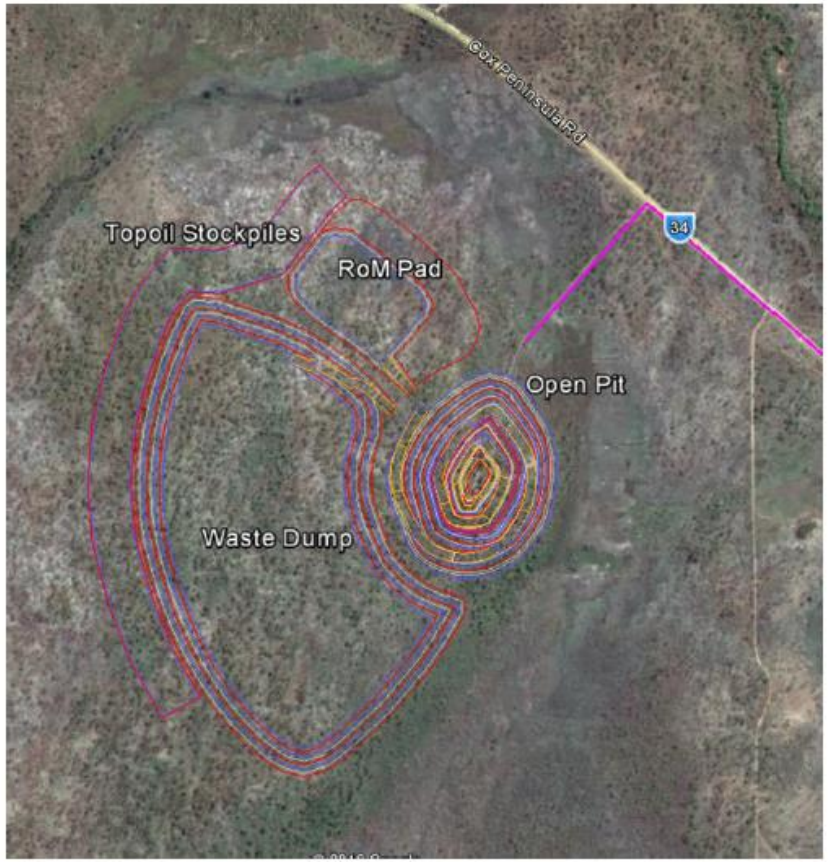
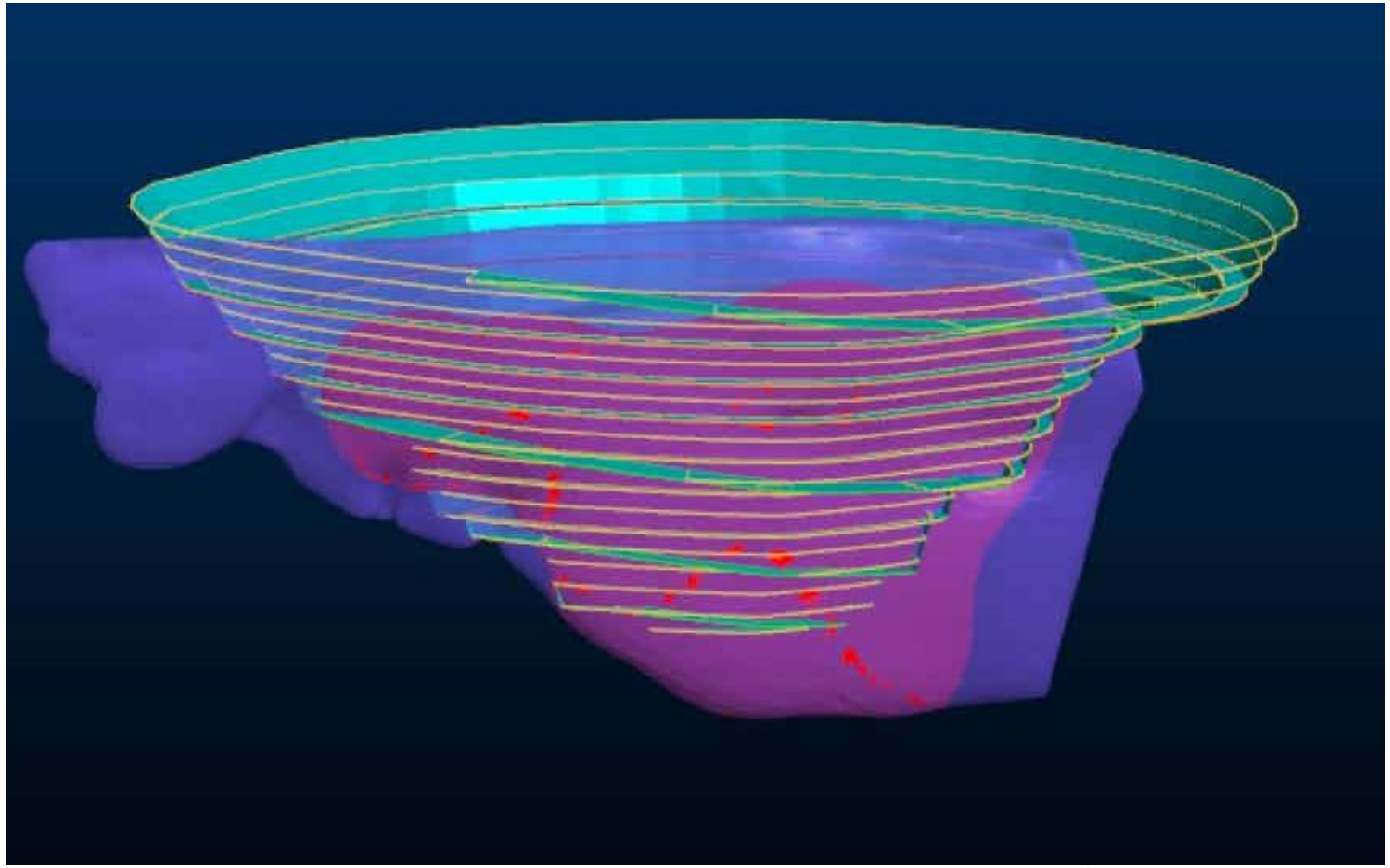


Figure 2-1 Mine Layout



6% Li_2O Concentrate at >80% Recovery in Metallurgical Testwork of DSO Spodumene

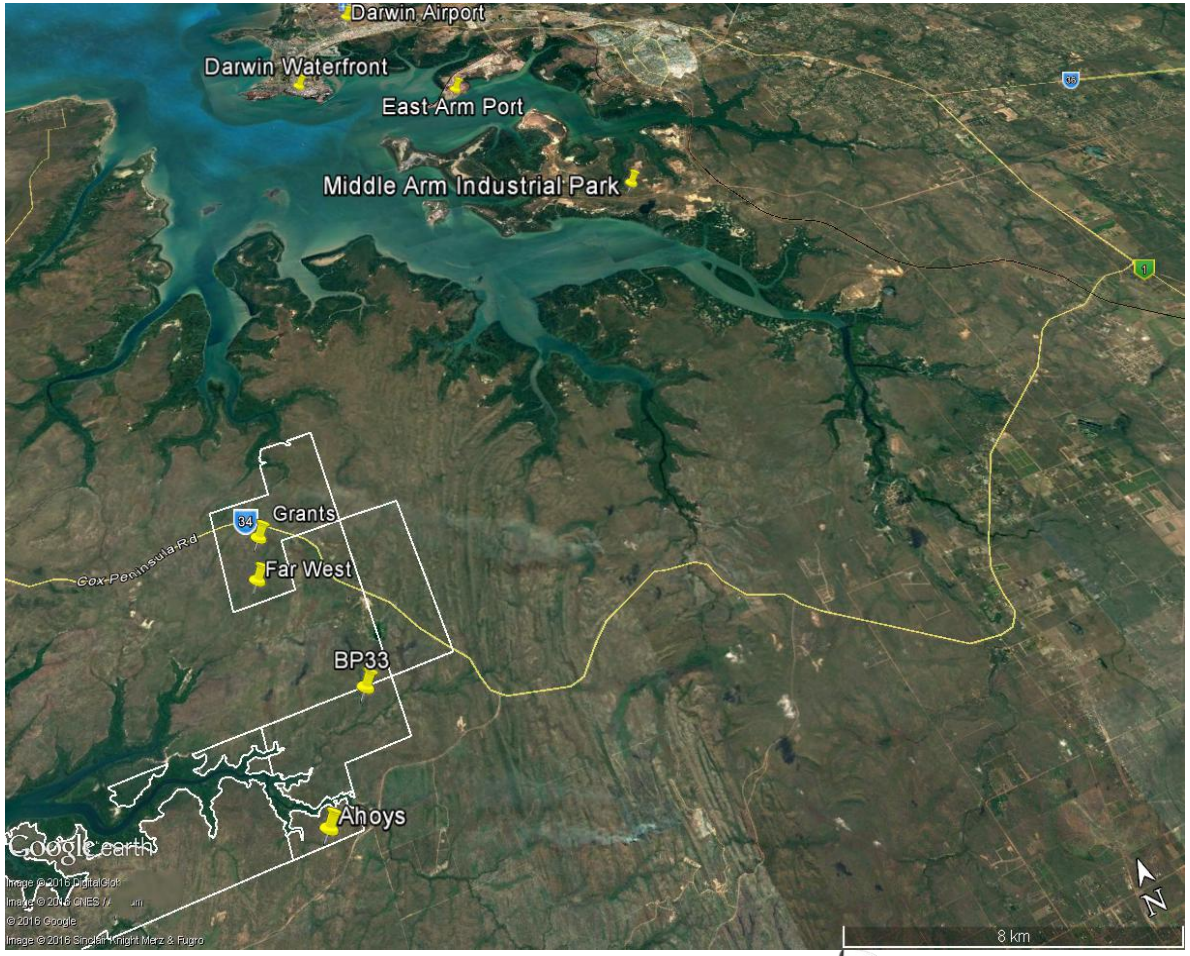
- **Several potential processing routes identified to produce a spodumene concentrate product of 6% Li_2O at recoveries of 80% or higher**
  - **Whole-of-Ore Flotation achieved excellent results with a concentrate grade of 6.2% Li_2O achieved at very high lithium stage recovery (from flotation head) of 93%**
  - **HLS (Heavy Liquid Separation) results give calculated concentrate grade of 5.9% Li_2O at a high stage recovery of 80%**
  - **Various configurations of DMS and Flotation combined are interpolated to produce 6.0% Li_2O concentrate at 80% recovery**
- **Low Iron ~ 0.3% Fe_2O_3**

8.10% Li_2O Spodumene from HLS Testwork

GRANTS DSO INFRASTRUCTURE

Substantial Infrastructure Advantages – Low Transport Costs

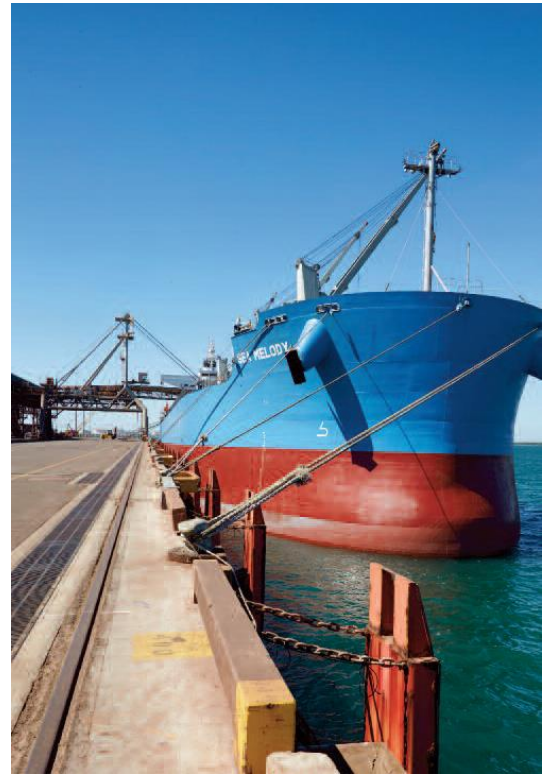
- Core's Finniss Lithium Project has substantial infrastructure advantages
- Potentially best logistics chain to China of any Australian Lithium Project
  - Bulk shipping costs of around US$10/t to China ex Darwin
- Darwin Port located in close proximity (70km by sealed road) to Grants
- Grants is close to grid power, gas and rail infrastructure and within easy trucking distance by sealed road to Port Darwin Port

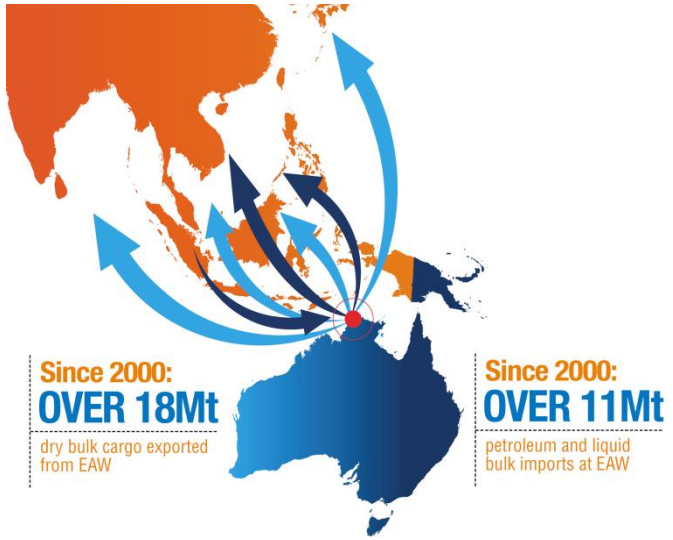


DARWIN PORT AGREEMENT

Core has Agreement with Darwin Port to ship 1Mt/y of spodumene

- Heads of Agreement signed with Darwin Port in respect of potential export of lithium products from Grants
- Agreement provides Core with capacity to export up to 1Mtpa of spodumene direct shipping ore (DSO) or up to 250,000 tpa of spodumene concentrate
- East Arm Wharf facilities at Darwin Port are well suited to handle potential future production from Core's lithium projects
- Darwin Port is Australia's nearest port to China





Feasibility Work Program

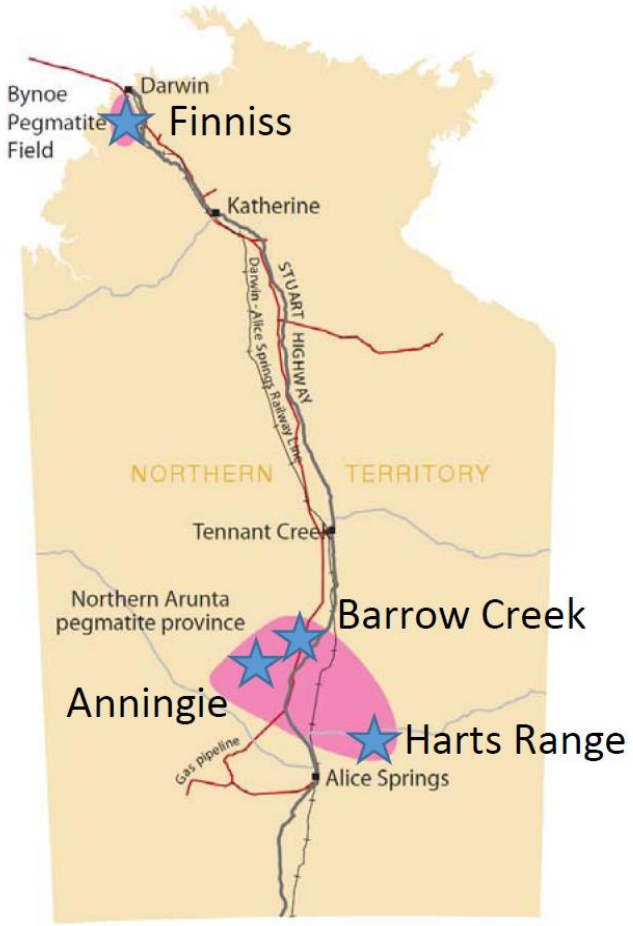
Scoping mining study completed
Mine licencing in preparation
Environmental baseline studies underway

Study	Timing
Geochemistry	commenced
Surface Water Hydrology	commenced
Hydrogeology	commenced
Soils	commenced
Flora	commenced
Fauna	commenced

Establishing Groundwater Monitoring Borefield At Grants

NT LITHIUM EXPLORATION PROJECTS

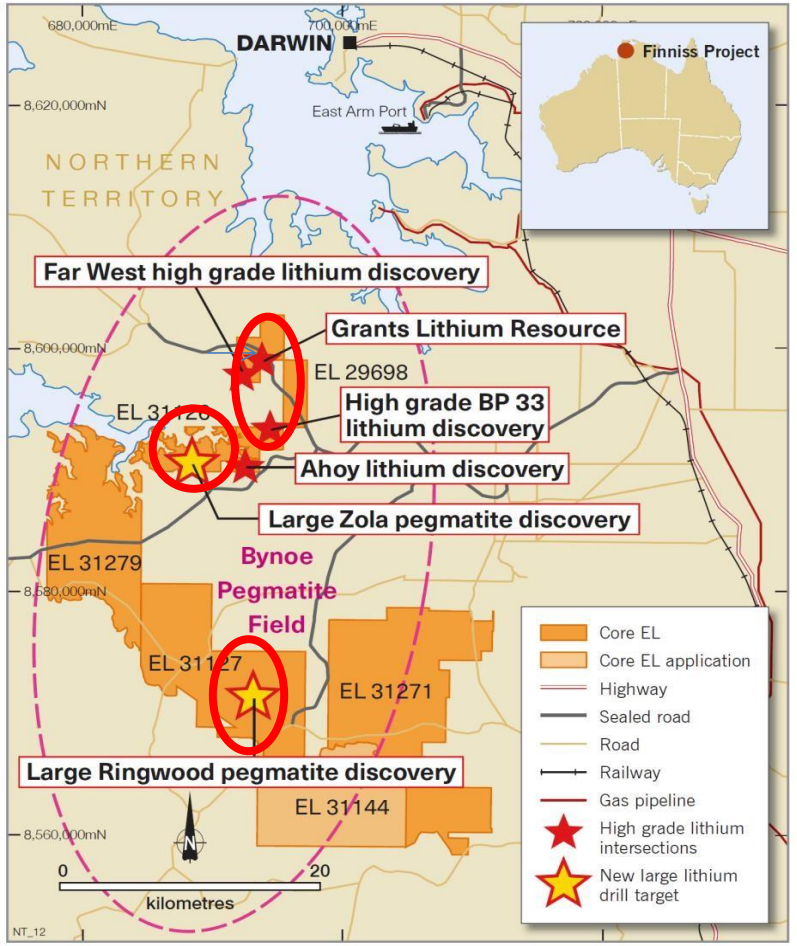
- Core continuing to expand and advance major discoveries on its strategic lithium projects in pegmatite provinces in the NT
- Core has a dominant position in the NT Pegmatite Fields
- Includes strong diversity of lithium projects with a range of exploration maturities
- Lithium Exploration underway currently at Finniss and Barrow Creek



2017 LITHIUM EXPLORATION : FINNISS

Drilling underway

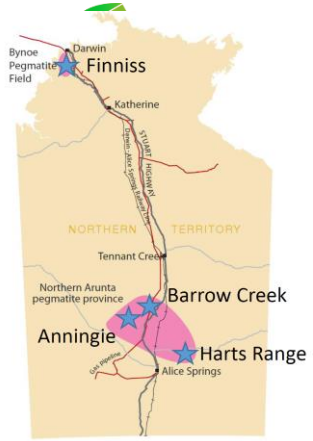
- Exploration and aggressive drill programs in 2017 to target building a resource base to support a long-life lithium production operation
- The 2016 program at the Finniss Project discovered some of the highest grade lithium in Australia, capable of producing a quality chemical grade spodumene concentrate
- Numerous high grade lithium pegmatite targets already identified
- Work programs underway at Finniss to initially include soils and mapping of pegmatite targets, including new targets generated by Core's interpretation of new magnetic survey data
- Shallow RAB and AC shallow drilling and deeper RC drilling underway

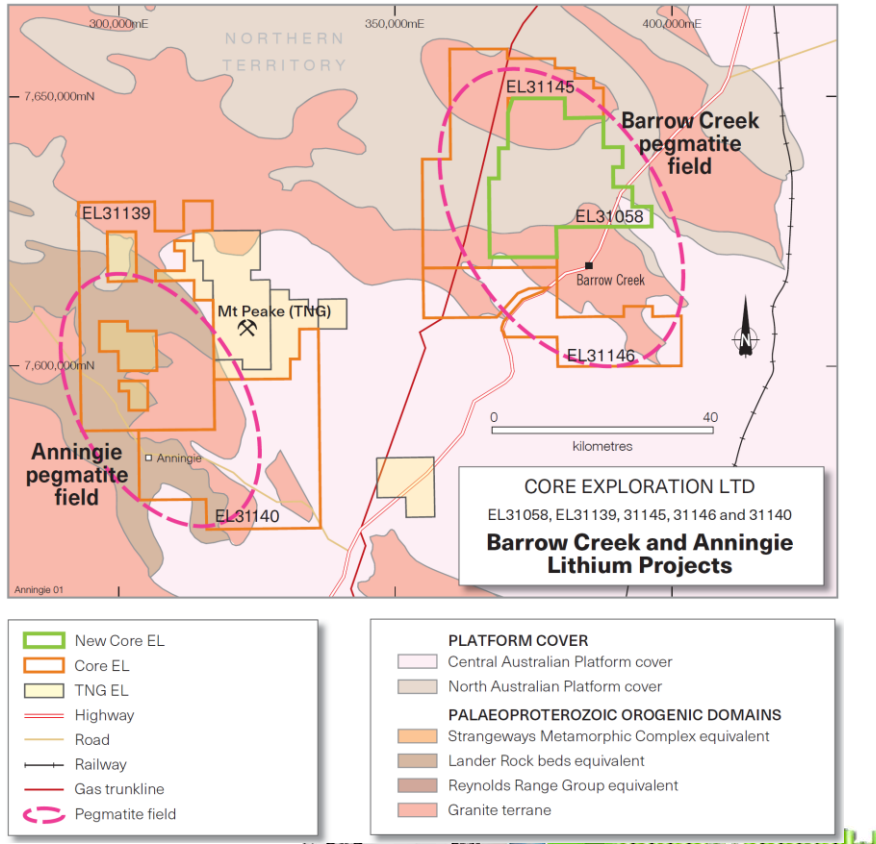


BARROW CREEK AND ANNINGIE PEGMATITES EXPANDS NT LITHIUM FOCUS

Core has Large Granted Tenements Prospective for Lithium in Northern Arunta Pegmatite Province in NT

- Barrow Creek is an early-stage look-alike to Core's Finniss Lithium Project with a long history of tin and tantalum production, similar to Core's Finniss Lithium Project (and Greenbushes)
- Lithium contents of the source granites for the Barrow Creek Pegmatite Field are comparable to those at Finniss
- Acquisition complements Core's surrounding 2,500km^2 of recently granted tenements in the Barrow Creek and Anningie Pegmatite Fields
- Numerous Tin Tantalum Pegmatite targets identified at Barrow Creek
- Exploration currently underway at Barrow Creek on new large lithium soil/pegmatite anomalies
- **Barrow Creek has rail connection that links direct to Darwin Port** - potential for Darwin to become central processing and transport hub for NT spodumene production





Developing the first Lithium Resource in the NT

- Core has established the first Lithium Resource in the NT near Darwin
- Grants Lithium Resource one of the highest grade lithium deposits in Australia
- Development supported by arguably the best logistics chain to China of any Australian Lithium Project – HOA with Darwin Port for export
- Met. work produces high quality 6% Li_2O spodumene concentrate at +80% recovery
- Preliminary Mining Study shows strongly positive outcomes for Direct Shipping Ore (DSO) at Grants
- Discussions maturing with potential offtake partner/customer
- Core preparing to lodge mining lease application at Grants
- Significant potential to grow Resources : Grants Resource is only one of many lithium rich pegmatites identified within Core's large Finniss Lithium Project in the NT
- Exploration and Further Resource drilling planned in 2017

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Stephen Biggins (BSc(Hons)Geol, MBA) as Managing Director of Core Exploration Ltd who is a member of the Australasian Institute of Mining and Metallurgy and is bound by and follows the Institute's codes and recommended practices. He has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Biggins consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The report includes results that have previously been released under JORC 2012 by Core as follows. The Company is not aware of any new information that materially affects the information included in this announcement. The information related to the Grants Lithium Mineral Resource Estimate at the Finniss Lithium Project was detailed in the market announcement "Core Defines First Lithium Resource in the NT" released on 8 May 2017. Core confirms that it is not aware of any new information or data that materially affects the information included in that announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed

24/07/2017	Drilling of Large-Scale Ringwood Lithium Prospect Underway
21/06/2017	RC Drilling at Large-scale Zola Pegmatite Commences
9/05/2017	2017 Lithium Exploration Commences At Finniss
8/05/2017	Core Defines First Lithium Resource in the NT
4/04/2017	New Magnetic Survey Adds Sizeable Targets to Ringwood
30/03/2017	Test work Produces High Quality 6% Spodumene Concentrate
7/03/2017	Non-Binding Heads of Agreement with Darwin Port
2/03/2017	Final Drilling Assays Deliver Outstanding High Grade Lithium

ASX code: CXO