



# Developing First Lithium Resource in NT

RIU Conference Sydney & Melbourne  
September 2017



ASX code: CXO

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# Developing the first Lithium Resource in the NT

- Core has established the first Lithium Resource in the NT near Darwin
- Recent placement to Yahua - one of China's largest lithium producers – and spodumene offtake agreement being negotiated
- Development supported by arguably the best logistics chain to China of any Australian Lithium Project – HOA with Darwin Port for export
- Grants Lithium Resource one of the highest grade lithium deposits in Australia
- Preliminary Mining Study shows strongly positive outcomes for development of 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
- Core recently signed deal with Lontown to acquire 50 adjacent pegmatite prospects with widespread spodumene related lithium mineralisation above 1%  $\text{Li}_2\text{O}$  (including 42m @1.0%)
- Core valuation growth to reflect move from Explorer to Developer



# COMPANY INFORMATION

## Shares

|                        |         |
|------------------------|---------|
| Price A\$ (22/09/2016) | ~\$0.05 |
| Shares on issue        | ~440M   |
| Market cap (undil.)    | ~\$22M  |
| Cash (22/09/2017)      | ~\$7M   |
| EV                     | ~\$15M  |

## Management

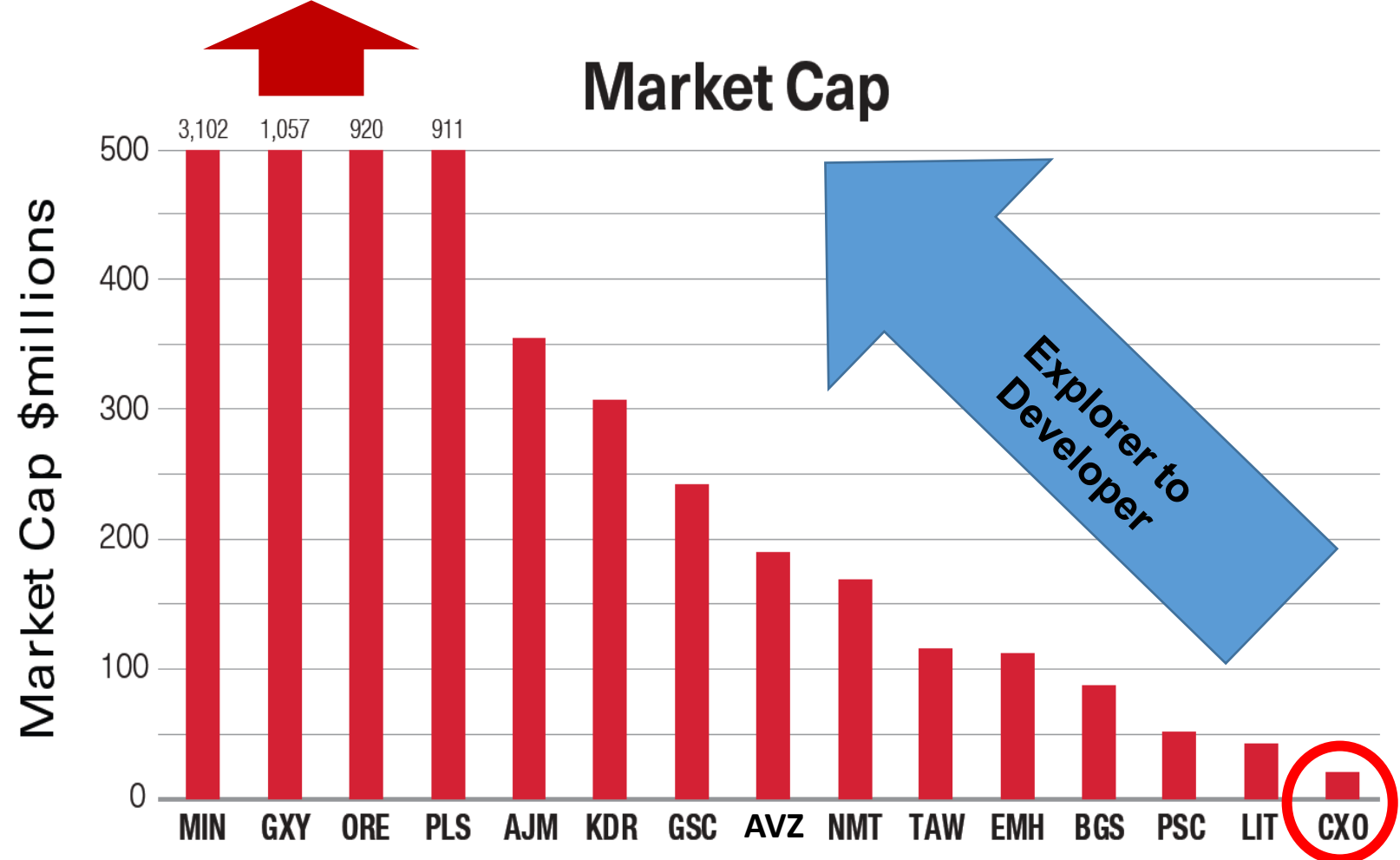
Stephen Biggins – Managing Director  
ex SAU, IVR

Greg English – Chairman  
AXE, LCK

Heath Hellewell – Non-executive Director  
CMM, DKM, ex DRM



# ASX LITHIUM SECTOR COMPARATIVE MARKET CAP



# CXO FIRST LITHIUM RESOURCE IN THE NT

## Core’s 2016 drilling discovered and in 2017 defined maiden Resource - 1.8Mt at 1.5% Li<sub>2</sub>O at Grants

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

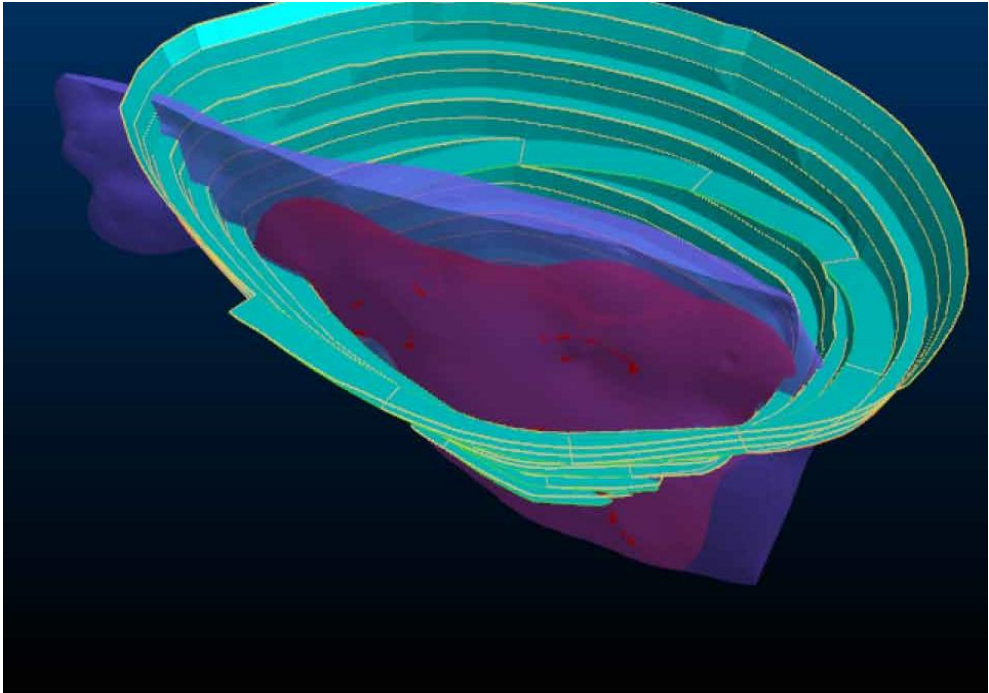
Preliminary Mining Study shows strongly positive outcomes for potential development of DSO Spodumene Operations based on the modest scale of Grants Resource

High 1% cut-off and flat grade-tonnage curve highlights 1.5% Li<sub>2</sub>O “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 <sub>2</sub> O | Li <sub>2</sub> CO <sub>3</sub> Eq | Tonnes    | % Li <sub>2</sub> O | Li <sub>2</sub> CO <sub>3</sub> 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                             |

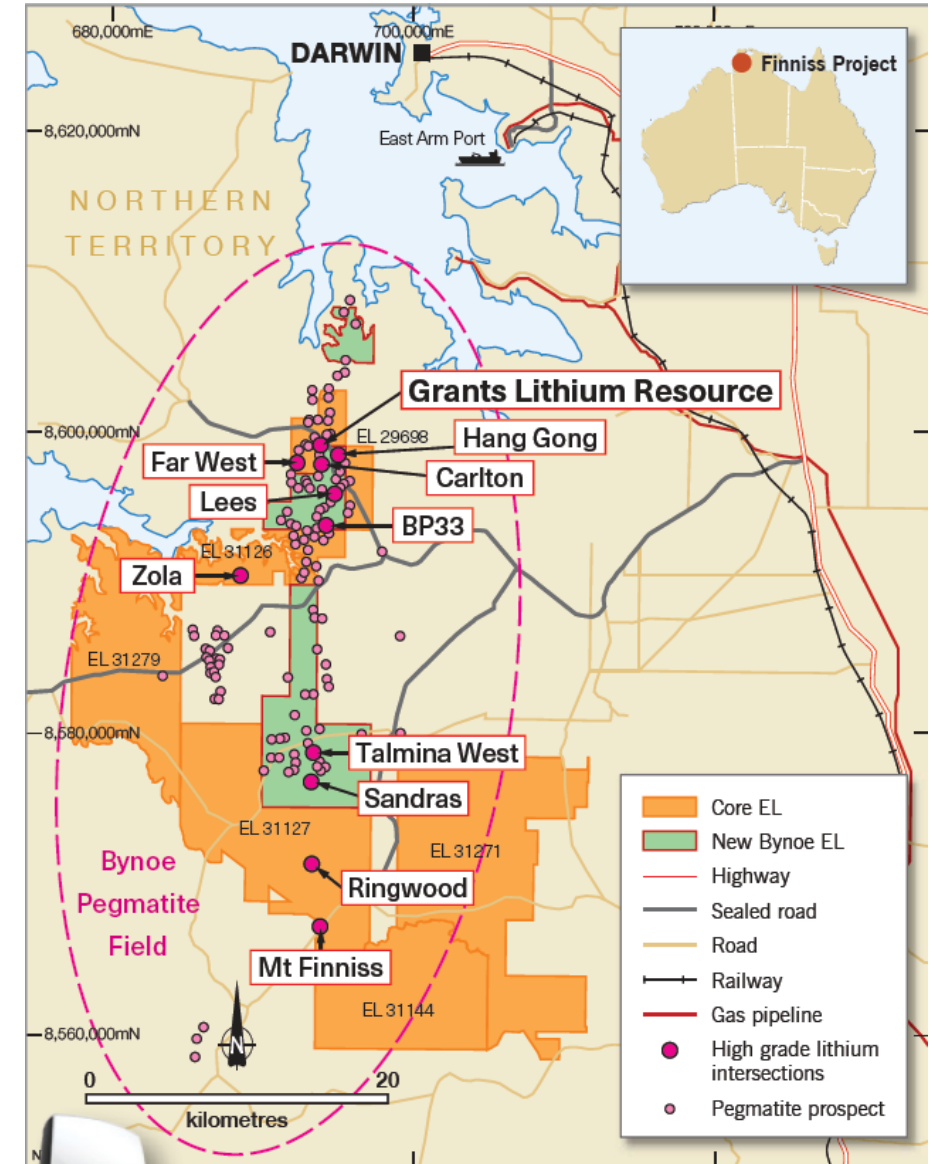


# FINNISS AND NEW BYNOE LITHIUM PROJECTS :

*Advanced Project with Large-Scale Upside*

Core's dominant position in the Bynoe Pegmatite Field expanded by acquisition of Liontown's adjacent Project, includes :

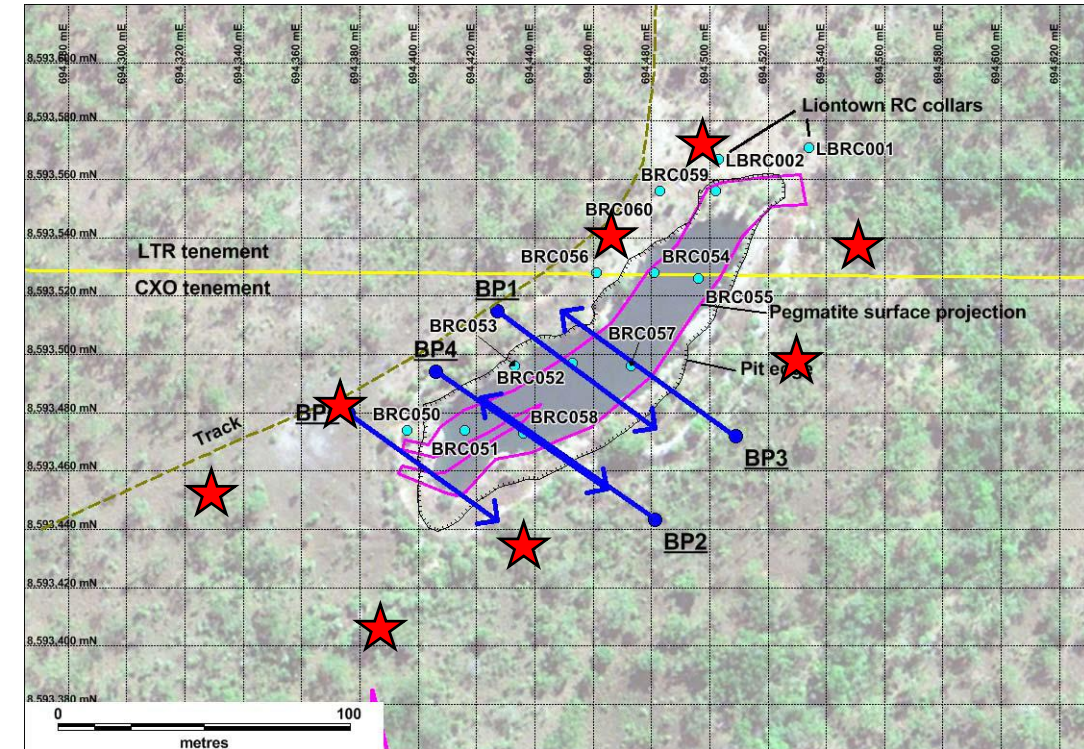
- One of Australia's Highest Grade Lithium Resources
- Large Area ~500km<sup>2</sup> of Tenements
- Granted Mining Lease over historic pegmatite mine
- Widespread High Grade Spodumene drill intersections at multiple prospects
- 75 historic pegmatite occurrences
- Existing and new large pegmatite targets to be tested
- Easy trucking distance by sealed road to Port Darwin



# NEW BYNOE LITHIUM PROJECT :

*New Bynoe ML close to high-grade Grants and BP33*

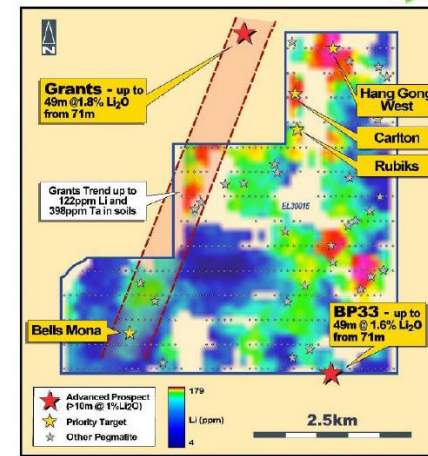
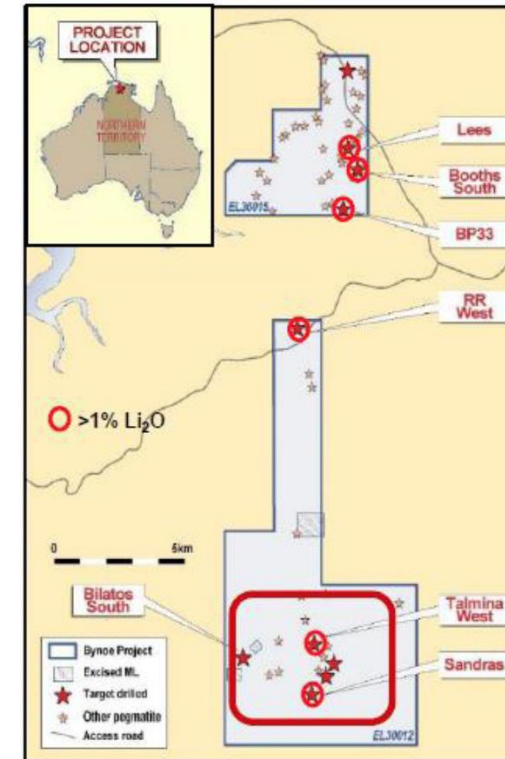
- Core has consolidated the best lithium projects in the NT by acquiring Lontown's adjacent Bynoe Lithium Project
- Bynoe complementary to Core's Finniss Project as directly adjacent to Core's high-grade Grants Resource
- Acquisition includes ML over historic pegmatite mine near Grants with potential to provide fast-track production
- The new Bynoe Project also contains the extension to Core's high grade BP33 pegmatite (inc 38m @ 1.5%  $\text{Li}_2\text{O}$ )
- Core's upcoming drilling at BP33 to test scale and grade of mineralisation down-dip & extensions to south and north with 6-8 RC step-out holes



# NEW BYNOE LITHIUM PROJECT :

*Widespread spodumene above 1% Li<sub>2</sub>O*

- Previous drilling has confirmed widespread spodumene related lithium mineralisation above 1% Li<sub>2</sub>O within the new Bynoe Project
- Broad zones of ore grade already discovered at other prospects including Sandras prospect (42m @1.0% Li<sub>2</sub>O)
- The acquisition adds a large number of untested, highly prospective lithium pegmatite targets to Core's portfolio, including over 50 historic pegmatite prospects
- Exploration on new Bynoe Lithium Project to commence immediately



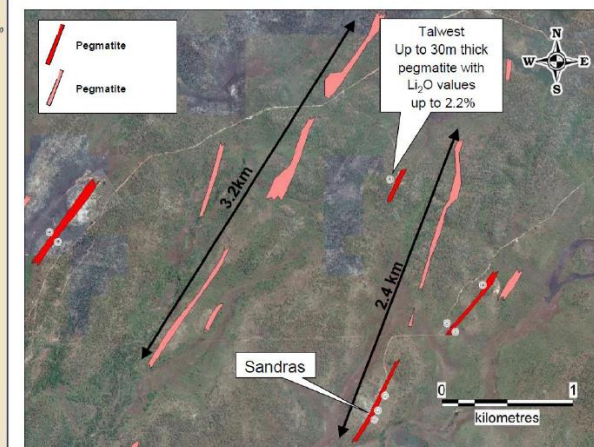
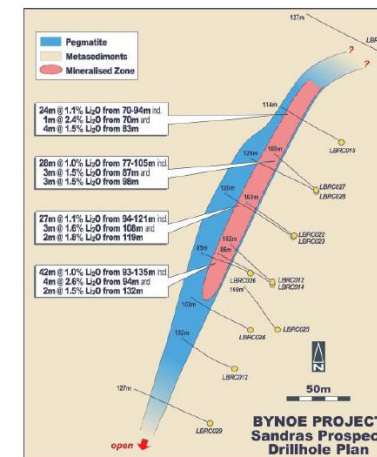
Figures 2-5 (clockwise from top left)

Fig 2. Bynoe Lithium Project Key Prospects

Fig 3. EL 30015 Key Prospects adjacent to Grants and BP33

Fig 4. EL 30012 Sandras Regional Pegmatite Targets

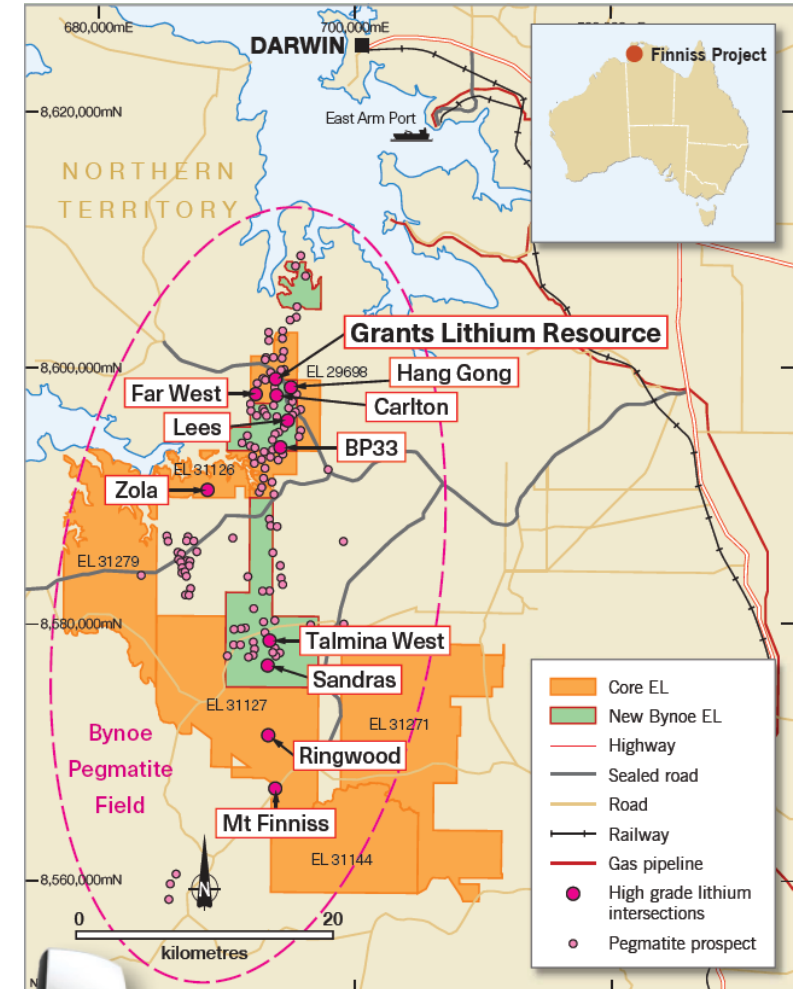
Fig 5. Sandras Prospect Drillhole Plan



# 2017 LITHIUM EXPLORATION : FINNISS

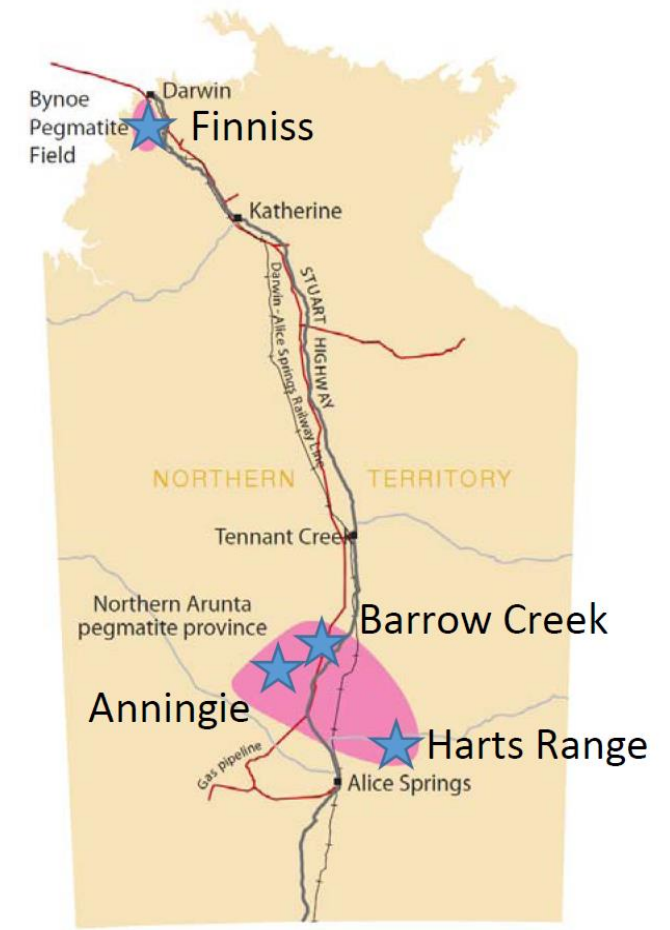
## *Drilling underway*

- 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 Finnis 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 Finnis 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



# NT LITHIUM EXPLORATION PROJECTS

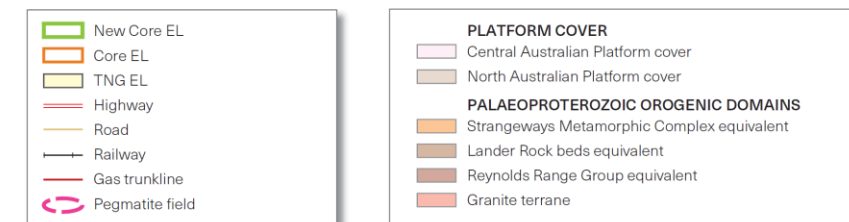
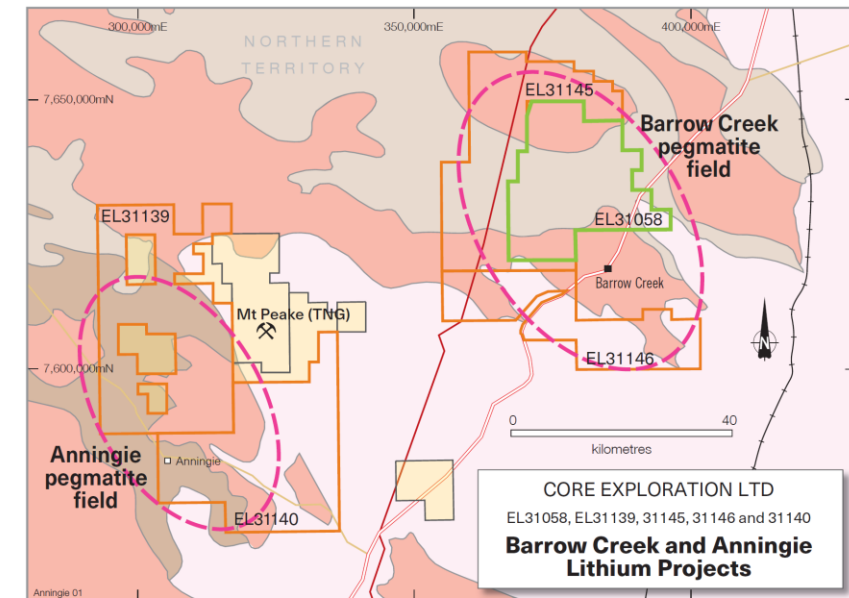
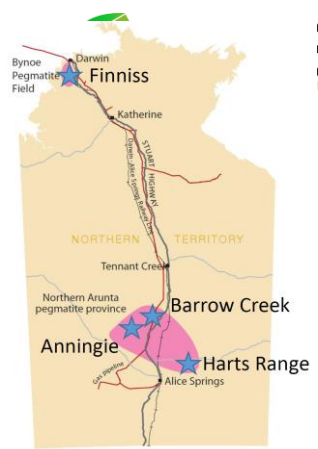
- Core continuing to expand and advance major discoveries on its strategic lithium projects in pegmatite provinces in the NT
- Core has a dominant position in the NT Pegmatite Fields
- Includes strong diversity of lithium projects with a range of exploration maturities
- Lithium Exploration underway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



# 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 Finiss Lithium Project with a long history of tin and tantalum production, similar to Core's Finiss Lithium Project (and Greenbushes)
- Lithium contents of the source granites for the Barrow Creek Pegmatite Field are comparable to those at Finiss
- Acquisition complements Core's surrounding 2,500km<sup>2</sup> 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**



# DEVELOPMENT OF GRANTS RESOURCE POSITIVE MINING STUDY

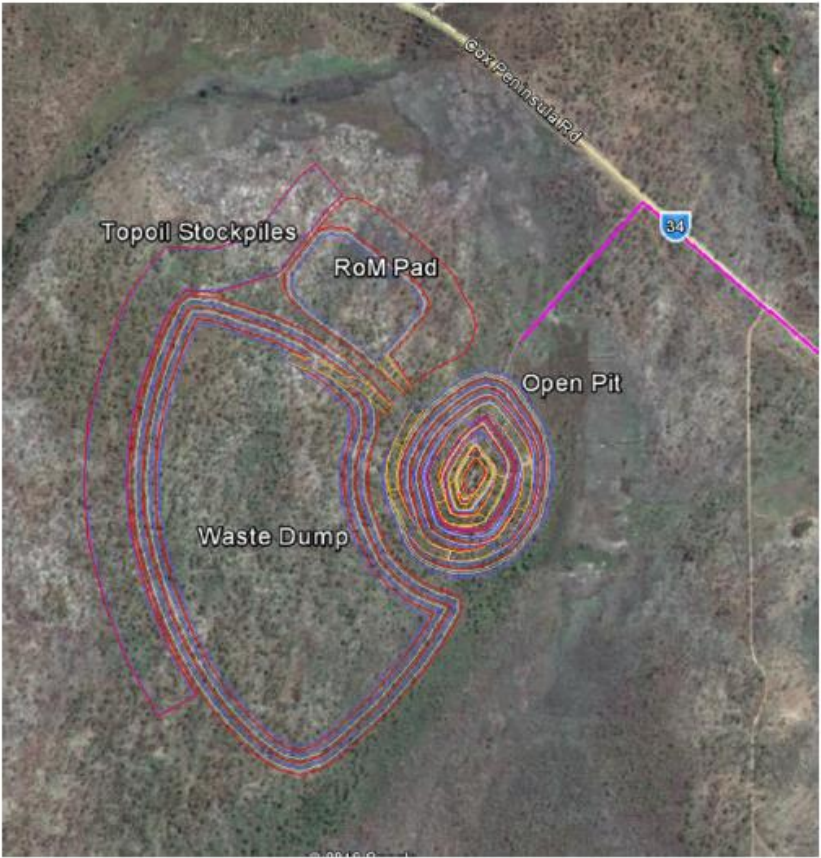
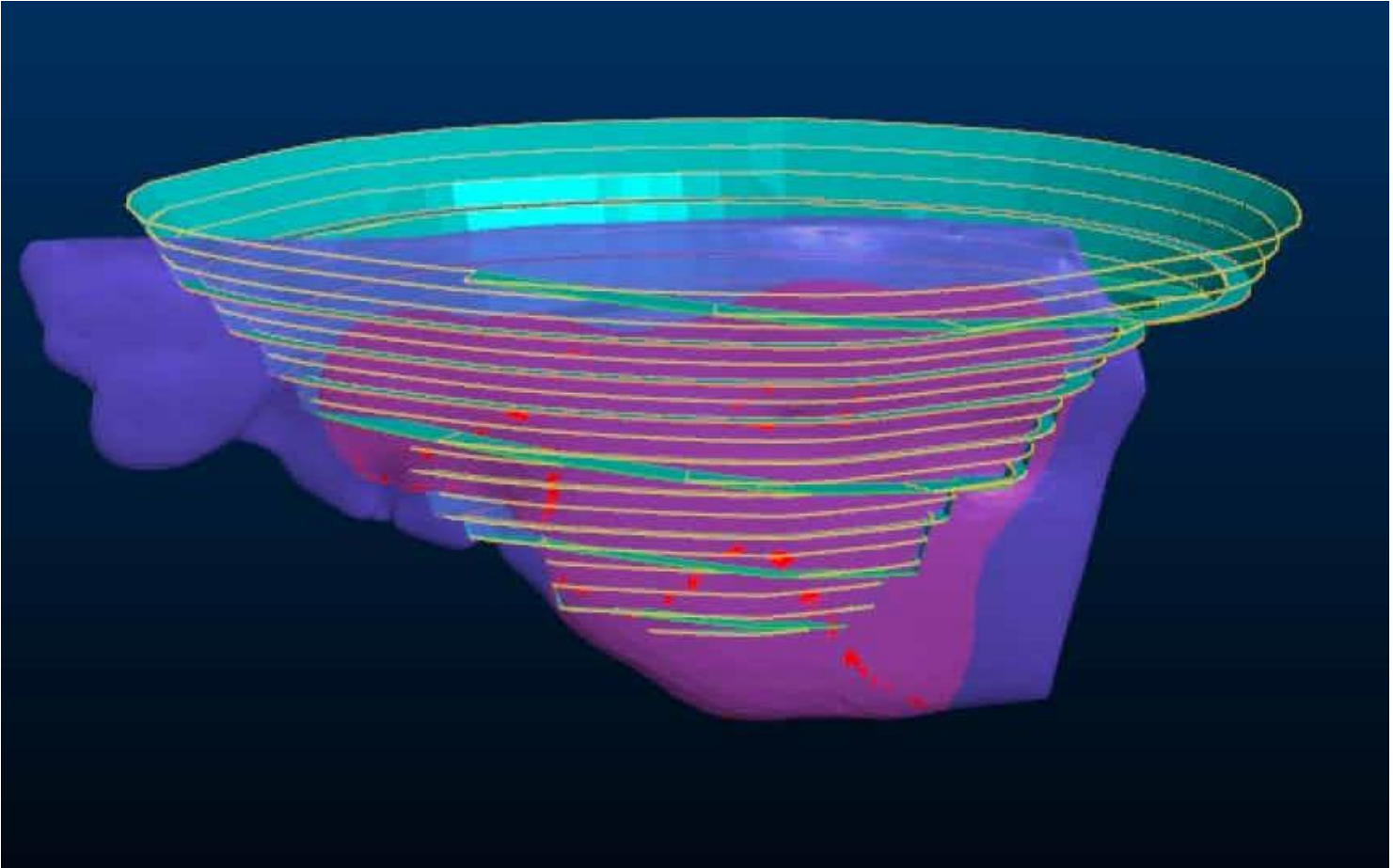
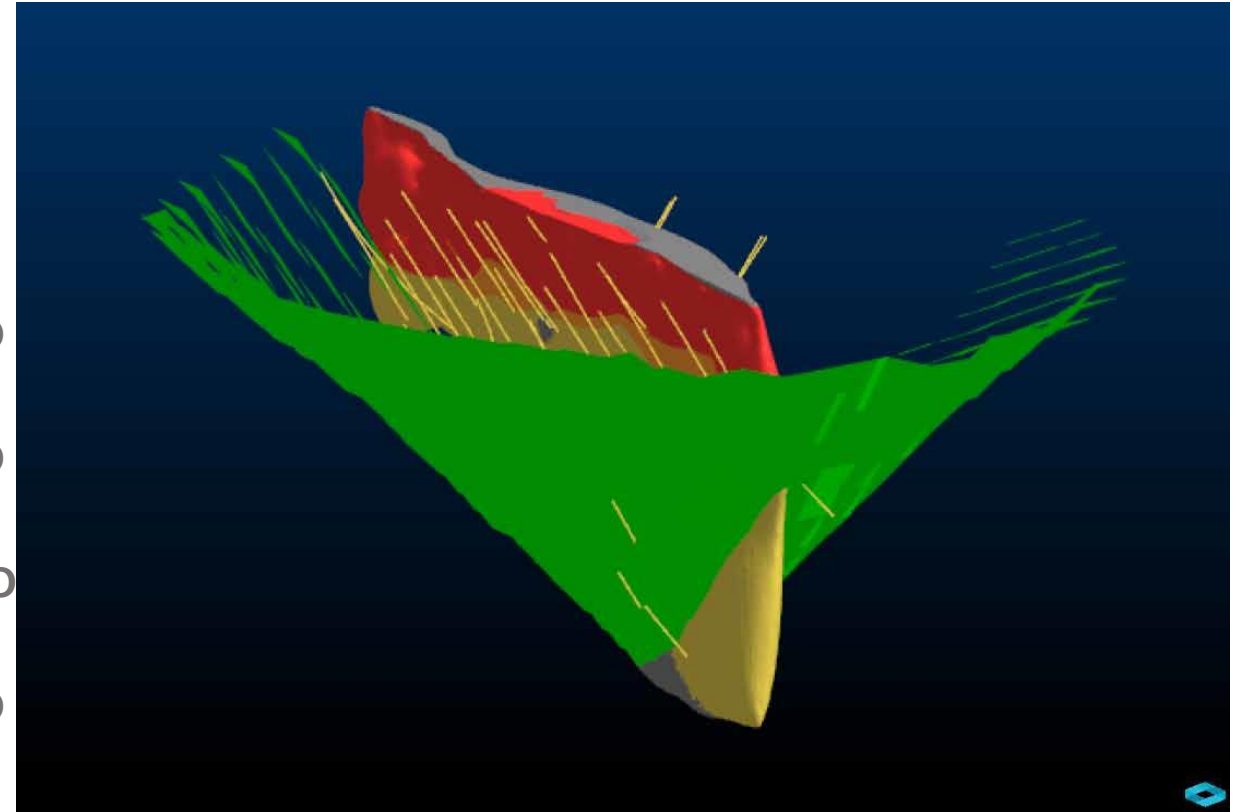


Figure 2-1 Mine Layout

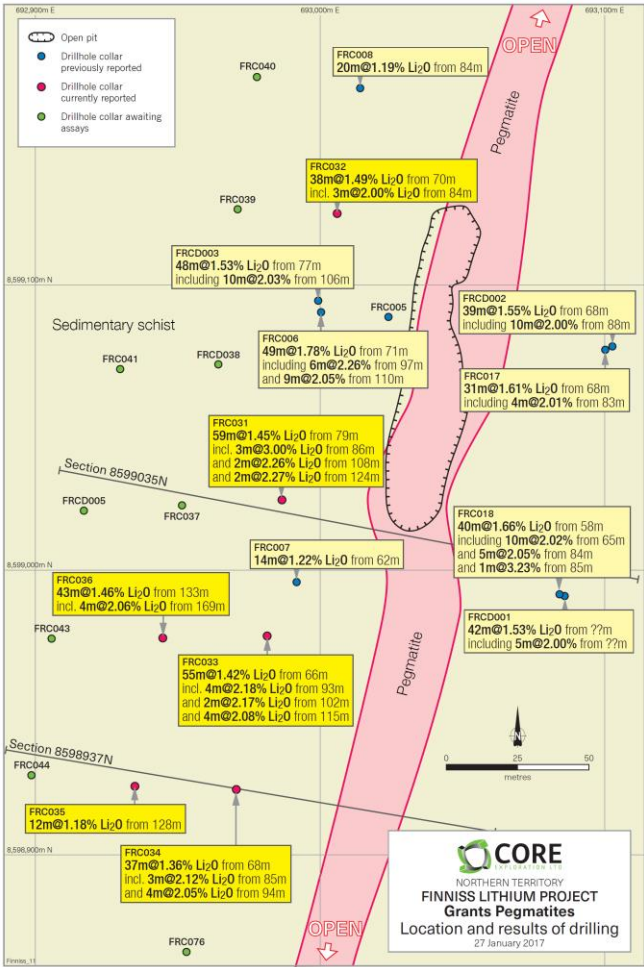


# High Grade Lithium discovery drill results by Core at Grants in 2016/2017

- 59m @ 1.45% Li<sub>2</sub>O from 79m, including 3m @ 2.12% Li<sub>2</sub>O (FRC031)
- 38m @ 1.49% Li<sub>2</sub>O from 70m, including 3m @ 2.00% Li<sub>2</sub>O (FRC032)
- 55m @ 1.42% Li<sub>2</sub>O from 66m, including 4m @ 2.18% Li<sub>2</sub>O (FRC033)
- 43m @ 1.46% Li<sub>2</sub>O from 133m, including 4m @ 2.06% Li<sub>2</sub>O (FRC036)
- 53m @ 1.59% Li<sub>2</sub>O from 136m, including 6m @ 2.00% Li<sub>2</sub>O (FRC038)
- 42m @ 1.60 % Li<sub>2</sub>O from 130m, including 6m @ 2.14% Li<sub>2</sub>O (FRC037)
- 34m @ 1.37% Li<sub>2</sub>O from 201m, including 3m @ 2.04% Li<sub>2</sub>O (FRCD005)
- 23m @ 1.51% Li<sub>2</sub>O from 188m, including 4m @ 2.23% Li<sub>2</sub>O (FRC041)



# CORE DRILLING of GRANTS HIGH QUALITY SPODUMENE IN 2016/2017



# 6% Li<sub>2</sub>O Concentrate at >80% Recovery in Metallurgical Testwork of DSO Spodumene

- Several potential processing routes identified to produce a spodumene concentrate product of 6% Li<sub>2</sub>O at recoveries of 80% or higher
  - Whole-of-Ore Flotation achieved excellent results with a concentrate grade of 6.2% Li<sub>2</sub>O 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<sub>2</sub>O at a high stage recovery of 80%
  - Various configurations of DMS and Flotation combined are interpolated to produce 6.0% Li<sub>2</sub>O concentrate at 80% recovery
- Low Iron ~ 0.3% Fe<sub>2</sub>O<sub>3</sub>



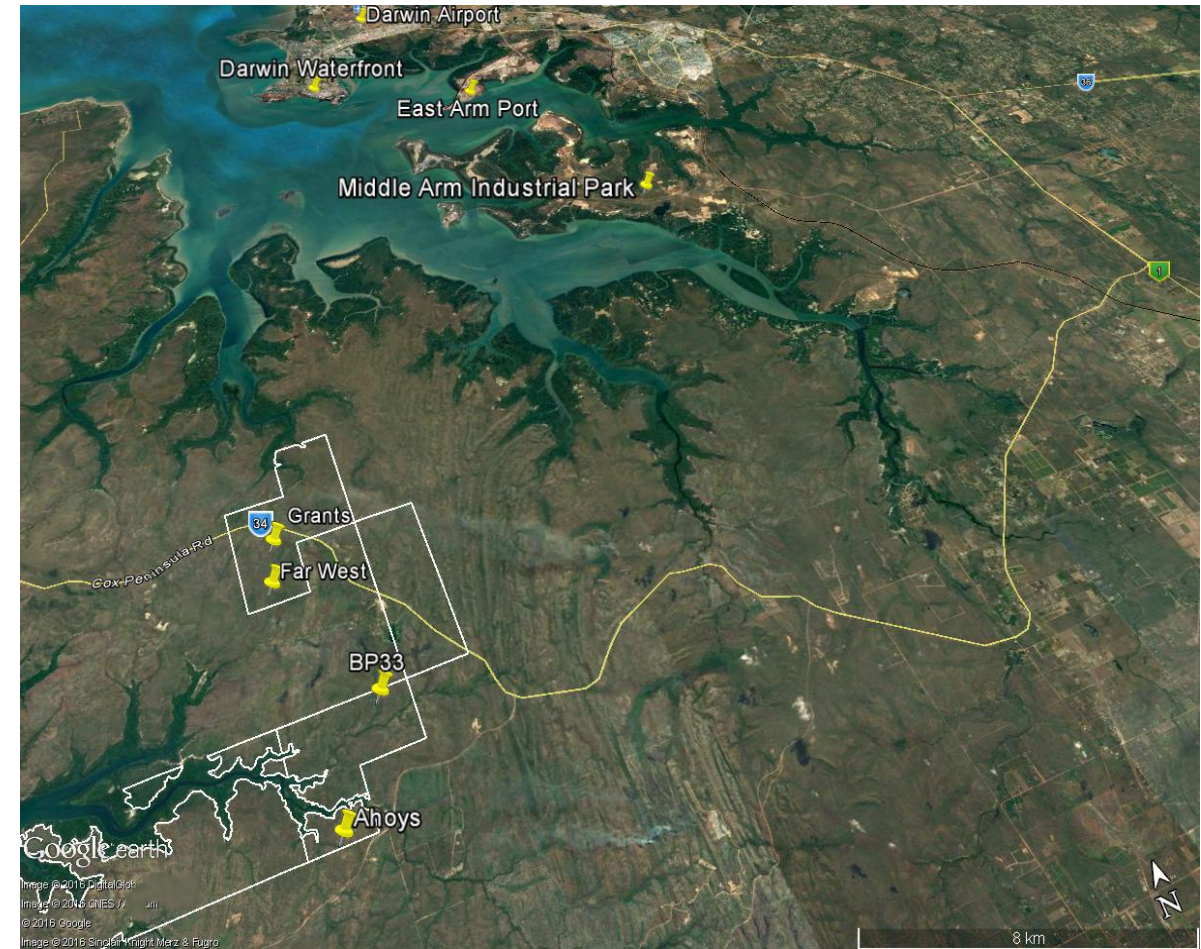
**8.10% Li<sub>2</sub>O Spodumene from HLS Testwork**



# GRANTS DSO INFRASTRUCTURE

## *Substantial Infrastructure Advantages – Low Transport Costs*

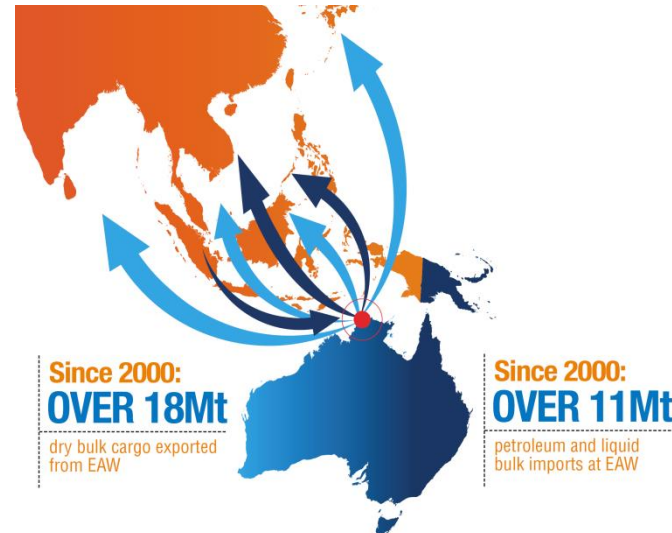
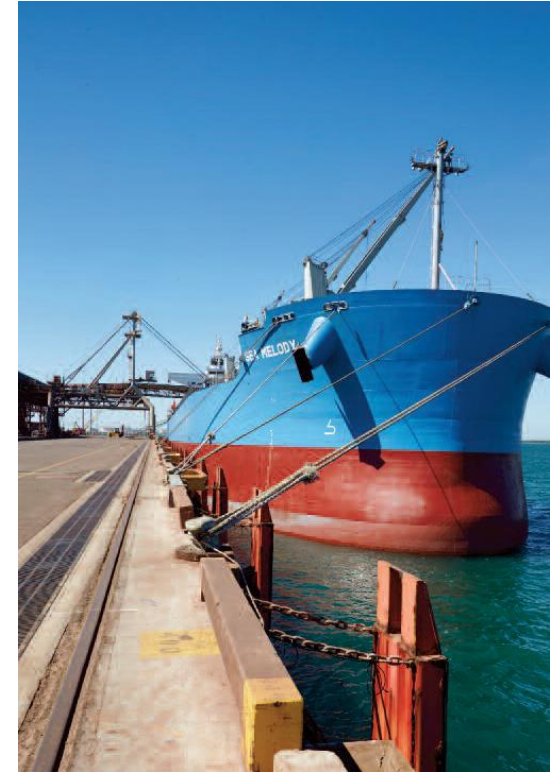
- Core's Finnis Lithium Project has substantial infrastructure advantages
- Potentially best logistics chain to China of any Australian Lithium Project
  - Bulk shipping costs of around US\$10/t to China ex Darwin
- Darwin Port located in close proximity (70km by sealed road) to Grants
- Grants is close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



# DARWIN PORT AGREEMENT

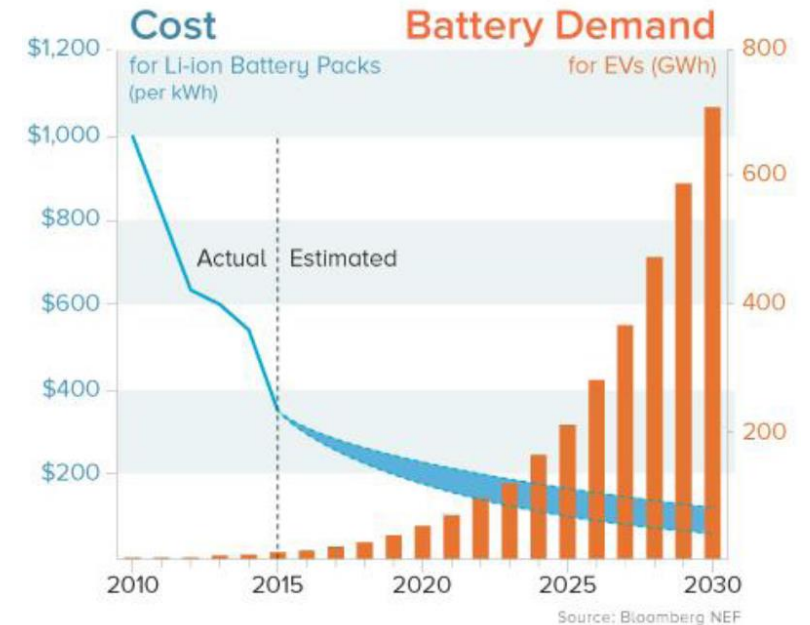
*Core has Agreement with Darwin Port to ship 1Mt/y of spodumene*

- 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



# Massive Expansion of Lithium Battery Making Capacity Underway

- Global Boom in Lithium Battery Storage expected to continue long term
- China, Europe and Global Car Manufacturers are considering phasing out combustion engine cars
- Lithium-ion Batteries growth driven by Electric Vehicles and Energy Storage
- Lithium raw materials are the vital ingredient for Lithium-ion battery technology
- 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



# Developing the first Lithium Resource in the NT

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|            |                                                              |
|------------|--------------------------------------------------------------|
| 14/09/2017 | Core Acquires Bynoe Lithium Project from Liontown Resources  |
| 29/08/2017 | Placement to Yahua to Advance Finniss Lithium Project        |
| 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 |

