



Development of the ARCADIA LITHIUM PROJECT

by

Roger Tyler and Adam Moodley

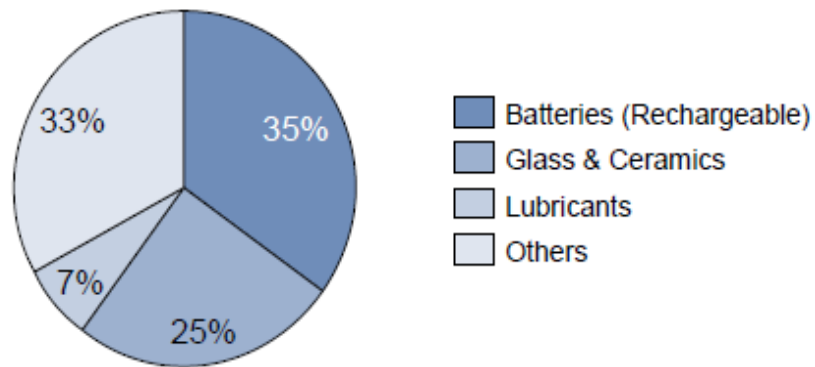
Africa's Largest JORC Compliant Li Resource





Batteries account for highest share of Li demand

Share of total Li consumption, 2015 (%)



- Battery usage has been the dominant growth driver for Li over last few years
- Glass demand driven by new products like Gorilla Glass (Lithiated glass for high-end smartphones etc.) with superior properties
- Demand for Li in ceramics and lubricants in tandem with GDP growth

Li Characteristics

Light

Very good conductivity

Most electro-negative metal

High energy density

High mechanical strength

High thermal shock resistance

Adjusts serotonin levels

Introduction: There are 3 major Lithium products together accounting for 65% of total market share (by volume)

Lithium products	Usage areas		Market share ¹	Prices ²
1 Battery Grade Lithium Carbonate	- Li-ion cathode materials used in rechargeable batteries - Li-ion electrolyte solutions used in rechargeable batteries - Primary battery cathodes used in non-rechargeable batteries	 <i>Lithium cathode</i>	30%	US\$ 6,000-7,000/t
2 Battery Grade Lithium Hydroxide	- Li-ion cathode materials used in rechargeable batteries - Primary battery electrolytes used in non-rechargeable batteries	 <i>Electrolytes</i>	20%	US\$ 8,000-12,000/t
3 Technical Grade Lithium Carbonate	- Glass-ceramics - Ceramic / enamel frits & glazes - Casting powders - Glass - Aluminum smelting	 <i>Tech grade LC powder used in glass & ceramics etc.</i>	15%	US\$ 5,000-6,000/t

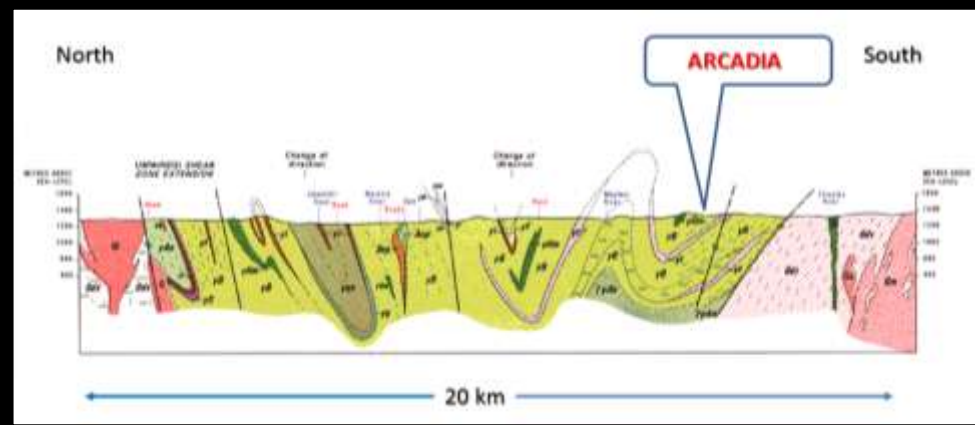
All other Li products³ have a market share well below 10%

1. Estimated market share by volume for 2015; 2. Estimated price level for April 2016; 3. The balance 35% share is accounted by Lithium bromide, Organolithium, Lithium chloride etc.

Source: Roskill, Company websites, Bryanston research

Geological Setting

- **Located some 35kms ENE of Harare, within HGB.**
- **Historic mining district; most easterly of three well known Pegmatite camps.**
- **Old beryl & lithium mine.**
- **One of three main spodumene occurrences recorded in Zim.**
- **14 stacked horizontal pegmatites.**
- **LCT group.**
- **Little surface expression.**





Li. Cs. Be. Ta. Nb



Prospect

Geological Setting

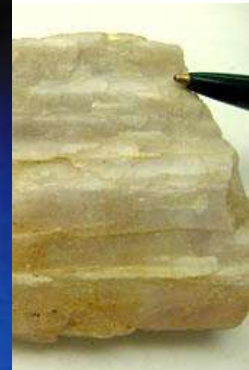


Petalite - Lithium Aluminium Phyllosilicate $\text{LiAlSi}_4\text{O}_{10}$
(Contains around 4.8% Li_2O)

Eucryptite – 11.8% Li_2O



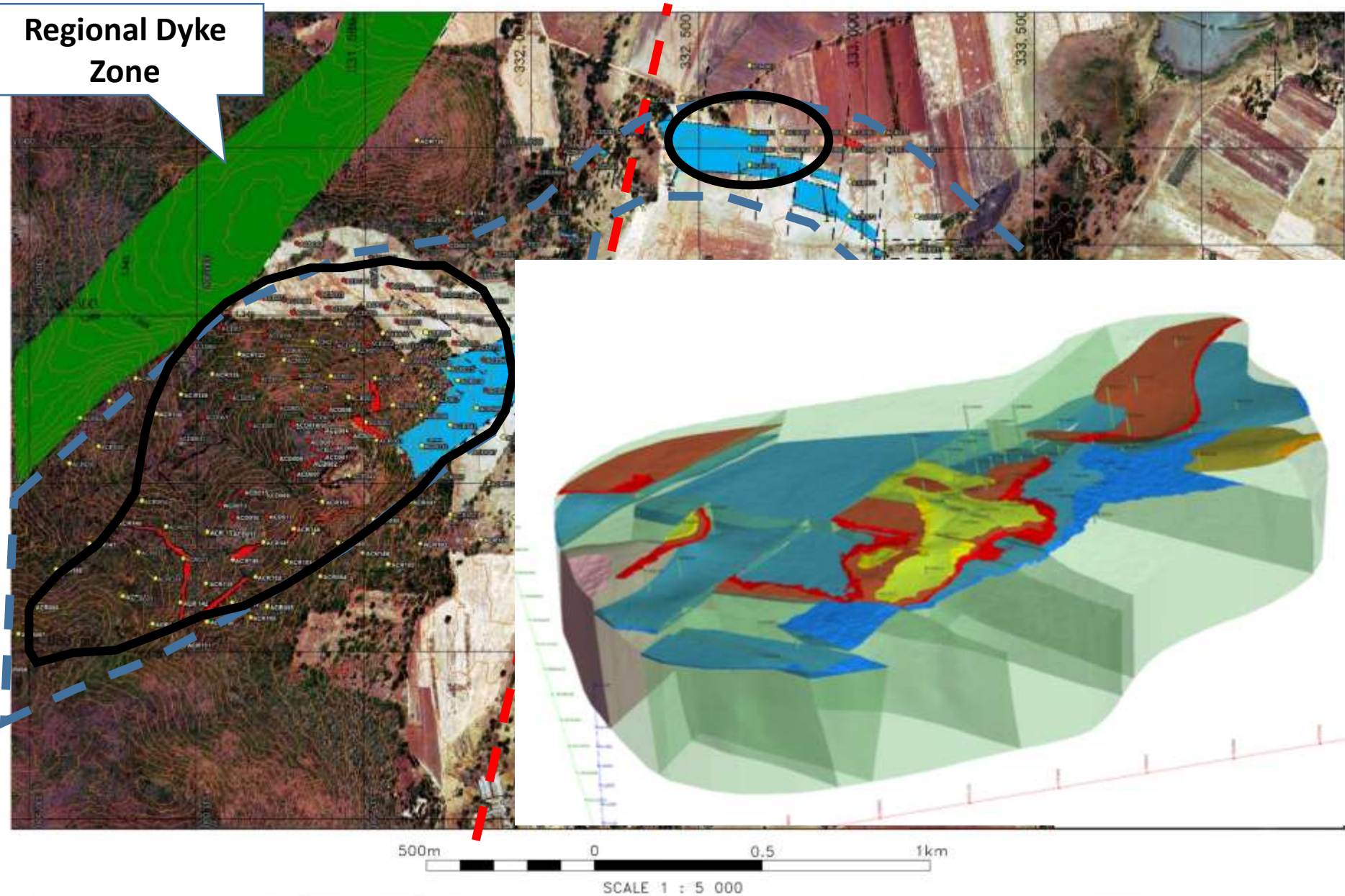
Spodumene -



Lepidolite – Lithium Mica $\text{KLi}_2\text{Al}(\text{AlSi})_3\text{O}_{10}(\text{F},\text{OH})_2$,
(Contains around 7% Li_2O)

ARCADIA PEGMATITE SUBCROP

Regional Dyke
Zone



Arcadia Lithium - Exploration Overview



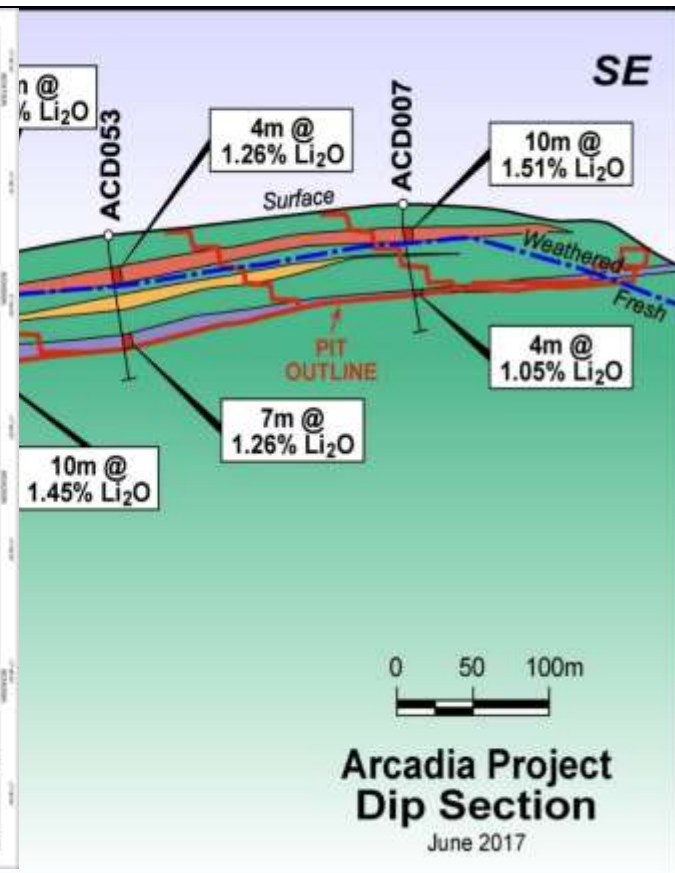
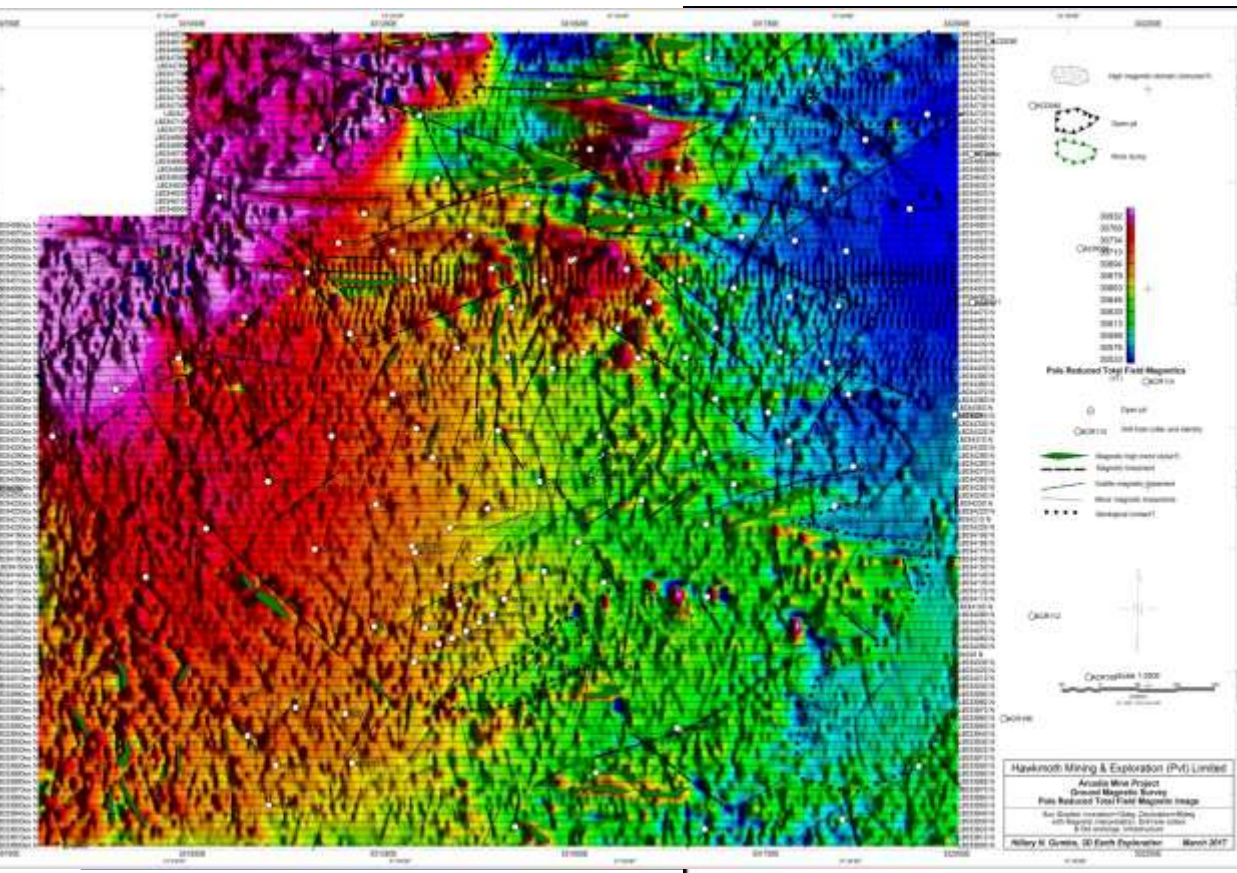
90 DD holes ; 10,000m

191 RC holes ; >15,000m

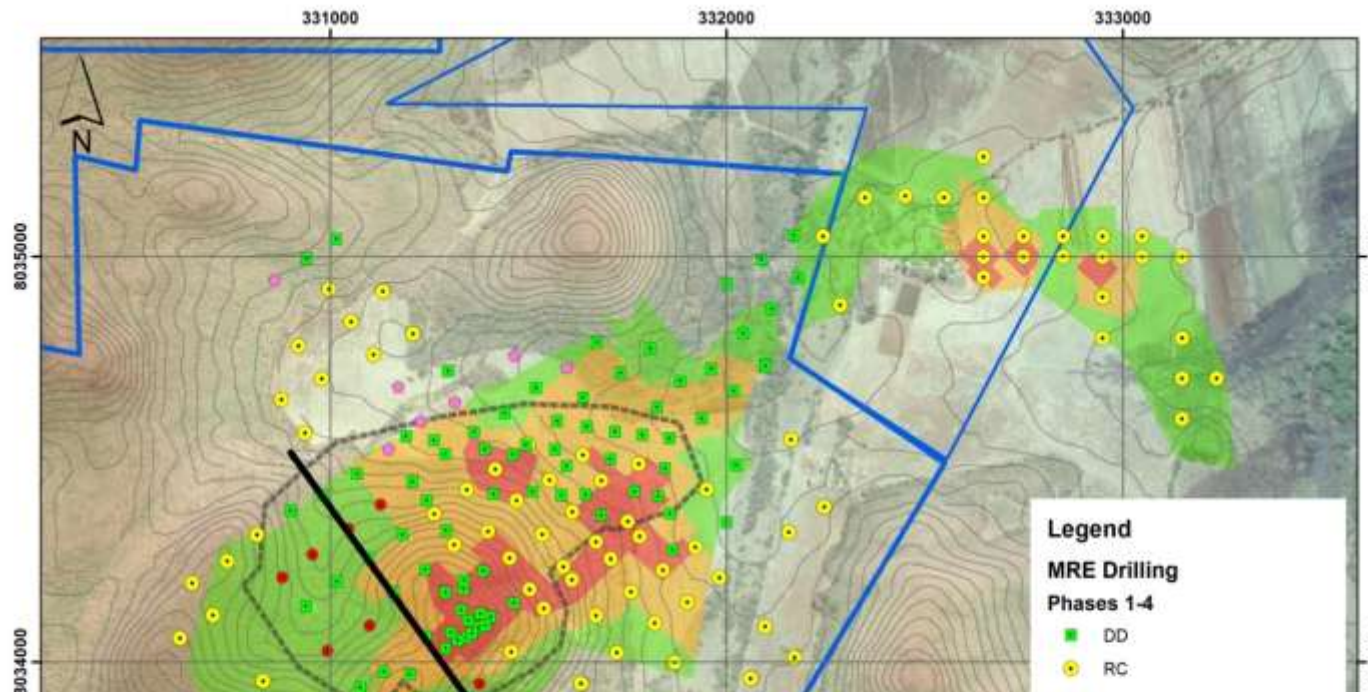
>5,000 Assays & 3,200 XRDs

>13,000 Soil samples

Ground Mag Survey



Arcadia Lithium - Drilling Completed



278 holes drilled
totalling >25 000 m
completed to date

Ground magnetics
to aid structural
interpretation.

Regional
geochemical



Arcadia Mineral Resources & Reserve Estimates



Arcadia Lithium Deposit Ore Reserve Estimate (>1% Li₂O)*

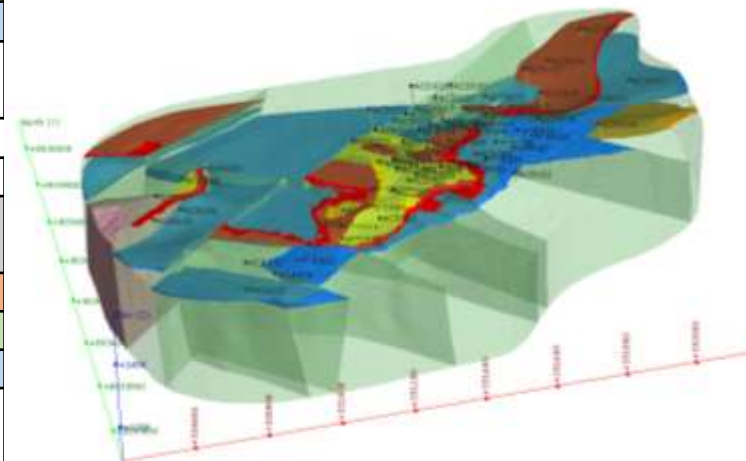
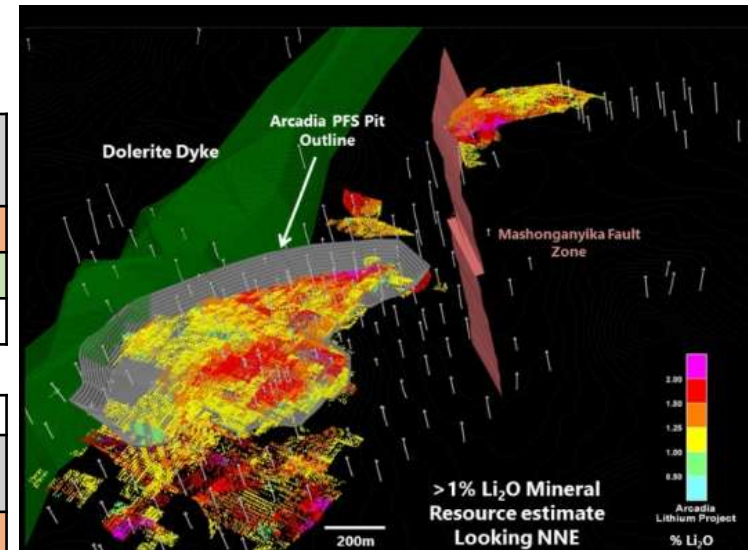
Category	Tonnes (Mt)	Li ₂ O (%)	Ta ₂ O ₅ (ppm)	Li ₂ O (t)	Ta ₂ O ₅ Mlbs	Fe ₂ O ₃ (%)
Proven	0	0	0	0	0	0
Probable	15.8	1.34	125	212,000	4.3	1.02
TOTAL	15.8	1.34	125	212,000	4.3	1.02

High Grade Zone - 1% Li₂O Cut-off

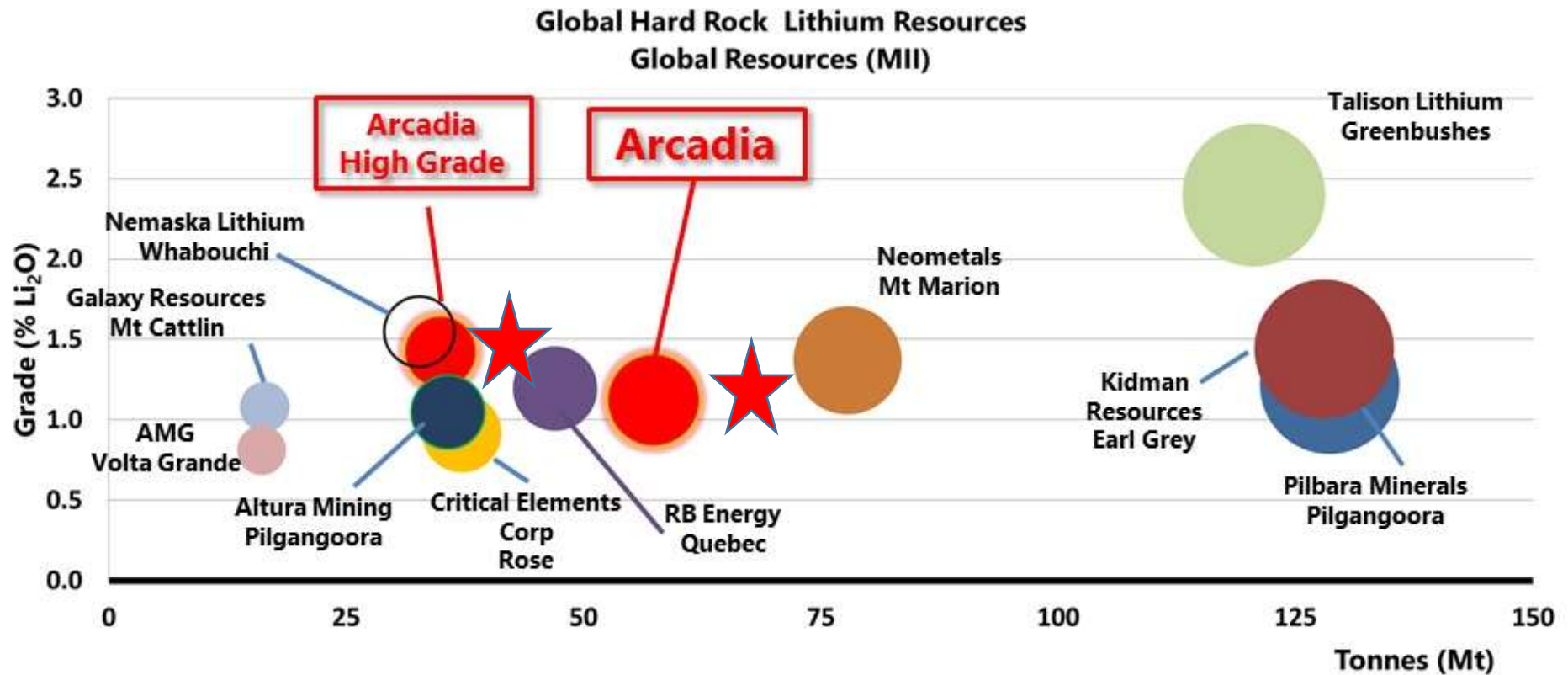
Category	Tonnes	Li ₂ O %	Ta ₂ O ₅ ppm	Li ₂ O Tonnes	Ta ₂ O ₅ lbs
Measured	10,200,000	1.45%	132	148,100	3,000,000
Indicated	27,200,000	1.39%	119	378,400	7,100,000
Inferred	5,800,000	1.45%	97	84,000	1,200,000
GRAND TOTAL	43,200,000	1.41%	119	610,500	11,300,000

Global Resource - 0.2% Li₂O Cut-off

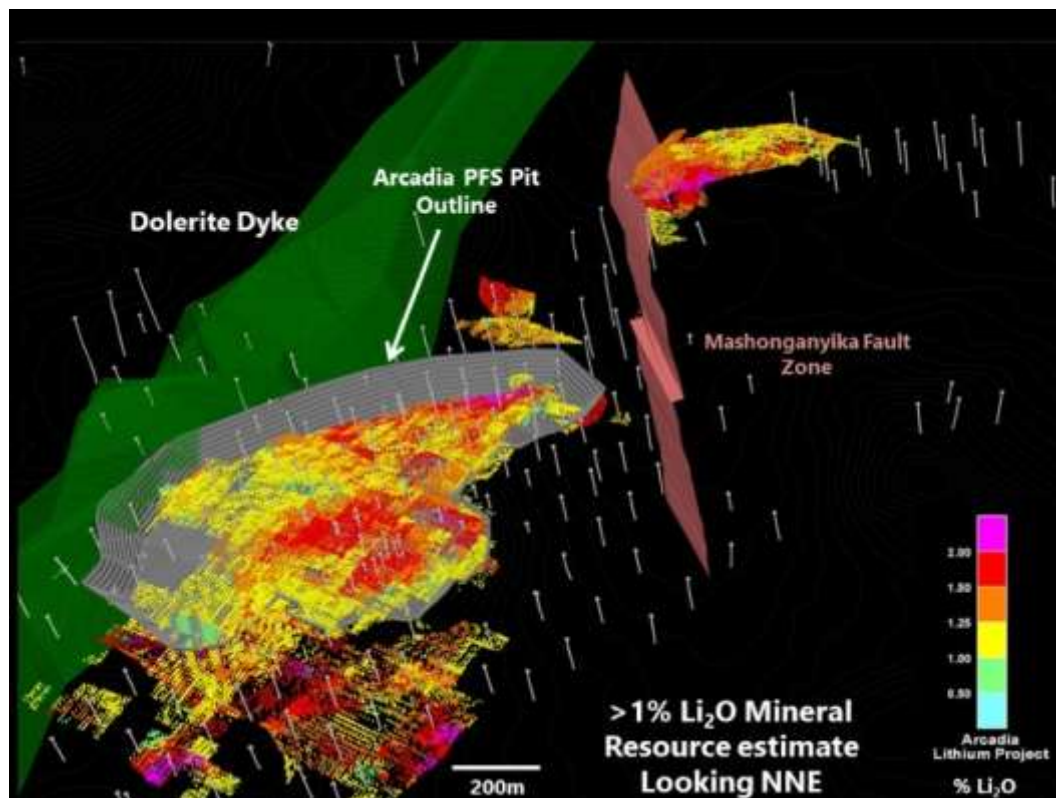
Category	Tonnes	Li ₂ O %	Ta ₂ O ₅ ppm	Li ₂ O Tonnes	Ta ₂ O ₅ lbs
Measured	15,900,000	1.17%	121	184,900	4,200,000
Indicated	45,400,000	1.10%	121	501,500	12,100,000
Inferred	11,400,000	1.06%	111	121,400	2,800,000
GRAND TOTAL	72,700,000	1.11%	119	807,800	19,100,000



Lithium Peer Comparison

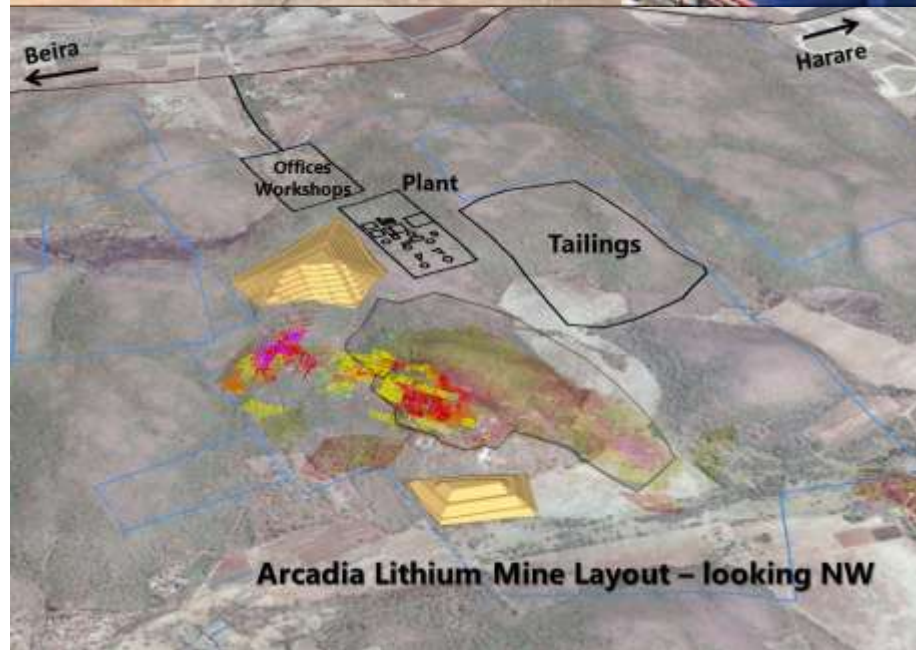
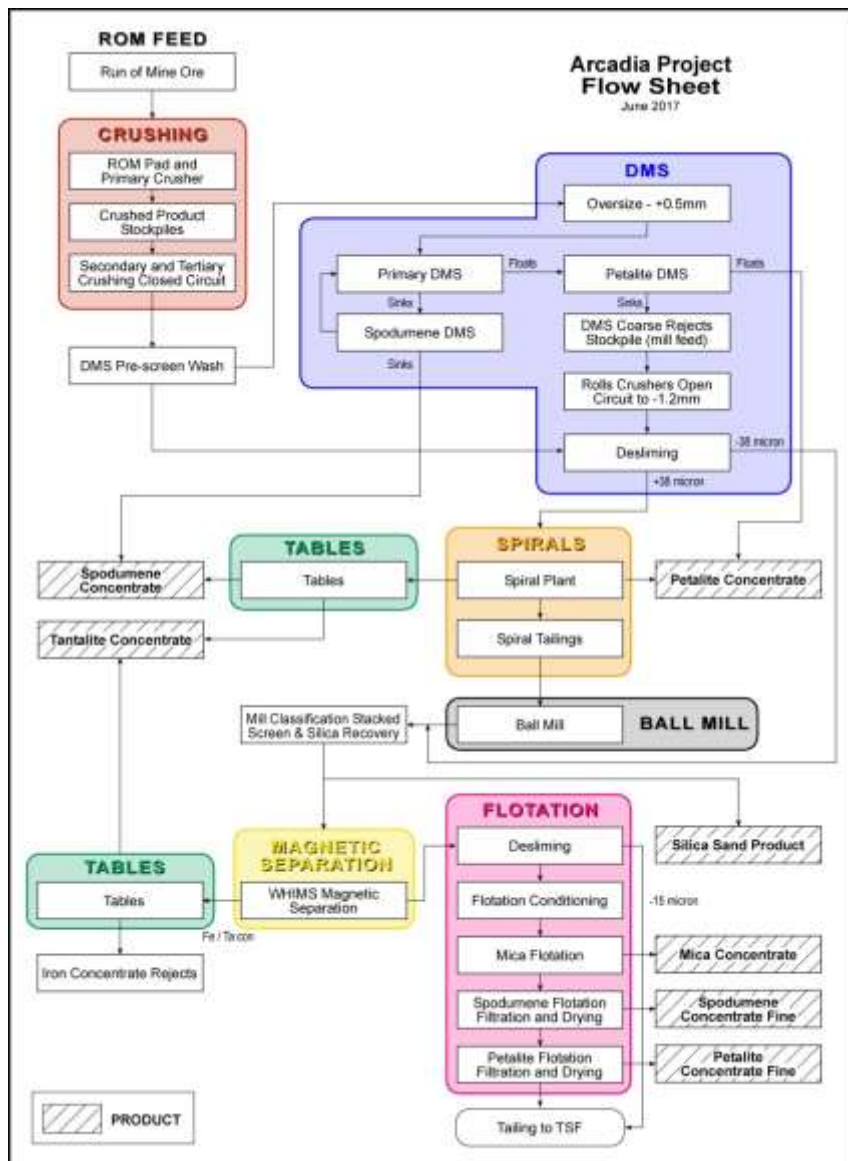


Arcadia PFS Highlights



- **Maiden Ore Reserve of 23Mt @ 1.42% Li₂O & 125ppm Ta₂O₅**
- **Life of Mine of > 20 years with a strip ratio of 2.79:1**
- **NPV10 of USD 139 Million, IRR of 39% and payback of 2 years**
- **LOM Revenue ~ USD 2 Billion**
- **Cash Operating Cost of USD 320/t concentrate.**
- **Spodumene \$540t Petalite \$400/t**
- **Low CAPEX/start up of USD 52.5 Million**

Arcadia Lithium Project – Processing & Logistics



Arcadia Lithium Project Timeline



Arcadia Achievements From June 2016

**Five Phases of
Drilling Done
10,000m DD
15,000m RC**

**Arcadia PFS
Completed**

**Trial Mining
Initiated**

**Lithium Minerals
Plant design
finalized**

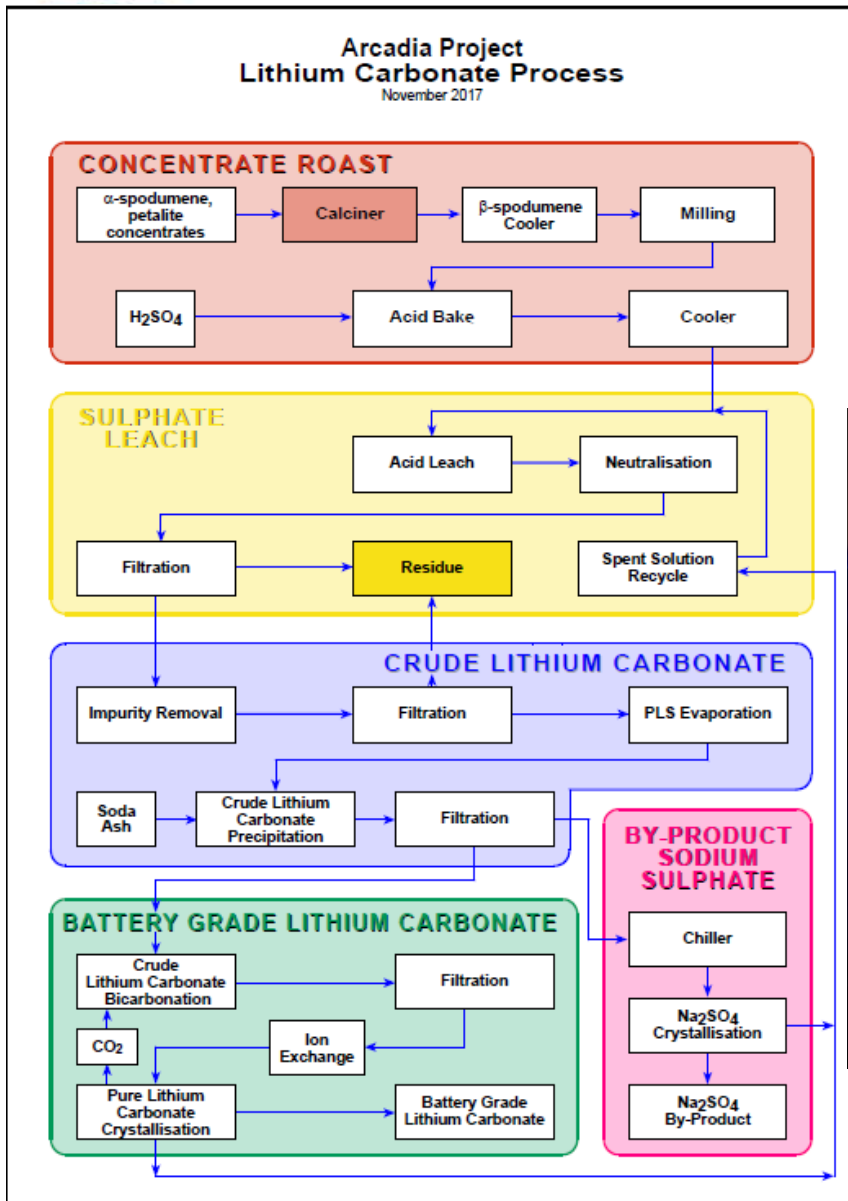
**Lithium Chemical
Pilot Plant
operational**



costs.

Prospect Resources Limited (ASX:PSC)

Arcadia Lithium Project



- Identify strike extensions of known ore body and parallels.



Questions

