ASX Announcement **20 January 2022**

OUTSTANDING METALLURGICAL TESTWORK RESULTS - BIG SANDY LITHIUM PROJECT

Highlights

Arizona Lithium Limited's (AZL) testing program at Hazen Research on Big Sandy lithium mineralised material has continued to progress extremely well with encouraging results. Further to its announcement of 24 November 2021, the Company is please to provide a revised announcement with further details regarding the testwork completed.

- **Bench-scale work on ore beneficiation has produced a concentrate containing 71% of the lithium in 36% of the whole ore mass.**
- **Four-hour duration leaching tests on the concentrate at 70⁰C have yielded 87% lithium extraction.**
- **The sulfuric acid consumption was 490 kg/mt on the beneficiated concentrate, the equivalent of 176 kg/mt whole ore.**
- **Ongoing test work is ramping up to produce larger quantities of beneficiated concentrate to increase the scale of the leaching tests enabling leach circuit optimisation.**
- **Sufficient quantities of leach solutions will be produced for optimisation of purification methods and the production of battery grade lithium carbonate, with Hazen producing "battery grade" 99.85% lithium carbonate in previous test work on the Big Sandy lithium mineralised material.**

AZL's current processing flow sheet is now determined. However, to continually improve the approach, concurrent test work to improve product quality and reduce operating costs employing promising new technologies is planned for:

- **Leach solution purification using ion exchange.**
- **Improved crystallisation methods for the final product.**
- **Later recovery of lithium from beneficiation waste.**

Arizona Lithium Limited (**ASX:AZL**) ("**Arizona Lithium", "AZL"** or the **"Company"**), a company focussed on the sustainable development of the Big Sandy Lithium Project ("**Big Sandy**", "**Project**") in Arizona, is pleased to provide an update on metallurgical test work currently being undertaken by Hazen Research.

Arizona Lithium Mining Managing Director, Paul Lloyd, commented: *"These excellent metallurgical results continue to demonstrate the high potential of the Big Sandy Lithium Project. With the ability to recover 71% of the lithium in 36% of the whole ore mass, and the resulting acid consumption reduced to 176kg/mt of the whole ore, this shifts the economics of the Project, opening numerous scenarios for mining and processing. Due to the location of the Project, Arizona infrastructure is a massive plus. With the recent test results significantly reducing the planned tonnage of ore to be moved offsite, several additional infrastructure possibilities have now opened up for our assessment.*

"With the processing flow sheet determined, we are now able to advance with our scoping and pre-feasibility studies.

"This is a significant milestone event in the development of the Big Sandy Lithium Project. At the onset of the development timeline, we quickly identified that the sulfuric acid consumption was the major cost driver. These results provide an exciting base to commence the studies in the coming months.

"Given the large existing JORC compliant lithium resource that has excellent further upside potential, AZL's ability to produce a high-quality product in Arizona, USA, in a market with rapidly increasing demand and price, along with quality infrastructure choices and proactive State and Federal Governments, it presents a highly promising future for Arizona Lithium and its shareholders."

Figure 1- Arizona Lithium Project Portfolio, including major Li-battery infrastructure in close proximity to Big Sandy and Lordsburg Lithium Projects.

Big Sandy Lithium Project (Arizona)

The Big Sandy Project, as a very shallow, flat lying mineralised sedimentary lithium resource and with excellent available infrastructure, has the potential to be developed with a very low environmental footprint.

Hawkstone's successful 2019 drill program at Big Sandy resulted in the estimation of a total Indicated and Inferred JORC resource of 32.5 million tonnes grading 1,850 ppm Li for 320,800 tonnes Li_2CO_3[1]. This represents 4% of the Big Sandy Project area that contains an estimated exploration target of between 271.1Mt to 483.15Mt at 1,000 - >2,000ppm Li[2].

Note that the potential quantity and grade of the estimated geological potential (Exploration Target) is conceptual in nature. There has been insufficient exploration to estimate a mineral resource and it is uncertain whether future exploration will result in the definition of a mineral resource. It has been estimated using a range of thicknesses for the mineralised sediments calculated from drill intercepts, surface sampling and geological mapping. The grade estimates a range of values demonstrated from drilling and surface sampling.

[1] Hawkstone Announcement Sept 26, 2019, Big Sandy Lithium Project, Maiden Mineral Resource

[2] Hawkstone Announcement Nov 7, 2019, Big Sandy Lithium Project, Exploration Target Update

Metallurgical Testwork – Hazen

In April 2021, a 132kg of lithium mineralised material of ½ core from the 2019 diamond drill programme at the Big Sandy Lithium Project was dispatched to Hazen Research. It consists of samples from 3 diamond drill holes holes as follows (Table 1):

Table 1 – ½ Core Drill Samples

Hole ID	Depth from	Depth to	Li ppm Average	Li ppm from	Li ppm to	Weight Total Kg
DHQ8	8	30	2,218	1,040	3,240	24
	34	59	2,291	1,410	3,260	28
DHQ11	15	41	2,204	1,210	3,370	27
	42	56	2,085	1,170	2,980	15
DHQ27	31	45	2,210	1,260	2,910	14
	47	67	2,130	1,290	2,810	24

These drill holes provide a representative sample through the mineralised zone from top to bottom as well as across the Indicated Resource with drill hole DHQ8 in the southern portion of the zone, DHQ11 in the central portion and DHQ27 in the north (Figure 2).

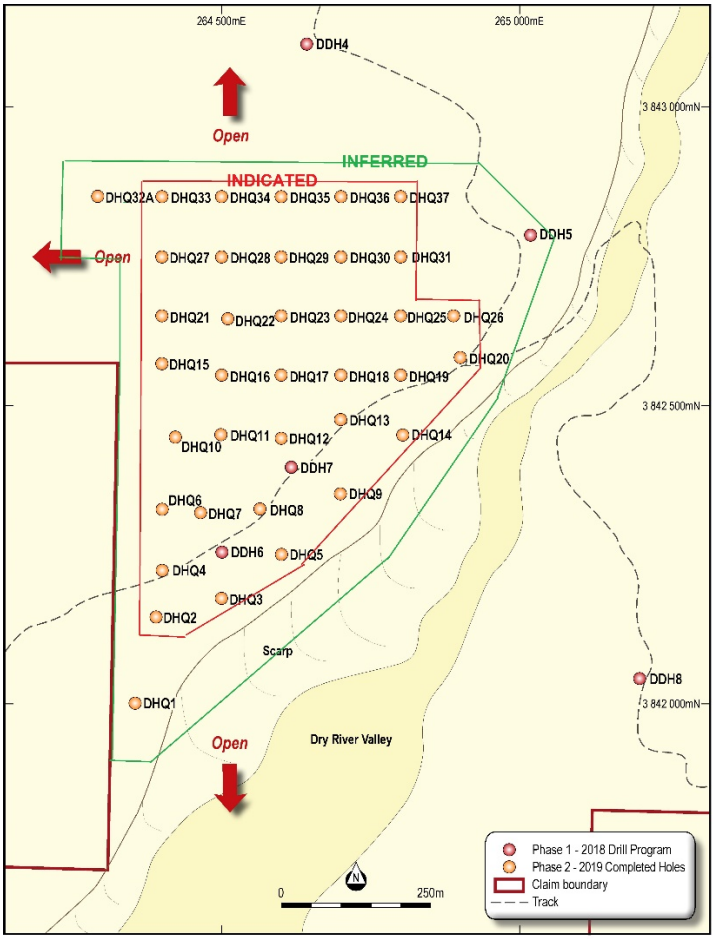

Figure 2 – Big Sandy Drill Hole Location Plan

The ½ core samples were amalgamated and blended by Hazen to provide a uniform bulk sample representative of the mineralised material from the Big Sandy deposit.

Samples weighing 0.9 to 1.7 kg, cut from the blended bulk sample, were subjected to beneficiation tests to determine what percentage of the coarser carbonate (acid robbing) material could be removed using attrition scrubbing and hydro-cyclone classification while still providing a significant Li recovery and concurrently lowering the total acid consumption. A total of 3 beneficiation and comparative screening tests were completed. At the end of each test both the coarse reject and concentrate were analysed to determine contained Li. It was determined that scrubbing and hydro-cyclone classification produced a concentrate nearly doubling the whole ore Li content. The beneficiated concentrate contained 71% of the original Li and 8% of the original carbonate while reducing the whole ore mass to 36% of the starting mass (Table 2). This equates to a 64% reduction in the amount of mineralised material requiring processing and in turn reduces the original whole ore acid consumption of approximately 500 kg/mt by 64%.

Table 2 – Summary, Beneficiation Results

Experiment	Product	Procedure	Wt, g	Wt, %	Analysis , % Weight, g				Distribution, %	
					Li	CO3	Li	CO3	Li	CO3
4055-6	Calculated 1,700×106 µm	Screen analysis of head material	127.2	14.3	0.03	39.6	0.04	50.3	2.4	38.7
	Calculated minus 106 µm		764.8	85.7	0.22	10.4	1.7	79.7	97.6	61.3
	Minus 10 µm		426.1	47.8	0.36	0.17	1.5	0.72	88.4	0.6
	Calculated Head		891.9	100.0	0.19	14.6	1.7	130	100.0	100.0
4055-57	Calculated 1,700×106 µm	Hydrocyclone of minus 106 µm material	269.0	15.6	0.03	39.6	0.09	106	2.6	36.3
	Minus 106 µm overflow		690.5	40.1	0.37	5.43	2.5	37.5	74.0	12.8
	Minus 106 µm underflow		763.6	44.3	0.11	19.6	0.80	150	23.4	51.0
	Calculated Head		1,723	100.0	0.20	17.0	3.4	294	100.0	100.0
4055-6	Calculated 1,700×45 µm	Screen analysis of head material	263.7	29.6	0.02	29.6	0.06	78.2	3.7	60.1
	Calculated minus 45 µm		628.3	70.4	0.27	8.25	1.7	51.8	96.3	39.9
	Minus 10 µm		426.1	47.77	0.36	0.17	1.5	0.72	88.4	0.6
	Calculated Head		891.9	100.0	0.19	14.6	1.7	130	100.0	100.0
4055-60	Calculated 1,700×45 µm	Hydrocyclone of minus 45 µm material	540	30.6	0.02	29.6	0.13	160	3.8	51.9
	Minus 45 µm overflow		640	36.3	0.39	4.10	2.5	26.2	71.2	8.5
	Minus 45 µm underflow		583	33.1	0.15	21.0	0.87	122	25.0	39.7
	Calculated Head		1,763	100.0	0.20	17.5	3.5	309	100.0	100.0

Following the previously described beneficiation process, three samples of the beneficiated concentrate weighing from 0.2 - 0.32 kg were leached with sulfuric acid to extract the lithium. Leach tests were completed at varying temperatures of 25, 70 and 80°C, yielding lithium extractions ranging from 85 - 94%. Sulfuric acid consumption ranged from 432 - 490 kg/mt, the equivalent of 155 - 176 kg/mt for un-beneficiated ore (Table 3).

Table 3 – Beneficiated Concentrate, Acid Leaching Mass Balances

Test No	Time minutes	Temp °C	Acid Ore kg/t	Acid Consumption	Average Li Extraction %
4042-121	30, 60, 120 & 180	25	500	485	86
4042-122	30, 60, 120 & 180	70	500	494	87
4042-120	120	80	500	438	93

Exploration

The Permit of Exploration (POE) that includes 145 exploration holes and a bulk sample at the Company's Big Sandy Lithium project in Arizona is awaiting Bureau of Land Management (BLM) approval. Community involvement is welcomed to ensure mutually beneficial outcomes for all stakeholders and the Company is very confident that drilling program can be completed without environmental impact and to the satisfaction of all stakeholders.

This announcement has been authorised for release by the Board of Arizona Lithium Limited.

FOR FURTHER INFORMATION PLEASE CONTACT:

MR. PAUL LLOYD
Managing Director
Arizona Lithium Limited
Tel. +61 419 945 395
paul@arizonalithium.com

Level 1, 10 Outram Street
West Perth WA 6005

COMPETENT PERSON'S STATEMENT

The information in this announcement that relates to the Big Sandy Sedimentary Lithium Project is based on, and fairly represents information compiled by Gregory L Smith who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity to which he is undertaking 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. Smith is a Director of the Company and holds shares in the Company. Mr. Smith consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears. The Company confirms that the material assumptions and technical parameters underpinning the Resource estimate and exploration target, which were announced to the ASX on 26 September 2019 and 7 November 2019 respectively, have not materially changed.

JORC compliant Maiden Mineral Resource Breakdown

Resource Classification	Tonnes (Mt)	Li Grade (ppm)	Contained Li Metal (t)	Contained LCE (t)
Indicated	14.6	1,940	28,400	150,900
Inferred	17.9	1,780	31,900	169,900
Total	**32.5**	**1,850**	**60,300**	**320,800**

APPENDIX 1: JORC Code, 2012 Edition – Table 1

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.	This announcement relates to metallurgical test work completed on ½ diamond drill core from a previously completed and announced drill programme - ASX announcement 26 September 2019, Big Sandy Lithium Project, Maiden Mineral Resource.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Samples for metallurgical test work of the remaining ½ drillcore were taken over intervals as identified by previous sampling and analysis of the other ½ of the drill core as reported in prior announcements with the intervals listed in Table 1 of this announcement.
	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 1m 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.	Diamond core drilling drilling (HQ) was completed during the 2019 programme. Drill and sample methodology is fully described in the ASX announcement dated 26 September, 2019 titled Big Sandy Lithium Project, Maiden Mineral Resource.

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 tube,	The drilling was completed using a Mooroka mounted Longyear 44 and core recovered in a standard 1.52m core barrel. It produced HQ sized core of 63.5mm in diameter.
	depth of diamond tails, face sampling bit or other type, whether core is oriented and if so, by what method, etc.).	As the stratigraphy is flat lying all holes are drilled vertical and no core orientation is required. As all known mineralised zones lie within 100m of surface no downhole surveys were completed.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	All recoveries were first calculated and 1m downhole depths marked prior to geological logging and sampling.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	The core was drilled with a bit that has been found to work exceptionally well in tuffs/clays. Both the rotation speed and feed rate were slowed to maximise recovery.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Core recovery was greater than +95% in the mineralised intervals. The Li mineralisation is hosted in extremely fine grained and even textured sedimentary material.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Geological logging was completed on all core noting the rock type, grainsize, colour, presence of carbonate and clay type to a level required to support Mineral Resource estimation, mining studies and metallurgical studies.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography	Logging has been completed in the form of geology and recoveries. All core has been photographed both wet and dry.
	The total length and percentage of the relevant intersections logged.	The entire core is logged noting any intervals of low or non-recovery.

Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	All core was halved using a diamond saw.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Half core was previously taken and bagged in consecutively numbered bags for analysis. The core used for the metallurgical test work is the remaining ½ core.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Representative of material drilled.
	Quality control procedures adopted for all subsampling stages to maximise representivity of samples.	Hazen crushed the received half core to 100% passing 25mm. From the minus 25mm material samples were split out for testing. From the subsample material was crushed and oven dried. Duplicate spits were analysed for a series of elements.
	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.	Previously half core was taken as the sample with the exception of the duplicate samples where the half core was split into 2 samples consisting of a quarter core each. The sample for metallurgical test work was the remaining half core.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are appropriate for grain size of material sampled. Lithium hosted in micron scale clay minerals.
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.	The assay technique (ME-MS61) is a total process, as a 4 acid digest is used to remove the lithium from the clay prior to analysis. This method was used for the core samples.
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make 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	These geophysical instruments are not used in assessing the mineralization at the Project. Previously quality control procedures consisted of inserting a standard, blank or a duplicate sample into the sample stream at a ratio of 1:10. From the data to date

	(i.e. lack of bias) and precision have been established.	the results of the QC samples are within acceptable levels.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All diamond drill results were examined by GL Smith, a Director of the company.
	The use of twinned holes.	No twin holes were drilled or have been drilled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	The data is currently stored in hardcopy and digital format in the Company's office. A hard drive copy of this is stored with GL Smith and in the cloud.
	Discuss any adjustment to assay data.	No adjustment was made to assay data.
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.	All diamond drill holes have been set out utilizing hand held GPS units, having an accuracy of ± 3m in open ground.
	Specification of the grid system used.	UTM NAD83 Zone 12
	Quality and adequacy of topographic control.	No survey has been undertaken. Hand held GPS coordinates have been utilized to locate drill holes to date.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The diamond drilling described in the report preceding this table were completed at approximate 100m centres.
	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.	The diamond drilling described in the report preceding this table are holes specifically used to determine the lithium grades below the surface oxidisation, the geology and potential extent.
	Whether sample compositing has been applied.	No sample compositing has been applied.

Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The diamond holes were holes to a depth of ~100m to determine the geology, grade distribution and potential extent.
	If the relationship between the drilling orientation and the orientation of key mineralised structures are considered to have introduced a sampling bias, this should be assessed and reported if material.	No sampling bias occurs as the vertical diamond holes were drilled into near flat lying lacustrine sediments.
Sample security	The measures taken to ensure sample security.	The sampling for the metallurgical testwork was completed under the supervision of G Smith at the companies storage facility in Kingman, Arizona. The material was placed in calico sample bags, sealed in plastic buckets and dispatched by UPS to Hazen's facilities in Golden, Colorado, USA.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No reviews have yet been completed.

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 Big Sandy project consists of 258 mining claims of approximately 20 acres each, physically staked on Bureau of Land Management, Federally administered land. All indigenous title is cleared and there are no other known historical or environmentally sensitive areas.
	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.	The claims have been granted and are subject to an annual payment. Other than the payment there is no requirement for minimum exploration or reporting. There is no expiry date on the claims.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	There has been no exploration for lithium mineralisation on this project other than that completed previously by Big Sandy Inc (wholly owned subsidiary of Hawkstone Mining Ltd).
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: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	All information as listed is provided in previous announcements on the Project.

	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.	This information has not been excluded.
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.	No data aggregation applied. Total sample interval was used in metallurgical test work.
	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.	Samples were a composite of half core determined by previous sampling.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are stated.
Relationship between mineralization widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralization with respect to the drill hole angle is known, its nature should be reported.	Not applicable.
	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').	As above.

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 plan view of drill hole collar locations and appropriate sectional views.	Appropriate maps are included in a previous announcement.
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.	This release includes partial results of the metallurgical test work.
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.	This information will be supplied as the project advances and said data is generated.
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).	Environmental and archaeological surveys have been completed as part of a Proposal of Exploration that has been submitted to the BLM for the approval of planned further drilling and bulk sampling.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Diagrams of proposed drill locations and mineralised zones are included in previous announcements.