

## FOLLOW-UP DRILLING UNDERWAY AT ALTAIR LITHIUM PROJECT, USA

Drilling targets eastern extensions of lithium-mineralised claystone



### Key Highlights

- **Drilling campaign underway with two remaining permitted drill sites to be drilled at Altair**
- **Drilling is targeting extensions of the mineralised Siebert formation claystone east of the successful intersection in hole AL01**
- **Drill-hole AL01, completed in Q3, intersected two thick zones of lithium mineralised claystone, including:**
  - **33.5m (110ft) @ 481ppm Li from 80.8m<sup>3</sup>**
  - **33.5m (110ft) @ 508ppm Li from 147.8m to end-of-hole<sup>3</sup>**
- **Planned holes AL03 and AL02 will test over 7km of strike potential for lithium mineralisation**
- **Assay results for drilling expected in the current quarter**

Astute Metals NL (ASX: ASE) ("ASE", "Astute" or "the Company") is pleased to advise that follow-up drilling has commenced at its highly prospective 100%-owned Altair Lithium Project in Nevada, USA.

The follow-up drilling campaign is designed to build on the success of the Company's first hole at the project, completed in July, which successfully intersected two broad zones of lithium mineralisation. Two remaining permitted holes will be drilled to test for lithium mineralization over a 7km strike to the east.

### Astute Executive Chairman, Tony Leibowitz, said:

*"We are excited to re-commence drilling in Nevada as our lithium growth strategy in North America continues to advance. The wide intercepts of prospective lithium claystone rocks intersected in the first hole at Altair marked a key breakthrough for the project. Two holes will now be drilled to test for extensions of this mineralization over a 7km strike length. If we are successful, this will add significant scale and upside to the opportunity at Altair."*

### Background

Centred south-west of the township of Tonopah, in the heart of one of the world's most active lithium exploration districts, the Altair Project was strategically staked proximal to outcropping tertiary sedimentary host rock (known locally as the Siebert formation) that is known to host claystone lithium deposits around Nevada. Such deposits include the 15.8Mt LCE (lithium carbonate equivalent) Tonopah Flats deposit<sup>1</sup> and the 9.79Mt LCE TLC Lithium Project<sup>2</sup> (Figure 3).

The Company completed the first hole at Altair in Q3 2023, with drill-hole AL01 successfully intersecting two zones of lithium mineralisation:

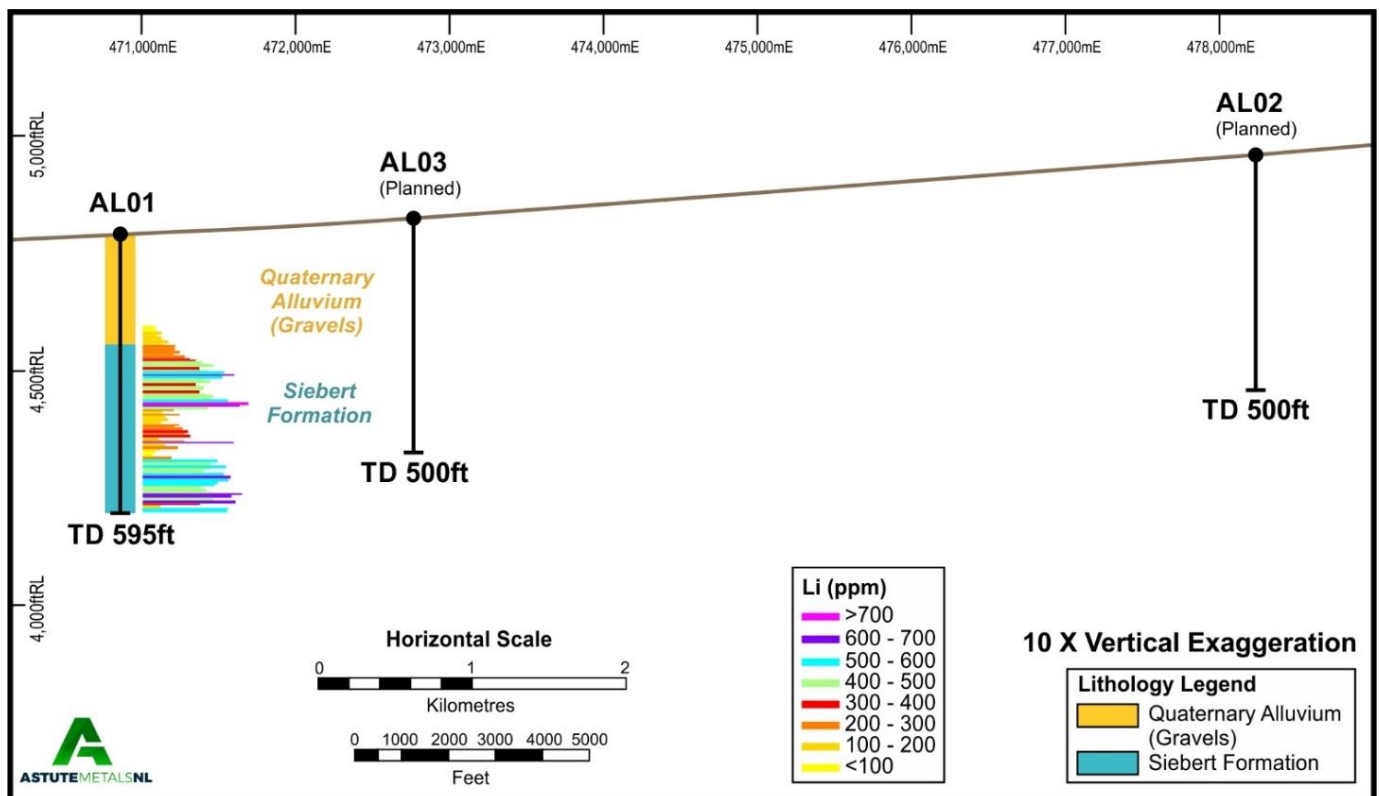
- 33.5m @ 481ppm Li from 80.8m (265ft), and
- 33.5m @ 508ppm Li from 147.8m (485ft) to End-of-Hole (181.4m/595ft)



**Figure 1.** Drill rig set up at site AL02.

### Planned Drilling

Drilling has re-commenced at Altair with planned hole AL02 utilising a higher-powered Reverse Circulation (RC) drill rig which has been optimized for the drilling conditions encountered previously at the project. Two permitted holes remain at Altair, which will be drilled as part of the current campaign. The objective of drilling is to test for the presence of lithium-bearing claystone over a strike extent of approximately 7km (Figures 1 and 2). If successful, the Company will permit additional holes to be drilled in the next field season to further establish the extent and grade of lithium mineralisation at Altair.

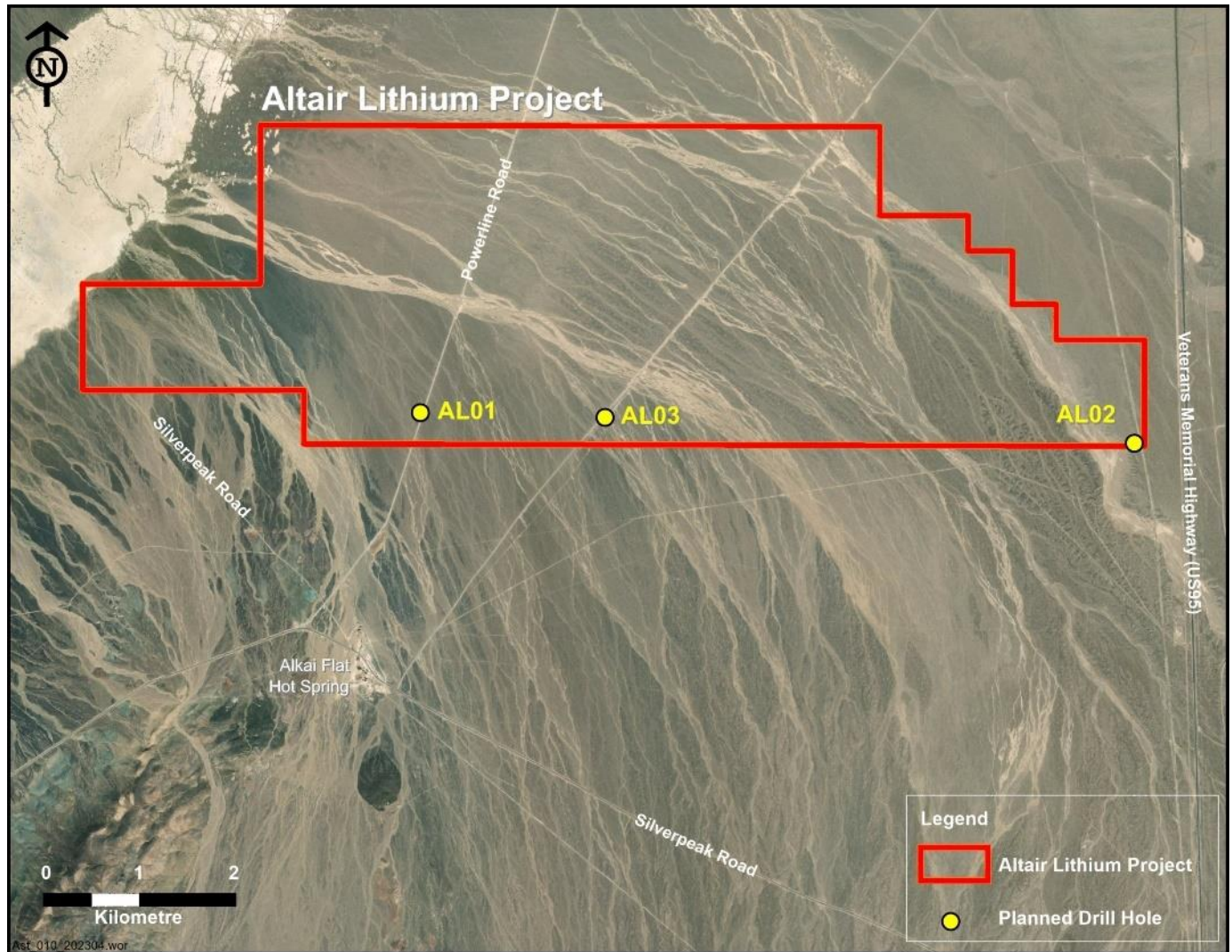


**Figure 2.** East-west cross-section showing AL01, lithium geochemistry and remaining planned holes.



### Next Steps

The drilling campaign is expected to be completed by mid-November. Samples collected from AL02 and AL03 will be dispatched to ALS Laboratories in Reno for analysis, with results expected before the end of the calendar year.

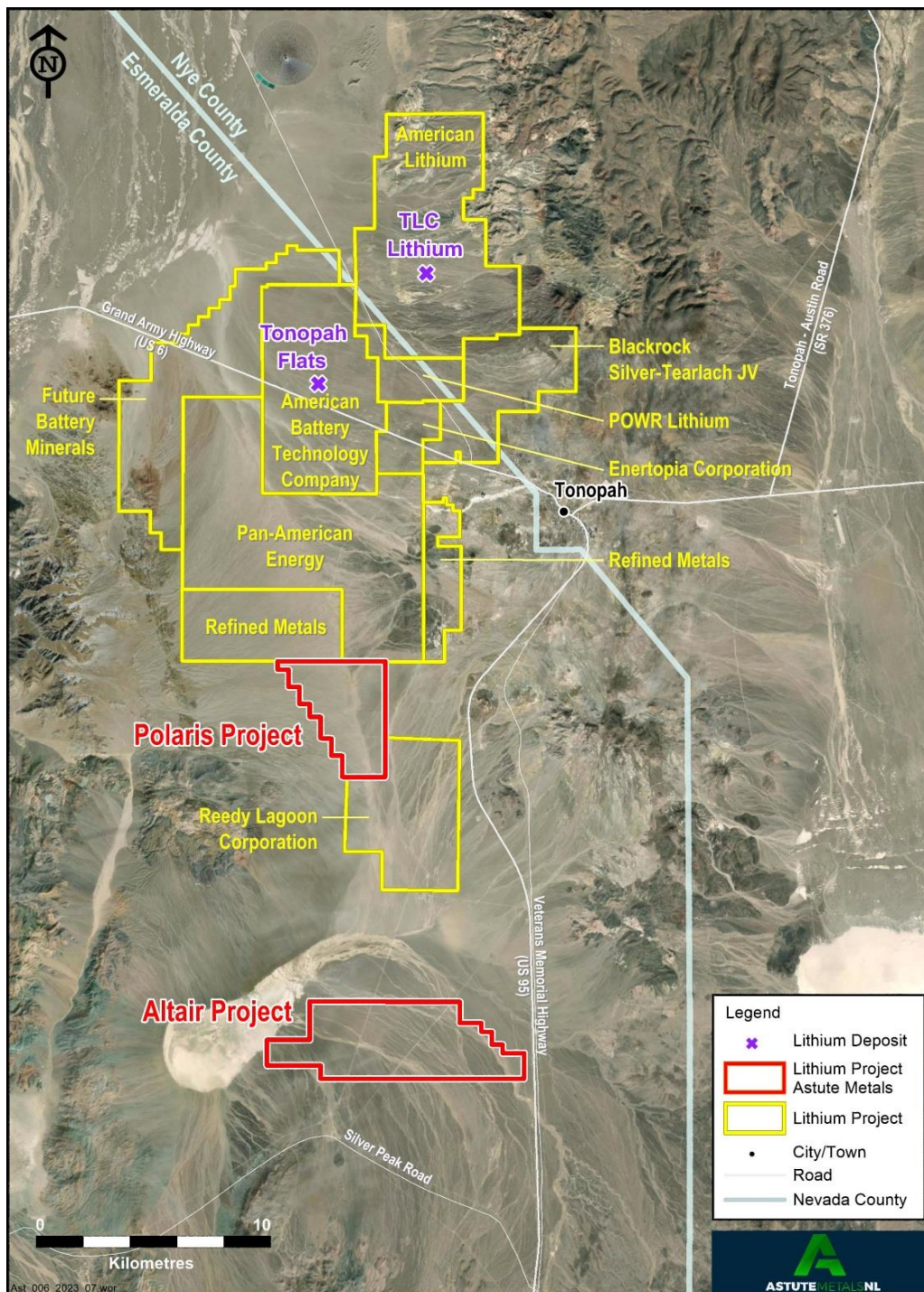


**Figure 3.** Altair Project drill-hole location plan

Plan/Hole ID	Easting	Northing	Depth	Status
AL01	470859	4189179	181.4m (595ft)	Drilled July 2023
AL02	478236	4188869	500	Planned
AL03	472767	4189133	500	Planned

**Table 1.** Drill site locations





**Figure 5.** Location of Polaris and Altair Projects, lithium deposits and exploration projects.

<sup>1</sup> OTCMKTS: ABML 26 February 2023 'Technical Report Summary For The Tonopah Flats Lithium Project, Esmeralda.'

<sup>2</sup> TSX.V: LI 17 March 2023 'Tonopah Lithium Claims project NI 43-101 technical report – Preliminary Economic Assessment'

<sup>3</sup> ASX: ASE 23 August 2023 'Broad lithium hits in first Altair drillhole'

## Authorisation

This announcement has been authorised for release by the Board of Astute.

## More Information

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## **Competent Persons**

The information in this report that relates to Sampling Techniques and Data (Section 1) is based on information compiled by Mr Matthew Healy, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM Member number 303597). Mr Healy is a full-time employee of Astute Metals NL and is eligible to participate in a Loan Funded Share incentive plan of the Company. Mr Healy 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 Healy 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 report that relates to Reporting of Exploration Results (Section 2) is based on information compiled by Mr Richard Newport, principal partner of Richard Newport & Associates – Consultant Geoscientists. Mr Newport is a member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person under the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Newport consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

## Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<p>Nature and quality of sampling (eg 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.</p> <p>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</p> <p>Aspects of the determination of mineralisation that are Material to the Public Report.</p> <p>In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</p>	<p>4½" reverse circulation (AL01) drilling was undertaken for drill sample collection. Samples were collected on a 5-foot basis in calico bags.</p> <p>Nominal small drill sample was collected for chip tray and sandwich-sized ziplock bags, with all remaining sample collected in calico bag for despatch to external laboratory</p> <p>Samples were air dried on elevated grid mesh until practical to transport</p> <p>Claystone hosted lithium deposits are thought to form as a result of the weathering of lithium-bearing volcanic glass within tertiary-aged tuffaceous lacustrine sediments of the mapped Ts3 unit. Inputs of lithium from geothermal sources have also been proposed.</p>
Drilling techniques	<p>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</p>	<p>4½" reverse circulation (AL01) drilling methods employed. Water was injected to assist with transport of sample from bit to surface, as required.</p>
Drill sample recovery	<p>Method of recording and assessing core and chip sample recoveries and results assessed.</p> <p>Measures taken to maximise sample recovery and ensure representative nature of the samples.</p> <p>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.</p>	<p>Sample recovery established by dry sample weights undertaken by independent laboratory prior to sample preparation and analysis</p> <p>Challenging ground conditions arising from the drilling of quaternary alluvial and soft claystones did result in poor recovery in some instances.</p> <p>Instances of poor recovery are not expected to materially impact interpretation of results</p>
Logging	<p>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.</p> <p>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</p> <p>The total length and percentage of the relevant intersections logged.</p>	<p>Drill cuttings for entire hole logged for lithology by contract geologist and company geologists</p> <p>Logging is qualitative</p> <p>Photography of material intersections of claystone taken of relevant chip trays</p> <p>See Appendix 2 for preliminary lithology logging</p>

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<p>If core, whether cut or sawn and whether quarter, half or all core taken.</p> <p>If non-core, whether riffled, tube sampled, rotarysplit, etc and whether sampled wet or dry.</p> <p>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</p> <p>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</p> <p>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.</p>	<p>Full samples (i.e. samples were not split) were submitted to ALS Laboratories in Reno for preparation and analysis.</p>
Quality of assay data and laboratory tests	<p>Whether sample sizes are appropriate to the grain size of the material being sampled.</p> <p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p>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.</p> <p>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</p>	<p>Samples were analysed by method ME-MS41 which is an ICP-MS method employing an aqua-regia digest. Aqua-regia is not considered a 'total' digest for many elements however is considered fit for purpose for lithium and has been used extensively by other parties exploring for lithium claystone deposits in the USA.</p> <p>Assay quality was monitored using pulp blanks, as well as certified reference materials (CRMs) at a range of lithium grades. Pulp blank results indicated no material contamination of samples from sample preparation or during the analytical process. CRM results were within 3 standard deviations of certified values. No systematic bias nor other accuracy related issues were identified.</p>
Verification of sampling and assaying	<p>The verification of significant intersections by either independent or alternative company personnel.</p> <p>The use of twinned holes.</p> <p>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</p> <p>Discuss any adjustment to assay data.</p>	<p>Sample intervals to be assigned a unique sample identification number prior to sample despatch</p> <p>Lithium-mineralised claystone Certified Reference Materials (standards), pulp blanks and coarse blanks to be inserted into the sample stream at regular intervals to monitor lab accuracy and potential contamination during sample prep and analytical processes</p>
Location of data points	<p>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.</p> <p>Specification of the grid system used.</p> <p>Quality and adequacy of topographic control.</p>	<p>Drill collar locations determined using hand-held GPS with location reported in NAD83 UTM Zone 11. Expected hole location accuracy of +/- 10m</p> <p>No downhole surveys conducted on vertical holes</p>



Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<p>Data spacing for reporting of Exploration Results.</p> <p>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.</p> <p>Whether sample compositing has been applied.</p>	<p>Drill spacing is appropriate for early exploration purposes</p> <p>5-foot sample interval widely adopted as standard practice in air drilling in the USA.</p>
Orientation of data in relation to geological structure	<p>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</p> <p>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.</p>	<p>Claystone beds are regionally sub-horizontal with shallow dip of &lt; 5° although locally this may vary</p>
Sample security	The measures taken to ensure sample security.	Samples delivered from the drill site to Freight agent by Company staff/contractors for delivery to external laboratory
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Not applicable



## Section 2 – Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<p>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.</p> <p>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.</p>	<p>Polaris and Altair Claims held in 100% Astute subsidiary Needles Holdings Inc.</p> <p>Claims located on Federal (BLM) Land</p> <p>Drilling conducted on claims certified by the Bureau of Land Management (BLM)</p>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<p>No known lithium exploration conducted on Polaris or Altair areas.</p> <p>Exploration conducted in the region by other explorers referenced in announcement body text</p>
Geology	Deposit type, geological setting and style of mineralisation.	<p>The principal target deposit style is claystone hosted lithium mineralisation. Claystone hosted lithium deposits are thought to form as a result of the weathering of lithium-bearing volcanic glass within tertiary-aged tuffaceous lacustrine sediments of the mapped Ts3 unit.</p> <p>Lacustrine environments formed as a result of extensional tectonic regime that produced 'basin and range' topography observed across the state of Nevada. Inputs of lithium from geothermal sources have also been proposed.</p>
Drill hole Information	<p>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:</p> <ul style="list-style-type: none"> <li>◦ easting and northing of the drill hole collar</li> <li>◦ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>◦ dip and azimuth of the hole</li> <li>◦ down hole length and interception depth</li> <li>◦ hole length.</li> </ul> <p>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.</p>	<p>Drillhole locations and drilled depths are tabulated in body report</p> <p>All holes drilled vertically</p>
Data aggregation methods	<p>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</p> <p>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.</p> <p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p>Intersections, where quoted are weighted by length.</p> <p>A 300ppm Li cut-off was used to quote headline intersections, with allowance for 5ft of internal dilution by lower grade material.</p> <p>No cut-off has been employed where the full intersection of prospective lithology (i.e. Siebert formation).</p> <p>Spot grades also quoted for single drill sample intervals</p> <p>Sample assays from overlying alluvium were excluded from all quoted intersections.</p>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<p>These relationships are particularly important in the reporting of Exploration Results.</p> <p>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</p> <p>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</p>	Insufficient information available due to early exploration status
Diagrams	<p>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.</p>	Included in ASX announcement
Balanced reporting	<p>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.</p>	This release describes all relevant information
Other substantive exploration data	<p>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.</p>	This release describes all relevant information
Further work	<p>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</p> <p>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</p>	Drill results arising from the current campaign will dictate further work at the Altair project

## APPENDIX 2 – Polaris Aircore Drilling Preliminary Lithology Logging

[illegible]



## APPENDIX 3 – Drill Sample Assays

Sample ID	Hole ID	From (ft)	To (ft)	Li (ppm)
700593	AL01	200	205	88.2
700594	AL01	205	210	98
700595	AL01	210	215	132
700596	AL01	215	220	100.5
700597	AL01	220	225	128
700598	AL01	225	230	143.5
700599	AL01	230	235	180
700600	AL01	235	240	140.5
700601	AL01	240	245	225
700602	AL01	245	250	224
700603	AL01	250	255	259
700604	AL01	255	260	215
700605	AL01	260	265	294
700606	AL01	265	270	327
700607	AL01	270	275	367
700608	AL01	275	280	413
700609	AL01	280	285	490
700610	AL01	285	290	394
700611	AL01	290	295	454
700612	AL01	295	300	567
700614	AL01	300	305	637
700615	AL01	305	310	553
700616	AL01	310	315	430
700617	AL01	315	320	471
700618	AL01	320	325	368
700619	AL01	325	330	428
700620	AL01	330	335	416
700621	AL01	335	340	394
700622	AL01	340	345	439
700623	AL01	345	350	490
700624	AL01	350	355	480
700625	AL01	355	360	594
700626	AL01	360	365	732
700627	AL01	365	370	676
700628	AL01	370	375	455
700629	AL01	375	380	218
700630	AL01	380	385	135.5
700631	AL01	385	390	257
700632	AL01	390	395	157.5
700633	AL01	395	400	176
700635	AL01	400	405	128
700636	AL01	405	410	256
700637	AL01	410	415	224
700638	AL01	415	420	279

## APPENDIX 3 – Drill Sample Assays Continued

Sample ID	Hole ID	From (ft)	To (ft)	Li (ppm)
700639	AL01	420	425	316
700640	AL01	425	430	293
700641	AL01	430	435	330
700642	AL01	435	440	110.5
700643	AL01	440	445	290
700644	AL01	445	450	635
700645	AL01	450	455	154.5
700646	AL01	455	460	245
700647	AL01	460	465	124
700648	AL01	465	470	92.7
700649	AL01	470	475	67.6
700650	AL01	475	480	203
700651	AL01	480	485	208
700652	AL01	485	490	521
700653	AL01	490	495	472
700654	AL01	495	500	579
700656	AL01	500	505	471
700657	AL01	505	510	424
700658	AL01	510	515	564
700659	AL01	515	520	450
700660	AL01	520	525	611
700661	AL01	525	530	597
700662	AL01	530	535	516
700663	AL01	535	540	501
700664	AL01	540	545	408
700665	AL01	545	550	440
700666	AL01	550	555	486
700667	AL01	555	560	688
700668	AL01	560	565	615
700669	AL01	565	570	490
700670	AL01	570	575	646
700671	AL01	575	580	397
700672	AL01	580	585	124.5
700673	AL01	585	590	595
700674	AL01	590	595	585