

# Prospect Resources Lt: Results of Scoping Study - Arcadia Lithium Project

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Perth - Prospect Resources (ASX:PSC) is pleased to provide a Scoping Study and development update at the Company's Arcadia Lithium Deposit in Zimbabwe.

## SUMMARY OF SCOPING STUDY

- 70% increase in Measured Resources - JORC 2012 classification
- Company priority is focusing on early production (anticipated to commence mid 2017)
- Conceptual pit design indicates potential for a mine life of some 15 - 25years
- Conceptual pit design supports extraction of near surface, high grade lithium Mineral Resource of 23Mt at 1.42% Li<sub>2</sub>O and 123ppm Ta<sub>2</sub>O<sub>5</sub> with a favourable stripping ratio of 2.98:1
- Off-take discussions continuing
- 9 metallurgical holes drilled for production process analysis in South Africa with two additional holes being sent to Western Australia for validation
- Abundant water on site
- All Mineral Resources covered by Mining Claims
- First Environmental approvals in place
- Surface (farm) rights secured and maize farming has commenced
- Strengthening in-house process and production team via new hires
- Additional Exploration Target of 80-100Mt @ 1.2%-1.5% Li<sub>2</sub>O, within flat lying pegmatites.

The Company's priority is early production - mid 2017. The current mining plan envisages a series of open pits with production commencing from the first high grade pit, anticipated to commence mid 2017, with the second larger pit coming into production thereafter.

This update relates to the Mineral Resource expected to be targeted in the first production phase. The infill and metallurgical drilling completed during October and November was successful in increasing the Measured Resource by 70% to 4.1Mt at 1.44 % Li<sub>2</sub>O (>1% Li<sub>2</sub>O cut off) as well as defining a high grade zone (>1% Li<sub>2</sub>O cut off) comprising 16.2Mt grading 1.39% Li<sub>2</sub>O (Measured and Indicated), all of which are incorporated within the initial pit design of 23Mt at 1.42% Li<sub>2</sub>O and 123ppm Ta<sub>2</sub>O<sub>5</sub> (Figures 1, 2 and Table 1, refer to link below). All Mineral Resources, to date, are shallow and flat lying.

The delineation of this zone provides Prospect Resources with a well-defined and robust block model in which to support and complement the metallurgical testwork and mine design aspects of the Scoping Study.

Regional field work has identified several follow up targets, with all identified pegmatites being shallow dipping, are open along strike and down dip with at least 3km of strike length being identified to date.

## Conceptual Mine and Pit Design

Based on the geometries, thicknesses and depths to which the pegmatites have been modelled, plus their estimated grades, open pit mining will be the logical method being assessed during feasibility studies.

A provisional mining plan and design at Arcadia has been formulated by McDhui Mining in Johannesburg, and describes an open pit operation with an estimated life of mine of approximately 12-25 years and contains the following characteristics:

- The shallow dipping nature of the pegmatites has resulted in a stripping ratio of 2.98:1 (waste: ore)

- The lithium bearing pegmatite would be extracted from the top of the hill, downwards and north-eastwards towards the valley below.
- The approximate dimensions of the proposed pit are: 650m (length) x 850m (widest point), with the deepest portion of the pit being 120m below surface, equating to approximately 12, 10m high benches.
- The final pit slope angle is estimated to be approximately 52 degrees, and this has been supported by ongoing geotechnical logging and work

#### Metallurgical Test Work

To date a total of nine dedicated metallurgical drillholes comprising 1,600kg of pegmatite has been submitted to FT Geolabs in Centurion, South Africa, with the aim of assessing spodumene and petalite upgradeability and recovery.

Additional two samples are also being delivered to a Perth based laboratory in order to carry tandem verification testwork. Figure 6 (refer to link below) shows location of the metallurgical drill holes.

FT Geolabs undertakes most of the laboratory scale chemical, metallurgical and mineralogical testing for the Bikita Mine, in Zimbabwe, the largest operating hard-rock lithium mine in Southern Africa. The work is on-going, but initial Heavy Liquid Separation (HLS) test work has demonstrated that the lithium specification for both spodumene (>6.5% Li<sub>2</sub>O) and petalite can be obtained through simple Dense Media Separation (DMS) methods. Testwork on iron concentrations in the spodumene and petalite concentrates were successful in producing concentrates with Fe<sub>2</sub>O<sub>3</sub> levels of 0.17% Fe<sub>2</sub>O<sub>3</sub> (spodumene) and 0.03% Fe<sub>2</sub>O<sub>3</sub> (petalite) respectively.

The next phase of testwork is focusing on additional comminution and floatation testwork on representative samples drawn from the metallurgical drilling program. This ongoing testwork is focusing on further optimising spodumene and petalite recoveries, and to provide the basis for the design criteria, process flow and equipment specification for the metallurgical process.

#### Mineralogical Testwork - Petrography and XRD Studies

##### Petrography

To date, a total of 43 thin and polished thin sections have been investigated by MSA, University of Witwatersrand, University of Pretoria, CSA Global and Townend & Associates in Perth.

Sixteen of these samples were taken from the Main Pegmatite exposed in the old open cast pit (Figure 5, refer to link below). The balance was drawn from a variety of different pegmatite intersections from eight diamond drill holes. There are no significant observable mineralogical differences between the various pegmatite bands. The dominant lithium minerals in order are spodumene, then petalite followed by smaller quantities of eucryptite, and occasional lepidolite.

Gangue minerals are predominantly microcline, albite, quartz, muscovite with minor amounts of dravite, ferro-holmquistite and garnet. The ferro-holmquistite (an iron lithium amphibole) (and hornblende - an iron amphibole) are localised and are typically found located on the upper and lower pegmatite contacts, and are the results of reaction of the lithium-rich pegmatite melt and the basalt host rocks.

##### XRD Studies

To date, six batches (comprising 245 samples) have been analysed by XRD at ALS Chemex Laboratories in Johannesburg. Samples were drawn from both the Main Pegmatite as well as the Lower Pegmatite, and from within the conceptual pit design (Figure 6).

XRD analyses to date show that the Lower Pegmatite (primary focus of mining) contains five times more spodumene (15%) than petalite (3%), and has similar gangue mineralogy to the Main Pegmatite. The XRD results completed to date on the Lower Pegmatite show a broad mineralogical zonation through the Lower Pegmatite based on the spodumene - petalite ratio and quartz content. Sampled holes located within the modeled Lower Pegmatite display higher spodumene - petalite ratios along the edges and towards the upper contacts and a higher spodumene - petalite ratio in the central and lower portions of the Lower Pegmatite. The quartz content tends to be higher in the high spodumene zones; this can be ascribed to the re-equilibration post crystallization of the petalite to form spodumene-quartz intergrowths (SQI) in the slower cooling central, and to a lesser extent in the lower portions, of the pegmatite.

Initial results from the Main Pegmatite suggest approximately equal quantities of spodumene and petalite

(around 11 - 13%), with 39% quartz, 33% feldspar, and the balance largely muscovite.

#### Geotechnical Engineering

A detailed slope stability study has been commissioned, based on the existing detailed structural logging and on-going rock strength and plane failure tests. Initial investigations by Practara Ltd, a South African based minerals economics consulting firm, has concluded that there are no fatal flaws or critical risk factors to the pit design.

Any localised geological structures and broken ground can be managed during operations by applying sound rock engineering methods and techniques to monitor and support.

The upper part of the pit will likely require a more conservative slope angle, and a maximum bench height of 5m will be utilised to cater for any eventualities and to ensure design within the required factor of safety. The deeper portions of the pit will likely have significantly steeper sidewalls, with bench heights of 10m due to the more competent lithology observed.

#### Hydrological Studies

A preliminary in-house hydrological study has confirmed that there is sufficient fault hosted ground water supply for the planned flotation plant. Discussions are underway with several Southern African consultancies for a more detailed investigation in the New Year. This will focus on the effects of the planned operation on the water table, and the water bearing faults on the planned pit.

#### Environmental Impact Assessment

An Environmental Impact Assessment (EIA) certificate, approving the company's planned work has been granted by the Environmental Management Agency (EMA). This followed a series of meetings with stakeholders, including local landowners, ZINWA (Zimbabwe National Water Authority) and the Mazowe (water) Catchment Authority, and the compilation of an approved environmental impact mitigation plan.

The EIA certificate covers all of Prospect Resources' drilling, sampling and line clearing activities. An application has been made to modify this to cover the planned plant and office construction activities in the New Year. The certificate will be valid for two years, and is based on an appendix to the existing report.

#### Exploration Target and Regional Exploration Program

The Company continues to identify and evaluate the Arcadia pegmatite field, with discoveries of Lithium bearing pegmatites located to the north as well as along strike to the east where at least 3km of strike of the Lower Main Pegmatite has been identified. An aggressive field mapping and drilling program is ongoing to delineate as well as validate these resources as the company aims to achieve the stated Exploration Target of 80 - 100Mt grading 1.2 - 1.5% Li<sub>2</sub>O.

The potential quantity and grade stated by the Exploration Target is conceptual in nature and there has been insufficient exploration to estimate a Mineral Resource over the exploration target area and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

#### Community and Local Farming

The Company has secured the surface rights to most of the arable land covered by its mining claims via a Government approved, standard form farm lease agreement. Maize (sweetcorn crops) is currently being sowed to support the local community through employment and provision of maize as a staple crop.

#### Strengthening In-house Management and Technical Personnel

As the Company moves from the exploration to the production phase, new skills are required. The Company is actively working to secure these key hires to enable a seamless transition from exploration to production over the coming year.

#### Ongoing Off-take Discussions

Off-take discussions are ongoing. As the first ore delivery date becomes more certain so can off-take discussions be completed. We believe that Arcadia's early production and early delivery of lithium oxide concentrate will command a premium in today's supply constrained environment.

To view tables and figures, please visit:  
<http://abnnewswire.net/lnk/5QWZ333T>

\* The Scoping Study referred to in this report is based on low level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realized.

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### About Prospect Resources Ltd:

[Prospect Resources Ltd.](#) (ASX:PSC) is based in Australasia with operations in Zimbabwe and is a publicly listed company. We are committed to creating value for Prospect's shareholders and the communities in which our company operates. Our vision is to build a Southern African based mining company of international scale.

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