



## Argentina's next Lithium company

Latin Down Under Conference
May 2016

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# Latin Resources Limited (ASX Code: LRS)



Mineral exploration and development company with Copper projects in Peru and lithium exploration in Argentina



Over 6 years of exploration work and \$19m spent to date in South America



Track record of identifying and developing projects with quality Joint Ventures



Strong Management team

Shareholding	Shares	Options/Rights
Total Shares	1,100 million*	179 million*
Market Cap @0.015*	\$ 16 million*	exercisable @ \$0.02 in March 2017

Top 20
Shareholders
represent 64%\*
of shareholding



## LRS – Lepidico - Joint Venture

- Latin Resources Limited (ASX: LRS) signed a binding term sheet to form a joint-venture between LRS and Lepidico Limited (LEP) which will seek to acquire and advance lithium projects in Argentina and Peru.
- The JV Companies propose to utilise the proprietary Lepidico L-Max technology to extract lithium from Pegmatite /Mica ores.
- The Strategic JV will be exclusive to LRS for Argentina and Peru and all hard rock lithium projects identified in these jurisdictions will be managed within the Strategic JV.
- LRS has identified and is currently in the process securing hard rock pegmatite concessions in the Pampean Pegmatite province of NW Argentina.



## LRS - Management team

#### **Managing Director – Chris Gale**

Mr Gale has extensive experience in senior management roles in both the public and private sectors. He has also held various board and executive roles at a number of mining and technology companies throughout his career.

Chris is the current Chairman of the Council on Australian Latin American Relations (COALAR) established by the

Chris is the current Chairman of the Council on Australian Latin American Relations (COALAR) established by the Australian Government Department of Foreign Affairs and Trade(DFAT). He is also a founding director of Allegra Capital, a boutique corporate advisory firm based in Perth and is a member of the Australian Institute of Company Directors (AICD).

#### **General Manager - Andrew Bristow**

Bachelor of Applied Science in geology and chemistry from the Queensland University of Technology, a first class Honors degree in Geochemistry from the James Cook University of North Queensland, a Master of Management from Tulane University (USA) and an MBA from the CENTRUM business school of the Peruvian Catholic University. He has 19 years professional experience in the Mining and Environment industries in Australia, Africa and Latin America including almost 10 years based in Peru. He has diverse multi-disciplinary experience related to the exploration and development of gold, porphyry copper and placer deposits and is a member of the Australian Institute of Geoscientists and a Fellow of the Association of Applied Geochemists.

#### **Exploration Manager – Carlos Spier**

PhD in Geology University of São Paulo (USP)Bachelor of Science Geology University of Vale do Rio dos Sinos (UNISINOS Master in Business Administration/Master in Mineral Economics

Recently held the position of Global Exploration Manager for BHP South America and Africa (2007 – 2012)Over 25 years mining industry experience, covering exploration, feasibility studies, mine planning and production in a diverse range of cultural environments and mineral commodities, including 12 years in iron ore. Background in large open pit operations (15 Mt/year of ROM). Management, training and development of highly technical teams – up to 50 staff, working across several locations. Experience in working with and directing consultants and contractors – drilling contract expenditures of up to U\$50 M/year.

# Lepidico Management



Mr. Gary Johnson

#### **Executive Chairman**

Gary has over 30 years experience in the mining industry as a metallurgist, manager, owner, director and managing director possessing broad technical and practical experience of the workings and strategies required by successful mining companies.

Gary is the managing director of the consulting business, Strategic Metallurgy Pty Ltd, and Antipa Minerals Ltd. Mr. Johnson is a member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Company Directors.



Mr. Gavin Becker
ARSM, BSc(Eng), MBA, FAUSIMM, CP(Met), GAICD

#### Managing Director

Mr. Becker is a metallurgist with 40 years industry experience. During that time he has worked in senior operational, R&D, feasibility study and consulting roles on lead/zinc, gold, uranium, copper and nickel/cobalt/scandium mines and/or projects.

He holds a Bachelor of Science (Eng) degree from the University of London and completed his MBA at Bond University. Mr Becker is a Fellow of the Australasian Institute of Mining and Metallurgy and is an Associate of the Royal School of Mines (UK).





## Lithium Market

#### **Supply:**

- Global lithium carbonate production in 2014 was 180,000 tpa (only 30% at battery grade).
- Only a small number of suppliers.
- Very few "pure" lithium plays.
- Brines restricted by high capital costs, long lead time and government imposed production sanctions.
- Spodumene deposits restricted by resource scarcity and high operating cost.

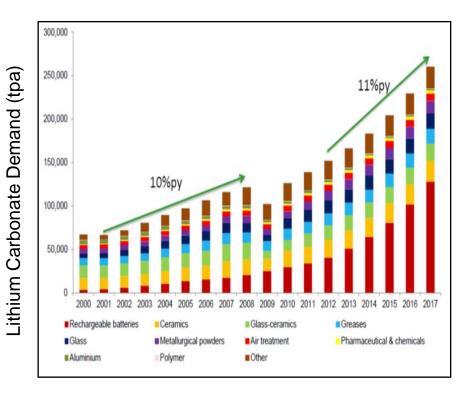
Brines	Hard Rock
50% of current supply.	50% of current supply.
Producers include FMC, SQM Group, Albemarie and Orocobre.	Producers include Talison, Quebec Li (not producing) and Galaxy Ltd (not producing).
High capital costs, lower operating costs.	High grade - low tonnage deposits.
Production thresholds on key resources.	Lower capital - high operating costs.
Long lead time for production.	Limited number of deposits worldwide.

Lepidico has the potential to be disruptive to the lithium industry by introducing a third major supply source





### Introduction



Source: Orecobre Presentation 2014, Roskill

- Established in 2015, Lepidico is an Australian company set up specifically to explore for unconventional sources of lithium to apply its 100% owned L-Max process to
- Lepidico is in the process of being acquired by ASX listed company Platypus Minerals (PLP)
- L-Max extracts Lithium from mica minerals
   Lepidolite/Pegmatite, not usually
   considered to be a source of lithium
- Guided by a strong management and technical team with long track record in the mining sector

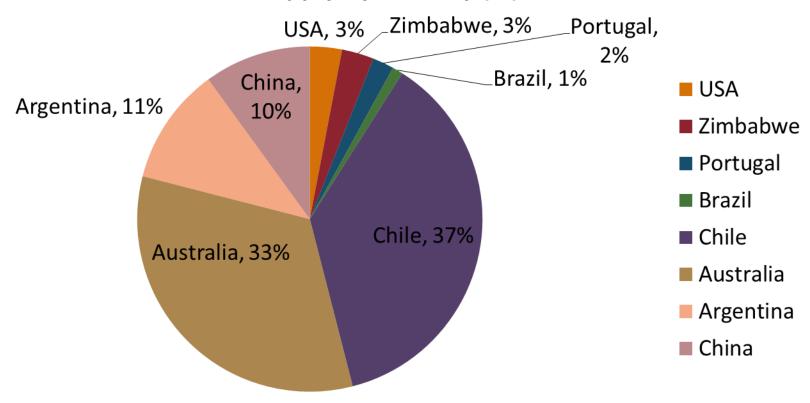
Exploring for new lithium resources using technology to unlock value





# Lithium Supply - 2015

#### Lithium supply by Country (%) - 2015



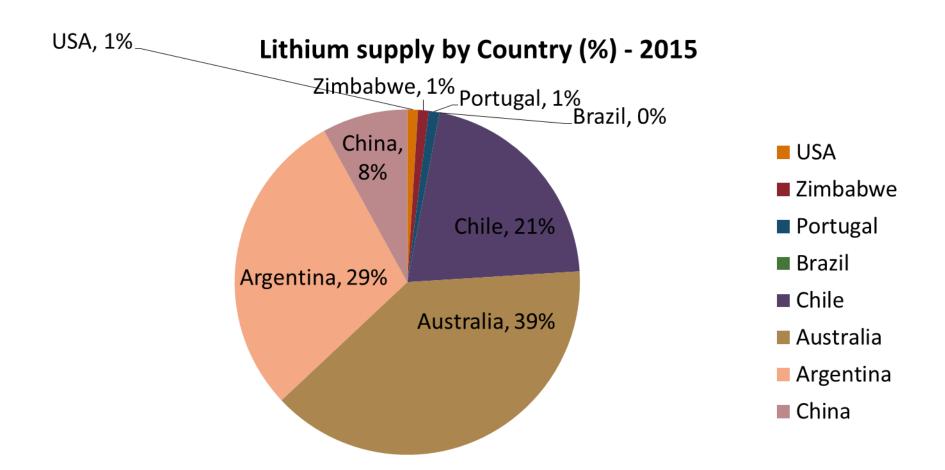
Source ; Deutsche Bank; USGS Company Data



Two-thirds of the world's lithium reserves are found in Chile (the world's largest lithium producer), Bolivia and Argentina, in what is known as the 'Lithium Triangle'.



# Lithium Supply - 2025







## The Lepidico Opportunity

- Lithium is a growth commodity driven by demand for Li ion batteries
- Lepidico is focussed on exploration for unconventional sources of lithium where it can successfully deploy its L-Max technology to:
  - ✓ Create a substantial new source of lithium supply
  - ✓ Potentially low operating costs

Lepidico could transform the lithium industry where supply is currently struggling to meet demand







## L-Max Technology



- 100% owned proprietary process (patent applied for) to extract lithium from lithium bearing micas
- Completed mini plant run to successfully produce battery grade lithium carbonate using ores provided by Lithium Australia
- Extraction of lithium from micas has potential cost advantages against traditional spodumene operations
  - No roasting of ores required (high cost exercise)
  - Value added from by-products also derived from feedstock (Potash, Sodium Silicate and Aluminium Fluoride)

L –Max Technology opens up new exploration opportunities





## **Exploration Strategy**

#### **Brownfields Projects:**

- Existing mining projects that have lithium bearing micas being passed through to waste dumps or tailings
- Micas can be effectively concentrated by flotation
- L-max can be applied to create value out of "waste"

#### **Greenfields Projects:**

- Limited exploration undertaken to date in Argentina specifically targeting deposits of lithium bearing micas
- Micas typically occur in pegmatites, often in association with other lithium, tin or tantalum bearing minerals
- Geological reports from Argentina completed to identify potential deposits

Latin Resources is actively seeking to acquire ground position in Argentina for exploration and development





# Hard Rock Lithium Potential in Pegmatites and Precambrian Metamorphic Belts in Argentina



## Pampean Pegmatite Province of NW Argentina



Two-thirds of the world's lithium reserves are found in Chile (the world's largest lithium producer), Bolivia and Argentina, in what is known as the Lithium Triangle'.

- The Pampean pegmatite province in NW Argentina hosts numerous Lithium bearing pegmatite deposits (Spodumene, Lepidolite, Petalite, Amblygonite, Lithiophilite), with added potential for Tantalum, Rare Earth Elements, Beryllium and Tin.
- Small scale intermittent mining in the province over 80 years has produced over 10,000 t of Lithium minerals, and also 1 Mt of ceramic grade feldspar, 50,000 t of mica, 25,000 t of beryl, 45 t of tantalum minerals, and 10 t of bismuth minerals.



# **Hard Rock Lithium Deposits = Pegmatites**

**PEGMATITES** are coarse grained igneous rock, usually found as irregular dykes, lenses or veins at or near the margins of large igneous intrusives usually of granitic composition and consisting mainly of the common granite forming minerals such as quartz, feldspar and mica

A **PEGMATITE** represents the residual concentration of metals and other elements that have collected near the apex of the intrusive, just prior to complete crystallisation

Valuable Metals such as LITHIUM, tantalum etc are concentrated in these fluids

The **LITHIUM** precipitates as the minerals **LEPIDOLITE** (lithium mica) and **SPODUMENE** as well as some other lithium minerals

**LEPIDOLITE** 



**SPODUMENE** 





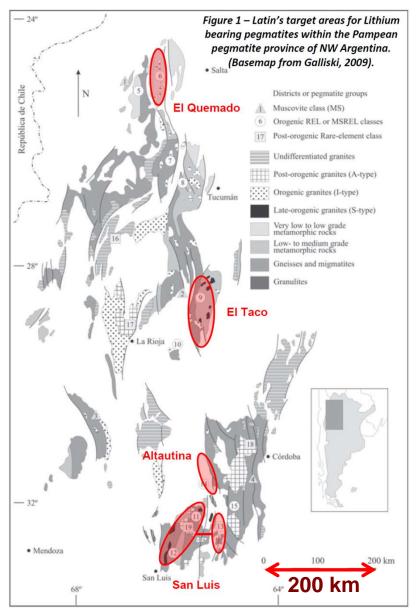
Spodumene crystals in old mine workings, Argentina







# Pampean Pegmatite Province of NW Argentina



- Exploration and development of Lithium resources in Argentina overwhelmingly focused on salt lakes and presents an "under the radar" opportunity for hard rock discoveries, with bonus accessory minerals.
- Latin Resources is currently securing mineral rights over four key districts with documented Lithium pegmatites occurrences.



## **El Quemado**

- Historical small scale mining activity in the 1940's produced modest amounts of Tantalum and Bismuth ores from Rare Element LCT pegmatites.
- The Quemado District pegmatites are contain important quantities of Spodumene and Lepidolite and differ from those of the other districts having a relatively higher proportion of Lepidolite.

100 km

• The Quemado District pegmatites are also larger bodies, up to 800 m strike and 30 m width, and represent significant targets, especially in clusters.



Salta

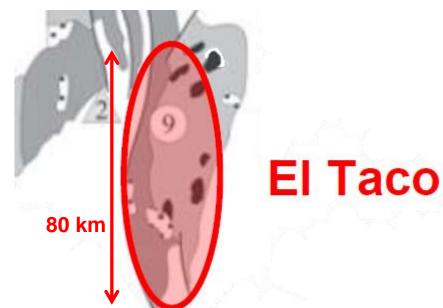
### El Taco

- The El Taco district includes a number of pegmatite fields and individual pegmatites described In a 1994 pegmatite report
- Multiple N/S trending tabular or lenticular bodies up to 200m long and 5-20 m wide with crystals of Spodumene reported up to 3m in nucleus of zoned pegmatites.
- Unconfirmed historical records of resources of individual pegmatite bodies range in the tens of thousands of tonnes each, grading between 5-7% Li<sub>2</sub>O.
- In clusters these represent significant targets.

**Spodumene** 







## **Altautina**

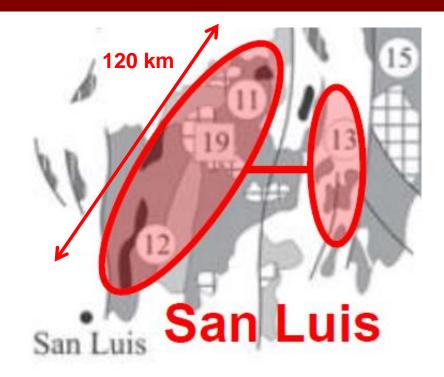
- The Altautina district includes the Las
   Tapias mine, past producer of Beryl (Be),
   Bismuth, and Spodumene.
- Multiple N/S trending tabular, lenticular, or ovaline bodies up to 200m long and 5-20 m wide.
- Spodumene and occasional Amblygonite are reported in pegmatites of this district.





## San Luis

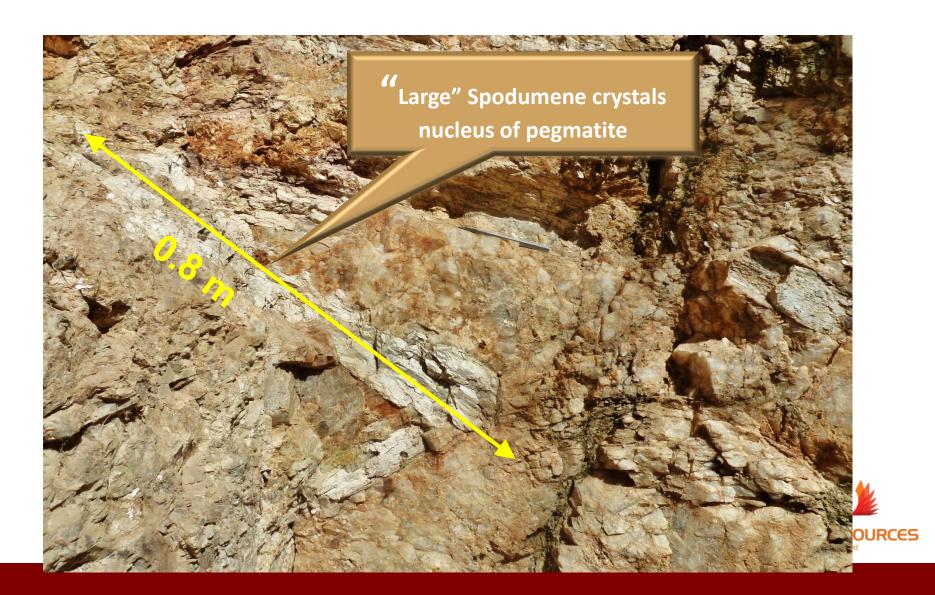
- Well studied district with numerous
   Li-bearing pegmatites described as
   tabular ranging in length from 50-300m,
   and up to 20m thick.
- Spodumene most common Li mineral with Amblygonite and Lepidolite less common.



- Spodumene generally around 30% of rock mass, with elongate crystals of up to 2m.
- Unconfirmed historical records of resources of individual pegmatite bodies range in the thousands to tens of thousands of tonnes each, grading between 5-8% Li<sub>2</sub>O.
- In clusters these represent significant targets.



# Hard Rock Lithium Potential in Pegmatites in Argentina



**Precambrian Gneiss Belts Hosting Pegmatites** 

in Peru

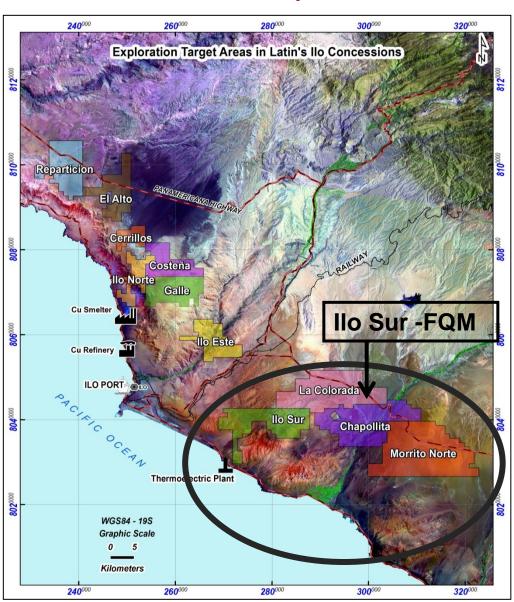
Three main belts of Precambrian rocks, common hosts of pegmatites: North, Central and South. Often ignored by explorers focused on precious and base metals.

- Numerous reports of INGEMMET, Peru's geological survey describe pegmatites with common associate minerals of Li-bearing pegmatites: Micas, Tourmaline and Beryl.
- One project identified in the South Belt hosting significant Micaceous pegmatite selected for investigation.



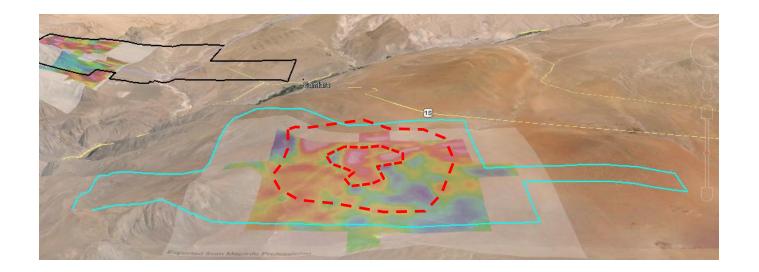
## Latin Resources - First Quantum MOU- Ilo Sur, Peru

- Latin has signed an MOU with First Quantum Minerals Ltd.
- Under the MOU, Latin Resources and First Quantum will collaborate together exclusively for 12 months to discover mineral deposits worthy of further exploration and development within 65,730 hectares of PLR's 100% owned Ilo Sur mining concessions in Southern Peru



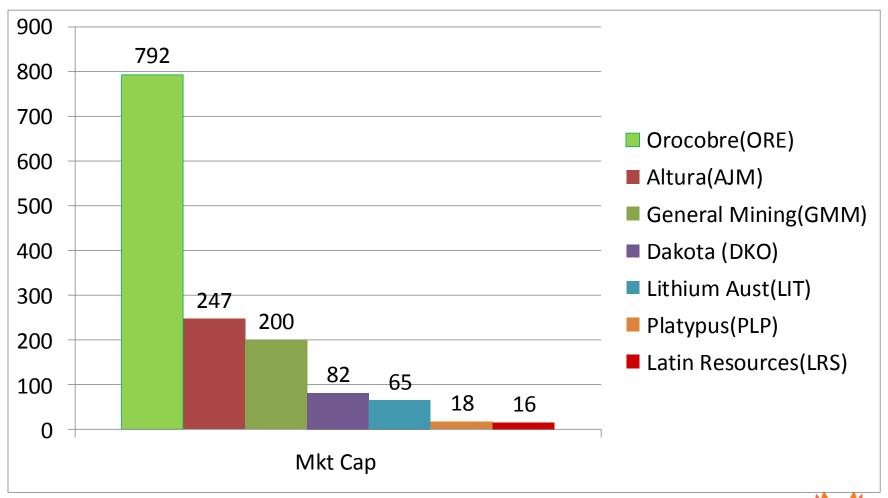
## Latin Resources - First Quantum MOU- Ilo Sur

FQM have expressed interest in funding partial extraction geochemistry on the samples and
a visit was undertaken to the CERTIMIN lab with FQM's visiting principle geologist to review
the facility and its capabilities. This is a good target that if developed well, could result in a
deal with FQM to drill if sufficient coincident support for the target





## **Lithium Companies - Market Cap**





## **Strategy and Goals for 2016**

Identify, secure and develop lithium concessions in Argentina and Peru

Focus will be in Argentina and develop a Lithium JORC resources within 12 months

Utilise the Lepidico L- Max technology to enable Latin Resources to secure further lithium projects

Funding provided by J/V partners to continue drilling program at IIo Copper projects





# Thank you and Questions

#### **Competent Person Statement**

The information in this presentation that relates to geological data and exploration results is based on information compiled by Mr Andrew Bristow, a Competent Person who is a Member of the Australian Institute of Geoscientist and a full time employee of Latin Resources Limited's Peruvian subsidiary. Mr Bristow has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity 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 Bristow consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.