Prospect delivers bulk technical grade petalite shipment

Prospect Resources Limited (ASX: PSC, FRA:5E8) ("**Prospect**") is pleased to announce that the first 25 tonne container of technical grade petalite concentrate from the Arcadia Pilot Plant has been shipped to offtake partner Sibelco.

The Pilot Plant results are consistent with previous lab scale test work and confirm the amenability of the Arcadia Ore Reserves to the production of an ultra-low iron, technical grade petalite concentrate product containing >4.0% Li_2O, <0.06% Fe_2O_3.and <1.0% combined alkali (Na_2O and K_2O).

The quality of the petalite concentrate in the shipment, as shown in the table below, exceeds the specifications set out in Prospect's offtake agreement with Sibelco.

	Lithium Grade	Iron	Combined Alkali	
	Li_2O	Fe_2O_3	Na_2O	K_2O
Pilot Plant Shipment	4.66%	0.04%	0.15%	0.05%
Technical Grade Specification in Sibelco Offtake	>4.00%	<0.06%	max 0.50%	max 0.50%

Prospect received a pilot plant purchase order from offtake partner Sibelco in May 2021 for up to 2,000 tonnes of technical grade petalite concentrate. The pricing in the purchase order represents an implied premium to the prevailing chemical grade spodumene concentrate ("**SC6**") price of approximately 40%, at the time the order was struck.

While the price of technical grade petalite concentrate is typically linked to the price of technical grade lithium carbonate (for which it is a more direct substitute), this comparison to SC6 pricing highlights the significantly higher unit value of the technical grade petalite concentrate product relative to SC6.

Prospect is also pleased to report that the updated staged Optimised Feasibility Study (OFS) is materially complete, with final quality assurance checks and Lycopodium sign off underway. Product pricing assumptions contained in the OFS rely on independent, third-party sources, with an implied premium for technical grade petalite concentrate of approximately 30 % over SC6 pricing.

Prospect Managing Director, Sam Hosack, said *"I'm extremely pleased to announce that the Arcadia Pilot Plant has shipped on-spec technical grade petalite that is now making its way to Sibelco. With the plant now generating bulk volumes, the Prospect team are focused on showcasing Arcadia's petalite to both our potential partners and the largest customers in the global glass and ceramics markets."*

"The final qualification gate we expect to pass will demonstrate to our stakeholders that Arcadia will provide a high quality, long life raw material source for both petalite and spodumene supply chains."

"I am also looking forward to announcing the results of the staged OFS in the next few weeks. With partner interest focused on faster ramp-up of the project, the team is also working hard with Lycopodium on the "direct to 2.4 Mtpa" case, which is due out later this calendar year."

Details of the Pilot Plant Programme

Prospect Resources undertook extensive metallurgical testwork over the period 2017-2020 to optimise Dense Media Separation (DMS) recovery efficiency and product quality. A key outcome of the testwork supported a split DMS concept, in which coarse and fines fractions are treated separately using a two-stage DMS consisting of 'rougher' and 'cleaner' steps, with the coarse fraction targeted at producing technical grade petalite product, and the fines fraction producing a chemical grade petalite product.

The Arcadia Pilot Plant design embraced the technical study outcomes and implemented a 2-stage crushing plant and a single DMS stage capable of producing technical grade petalite product. A coarse fraction of size envelope 5mm x 1.7mm was selected as the optimum crush size for recovery of technical grade petalite product. The pilot plant can also be repurposed to process the fines fraction (<1.7mm) and produce chemical grade petalite product.

Figure 1 –Arcadia Pilot Plant

The pilot plant first ore feed came from the blasted section of the Main Pegmatite (MP) ore body, which constitutes >16% of the total Arcadia Ore Reserves and more than 31% of the first 5 years ore supply (based on the 2.4 Mtpa case).

Figure 2 – Truck leaving site with container of technical grade petalite

The operation of the pilot plant has introduced important lessons that will be invaluable in the operation of the commercial scale operation.

This release was authorised by the Sam Hosack, Managing Director of Prospect Resources Ltd.

ENDS

For further information, please contact:
Nicholas Rathjen
Head of Corporate Development
nrathjen@prospectresources.com.au

About Prospect Resources Limited (ASX: PSC, FRA:5E8)

Prospect Resources Limited (ASX: PSC, FRA:5E8) is an ASX listed lithium company based in Perth with operations in Zimbabwe. Prospect's flagship project is the Arcadia Lithium Project located on the outskirts of Harare in Zimbabwe. The Arcadia Lithium Project represents a globally significant hard rock lithium resource and is being rapidly developed by Prospect's experienced team, focusing on near term production of high purity petalite and spodumene concentrates. Arcadia is one of the most advanced lithium projects globally, with a Definitive Feasibility Study, Offtake Partners secured and a clear pathway to production.

About Lithium

Lithium is a soft silvery-white metal which is highly reactive and does not occur in nature in its elemental form. In nature it occurs as compounds within hard rock deposits (such as Arcadia) and salt brines. Lithium and its chemical compounds have a wide range of industrial applications resulting in numerous chemical and technical uses. Lithium has the highest electrochemical potential of all metals, a key property in its role in lithium-ion batteries.

Caution Regarding Forward-Looking Information

This announcement may contain some references to forecasts, estimates, assumptions and other forward-looking statements. Although the Company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions, it can give no assurance that they will be achieved. They may be affected by a variety of variables and changes in underlying assumptions that are subject to risk factors associated with the nature of the business, which could cause actual results to differ materially from those expressed herein. All references to dollars ($) and cents in this announcement are in United States currency, unless otherwise stated.

Investors should make and rely upon their own enquiries before deciding to acquire or deal in the Company's securities. Prospect confirms that for the purposes of Listing Rule 5.19.2, all material assumptions underpinning the information continue to apply and have not materially changed

Competent Persons Statements

The information in this announcement that relates to Exploration Results, is based on information compiled by Mr Roger Tyler, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy and The South African Institute of Mining and Metallurgy. Mr Tyler is the Company's Senior Geologist. Mr Tyler has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the JORC Code 2012 Edition. Mr Tyler consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this study that relates to Metallurgical Testing is based on information compiled by or under the supervision of Mr John Maketo, who is a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM). Mr Maketo is an independent mineral processing consultant. Mr Maketo has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the JORC Code 2012 Edition.

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.*	• 5,292 tonnes of Main Pegmatite were mined from the western end of the old Arcadia pit and trucked 1km to the pilot plant. • From this material 2,000t was prepared for export. • The material was crushed to -25 mm by a jaw crusher and further crushed to -5mm using a gyratory crusher. • The crushed sample was sized to two size fractions; 5 mm and -1.7mm. • Each size fraction was sampled during crushing by taking regular sub-samples during the crushing and sizing process. • The 5 and 1.7 mm size fractions were subjected to DMS with further sampling of feed and products taken. • Further sampling was carried out during flotation stage. • All samples were analysed by semi-quantitative XRD employing Reitveld mineral content estimation, at Prospect's on-site laboratory. • Validated semi- quantitative mineral analysis was conducted at UIS laboratories in Centurion, South Africa.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard*	• Apart from blasthole percussion drilling there was no resource drilling conducted in relation to this metallurgical test work announcement

Criteria	JORC Code explanation	Commentary
	tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	
Drill sample recovery	•	• Apart from blasthole percussion drilling was no new resource drilling conducted concerning this metallurgical testwork announcement. • Chips from blast holes logged and subsequently sampled as composite samples for each blast hole. .
Logging	•	• All core previously logged in detail using standard Prospect Resources logging codes.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Entire 1m long sections of blast hole drill chips were collected. • Belt samples in the pilot plant were manually collected at 1h intervals and composited at the end of each shift. • The samples were riffled, crushed to P100 <25 mm and milled to -75um at the Prospect Laboratory.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make*	• All samples were analysed by XRD techniques to produce an initial Rietveld estimate of mineral content. • The XRD data was subsequently validated at UIS laboratories in Centurion.

Criteria	JORC Code explanation	Commentary
	and model, reading times, calibrations factors applied and their derivation, etc. • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Prospect Resources' Project Geologist and Plant Manager were on site during bulk sample collection. • The Plant Manager accompanied the samples to the Prospect Laboratory and supervised the primary crushing, packaging and dispatch of all 10 bags. • All hard copies of data are retained at the Prospect Resource Exploration offices. All electronic data resides in Excel™ format on the office desktop, with back-ups retained on hard-drives in a safe, and in an Access™ database in a data cloud offsite. • All assay results reported as Li_2O %. Fe_2O_3 assays were Na_2O and K_2O reported in %.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• KW Blasting was contracted to drill and blast the ore bench that was stripped by Orca Plant Hire on the western side of the Arcadia Pit. • To generate the required volume of ore, two benches were developed in waste, before establishing an ore bench measuring 22m x 26m in area. • 115mm diameter percussion blast holes were drilled using a Sandvik Pantera DP1500 blast hole drilling rig. • The blast holes were spaced 3m x 3.4m apart. • All blast holes were surveyed using a Leica Total Station.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied*	• Samples were generated from the belts and composited after each 12h-shift. • Blast holes were drilled through the entire thickness of the Main Pegmatite, from the hanging wall contract to the footwall contact. • All blast holes were sampled as composite samples to give a true indication of the actual grade of the blasted material. • The Main Pegmatite ranged in thickness from 4m to 7m.
Orientation of data in	• *Whether the orientation of sampling achieves unbiased*	• Blast holes were all drilled vertically, and because the Main Pegmatite dips at a shallow angle of 5 degrees to the north the

Criteria	JORC Code explanation	Commentary
relation to geological structure	*sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material*	blast hole depths are very close to the true thickness of the pegmatite.
Sample security	• *The measures taken to ensure sample security.*	• Bulk samples were placed in sealed bulk bags to loss during transport. Minimal preparation was done on site. • Check samples sent to UIS were transported in sealed bags by courier to UIS Centurion.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The Chief Geologist and Plant Manager continually reviewed sample management practices and data generation and collection.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• An approx. 10 square km (1,038 hectares) mining lease, no 38 was issued on August 16th 2018 to Prospect Lithium Zimbabwe (formerly Examix Investments (Pvt)). This encompasses the entire mineral resource. • No environmental or land title issues or impediments. EIA certificate of approval granted by the Environmental Management Agency, to cover all of the company's exploration activities. • Rural farmland – fallow, effectively defunct commercial farm.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Two rounds of historical drilling were done. Three EXT holes were drilled in 1969 with support from the Geological Survey of Zimbabwe, at the site of the historic pit. These logs are available, and the lithologies observed are consistent with that seen by Prospect Resources' drilling. • The sites of at least 10 previously drilled NQ sized boreholes have also been identified in the field. Much detailed records of

		this programme have been lost. But the work done is mentioned in the Geological Survey in their 1989 Harare bulletin, no 94 where a non-JORC compliant estimate of 18 Mt is recorded. • Recent investigations have revealed that this was actually two campaigns of drilling. The first in 1974, consisted of six diamond drill holes and a limited number of percussion holes by local company Rhodex. • The second round was undertaken in 1981 by Rand Mines' local subsidiary Central African Minerals. A total of 813.77 m was drilled in eight diamond drill holes. Six of the old the bore hole collars have been identified, one with a hole number AC#4, and depth 47 m. (This was twinned by PR hole ACD001). It is apparent that though Rand Mines intersected the Lower Main Pegmatite in one of the holes, they were not aware that the ore body thickened significantly to the north. • A weighted average grade of 1.47 % Li_2O over 26 m was recorded from the eight holes. Though non-JORC compliant, the order of magnitude of the results are consistent with Prospect's work.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The deposit comprises a number of pegmatites hosted in meta-basalts of the Arcturus Formation within the Harare Greenstone Belt. • The pegmatites belong to the Petalite subclass of the Rare-Element pegmatite deposit class and belong to the LCT pegmatite family. • The pegmatites are poorly to moderately zoned (but not symmetrically or asymmetrically zoned and have no quartz core). The main lithium bearing minerals are dominantly petalite and spodumene, with sub-ordinate eucryptite, Bikitaite, and minor lepidolite. In addition, disseminated tantalite is present. Gangue minerals are quartz, alkali feldspars and muscovite. • The pegmatites strike 045° and dip at 10° to the northwest.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in meters) of the drill hole collar* o *dip and azimuth of the hole*	• Apart from blasthole percussion drilling there was no new resource drilling conducted in relation to this metallurgical testwork announcement. • All blast holes were drilled vertically into the Main Pegmatite.

	○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Apart from percussion blasthole drilling there was no drilling conducted in relation to this metallurgical testwork announcement. • Sampling for metallurgical testwork has no effect on the current Mineral Resource.
Relationship between mineralization widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Apart from the percussion blasthole drilling there was no resource drilling conducted in relation to this metallurgical testwork announcement. • Logging of the chips from the blast holes correlated well with the previously drilled and mapped Main Pegmatite
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a*	• N/A

	plan view of drill hole collar locations and appropriate sectional views.	
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• The Company states that all results have been reported and comply with balanced reporting.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Channel sampling also carried out at the adjacent dormant pit, previously mined in the 1970's. Continuous 1 m samples were channel sampled and hand sampled along cut lines, every 2 m on the pit face. Approximately 3 kg samples were collected, and assayed at ALS after crushing and milling at Zimlabs. Assays were incorporated into the Mineral Resource estimate (MRE). • Geological mapping was undertaken down-dip and along strike of the pit and has been incorporated into the current MRE. • Soil sampling orientation lines have produced lithium geochemical anomalies that coincide with sub-outcropping projections of the pegmatites. • Detailed XRD and petrographic investigations have been completed on a range of samples from across and at depth from the Arcadia deposit. The results indicate the mineralogy of the lithium mineralisation is coarse grained petalite and fine grained spodumene, both of which are amenable to conventional recovery methods for the production of a potentially saleable lithium concentrate. Initial heavy liquid separation results in petalite reporting largely to the floats and spodumene to the sinks. The two may be separated after primary fine crushing by dense medium separation (DMS) and after successive fine grinding, by flotation. Petalite is comparatively coarse grained, primarily reporting to gravity concentrates. The finer spodumene responds very well to conventional fatty acid flotation. • Testing Lower Main Pegmatite ore produced spodumene concentrate grade of >5% lithium oxide (Li_2O) and petalite concentrate at >4% Li_2O from dense medium separation tests with a lithium recovery of up to 20% as petalite in gravity concentrates. Spodumene, reporting to DMS sinks graded ~5% Li_2O at a lithium recovery of ~8%. Lithium recovery of ~44% to spodumene flotation concentrate grading >6% Li_2O was achieved. These results reflect near total recovery of spodumene and significant initial recovery of petalite

		minerals. Work to maximize petalite recovery employing spirals and flotation is continuing. Further bulk testing of Main Pegmatite ore supports the selection of DMS for coarse petalite recovery, and specialist flotation testing has indicated additional petalite may be recoverable while achieving specification grade.
		
		• The following products have been produced;
		  • Spodumene flotation concentrate @ 6.5% Li2O and 0.33% Fe2O3
		  • Spodumene flotation concentrate @ 6.1% Li2O and 0.52% Fe2O3
		  • Petalite gravity concentrate @ 4.2 % Li2O and 0.08 % Fe2O3
		
		• Dry magnetic separation was carried out on Petalite and Spodumene concentrates and the results below achieved
		  • Spodumene flotation concentrate 6.1% Li_2O and 0.18% Fe_2O_3
		  • Petalite flotation concentrate 4.5% Li_2O and 0.02% Fe_2O_3
		  • Petalite DMS concentrate 4.26% LI_2O and 0.045% Fe_2O_3
		
		• Battery grade lithium carbonate has been produced from the laboratory and pilot test facility established in Kwekwe, Zimbabwe. Excellent quality product significantly above battery grade specification been produced at lithium carbonate analyses >99.5%.

Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Similar strict grade control regime will be enforced during subsequent trial mining exercises.