# IP survey significantly upgrades porphyry copper potential at Frisco

**12 September 2017**

## Market Data

ASX Code: AL8
Share Price: $1.59 (11 Sept 2017)
Shares on Issue: 107,963,908
Options on Issue: 20,657,454

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*Chief Geologist*

Brian Kay
*Exploration Manager*


## Alderan Resources Limited

Ground Floor, 16 Ord Street, West Perth, 6005, WA

www.alderanresources.com.au

For further information:

**e:** info@alderanresources.com.au
**p:** +61 8 9482 0560

ABN: 55 165 079 201


## Highlights

- Preliminary results from the induced polarisation ("IP") survey at Frisco (Utah, USA) has defined a large IP anomaly coincident with a large circular magnetic anomaly, surface alteration, mineralisation and geochemical surface copper anomalism at the **Cactus Canyon** prospect
- The IP anomaly forms a large contiguous 5km by 3km chargeability anomaly which wraps around a 2km by 1.5km resistivity anomaly and is consistent with a large porphyry copper system
- The chargeability anomaly is interpreted to represent a sulphide-rich (pyrite) phyllic alteration zone surrounding a resistive potassic copper-bearing core
- Cactus Canyon is coincident with a copper dominant historical geochemical anomaly and pervasive surface phyllic alteration. It lies adjacent to a 1000m by 200m zone of extensive breccia-pipe hosted copper mineralisation incorporating the Comet, New Years and Cactus Mines, with the latter mined to a depth of 275m
- An independent review confirmed a multi-phase system of possible porphyry intrusions at Cactus Canyon
- The IP survey over Alderan tenure is continuing. Full results will be released over coming weeks
- Alderan is currently awaiting the mobilisation of drill rigs from its contractor with drilling to focus initially on the 1000m corridor comprising the Cactus, Comet and New Year mines

Alderan Resources Limited (ASX: AL8) is pleased to announce it has identified an IP anomaly likely representing a large, preserved and mineralised porphyry system at the Cactus Canyon prospect, part of its Frisco Project in Utah, USA. Utah is consistently ranked as one of the top mineral investment jurisdictions in the world (Fraser Institute Survey 2016) and is located predominantly on private land in close vicinity to roads, rail, power plants and copper smelters.

**IP survey confirms porphyry copper potential at Cactus Canyon**

Alderan is undertaking an IP survey at Frisco and has received preliminary results for the northern half of the survey area which covers the Cactus Canyon target. Analysis and processing of the data has shown a large 15-40+ mV/V chargeability shell wrapping around a central higher resistivity (750 to approximately 1500 Ohm-m) anomaly. This is consistent with a large mineralised porphyry system where a sulphide (pyrite) rich outer propyllitic to phyllic alteration shell surrounds a central copper bearing potassic zone (see Figure 1 and 2).

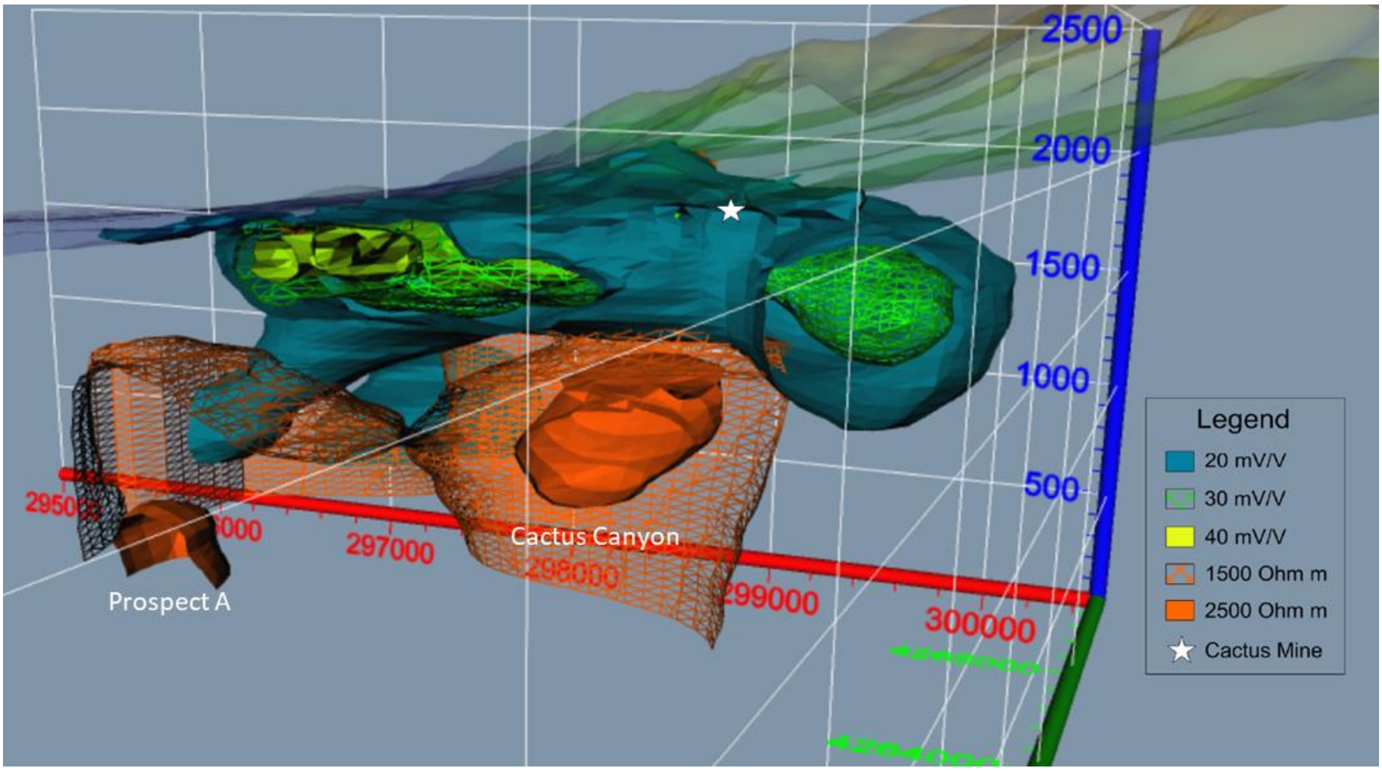


*Figure 1: A series of chargeability anomalies (up to 40 mV/V) represented as green-blue units are interpreted to represent a pyrite rich shell, overlying and wrapping around a large 2km by 1.5km body of higher resistivity (1500 and 2500 Ohm-m, shown in orange) which may host a copper-bearing potassic zone.*

The Cactus Canyon prospect is associated with extensive outcropping phyllic alteration, mineralised breccia, porphyry style distal copper bearing veining, copper bearing dykes and a large 1000m by 200m zone of copper mineralisation incorporating the Cactus, Comet and New Years mines. Mineralisation in these mines is hosted in tourmaline-pyrite-chalcopyrite breccia pipes. Chalcopyrite-magnetite association has also been identified between the breccia pipes – possibly representing an earlier mineralising event. These features are expanded in further detail below.

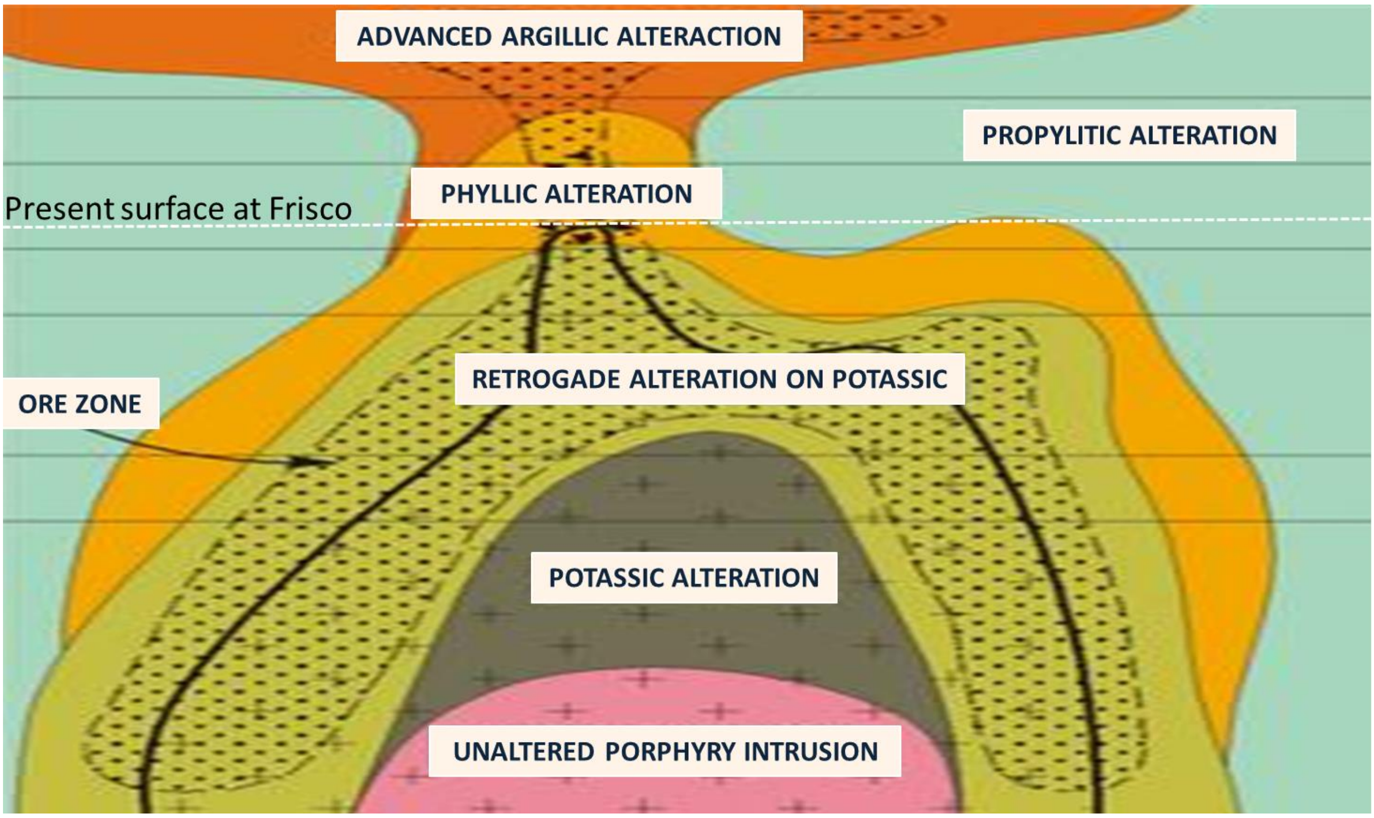


*Figure 2: Porphyry copper model illustrating the pyrite rich shell, which is expected to have high chargeability, overlying the copper bearing potassic zone which is expected to be more resistive. Also shown is the interpreted present level of erosion at Cactus Canyon*

A 3D inversion of the IP data shows the high chargeability zone of Figure 1 wrapping around a central, vertical, dome-shaped zone of 1500 Ohm-m resistivity. A subcircular zone of 2500 Ohm-m resistivity exists within the apical parts of the dome and may respresent a zone of higher resistivity associated with a potassic alteration in the upper parts of an intrusive porphyry. The 1500 Ohm-m resistivity anomaly is coincident with a large circular deep magnetic low anomaly at Cactus Canyon (see Figure 3). A second subcircular zone of resistivity (2500 Ohm-m), named Prospect A, is also apparent, which may represent a second intrusive center (see also Figure 1).

The IP survey is ongoing, with the geophysics crew acquiring data over the Accrington prospect in the south of the Frisco Project. Figure 4 shows a three-dimensional viewpoint of the entire 3D inversion to date of the IP results which highlights a contiguous 4km by 2km+ 1000 Ohm-m resistivity anomaly around which a larger chargeability anomaly wraps (20 Mv/V shell shown in Figure 4). The continuation of the resistivity and chargeability anomaly to the south may be due to the presence of additional intrusives.

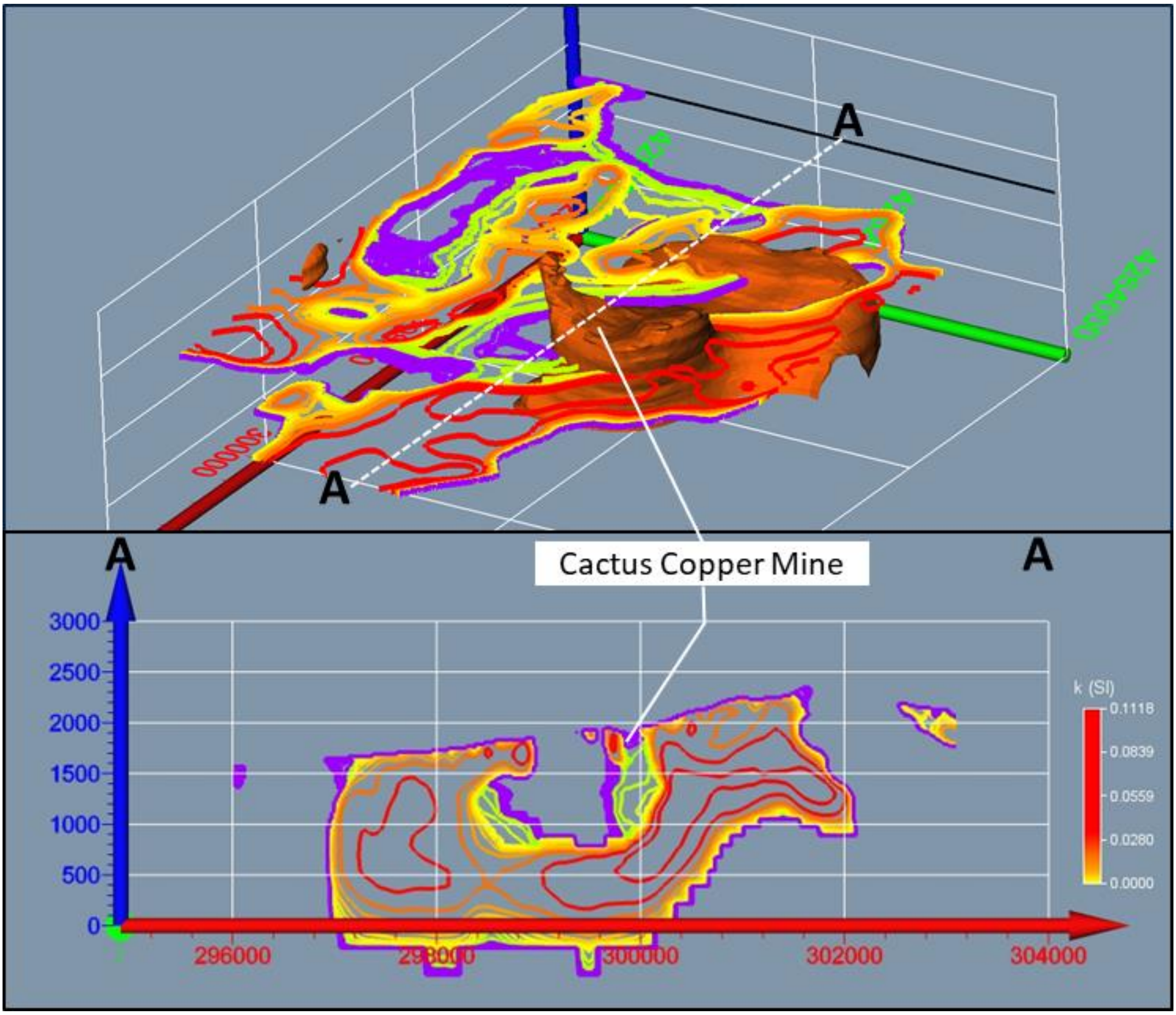


*Figure 3 Magnetic contours (above) from the magnetic inversion model also showing the 1500 Ohm-m resistivity shell (orange) which is coincident with a large circular magnetic low anomaly at Cactus Canyon demonstrated in the bottom image. The magnetic low shown in the cross section in the lower diagramis interpreted as an area of magnetic destruction likely caused by a large porphyry related hyrdrothermal system.*

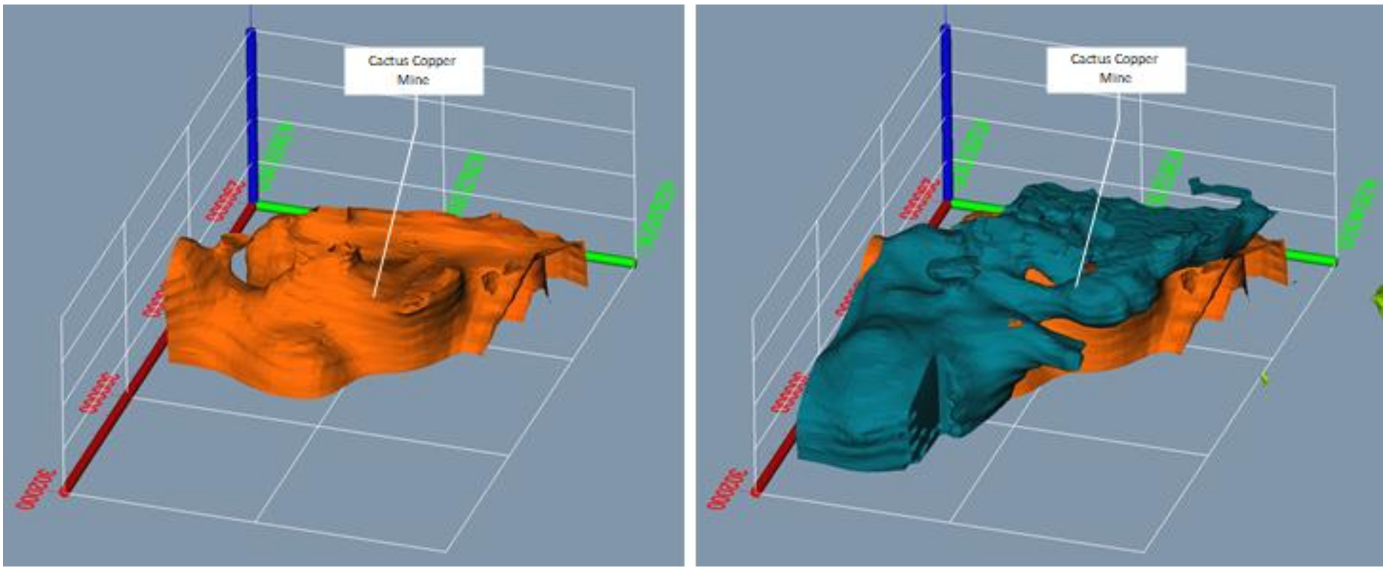


*Figure 4: Left: current extent of resistivity surface at depth (1000 Ohm m), showing domal features within which localised zones of higher resistivity may indicate potassic alteration within the apices of the intrusives. Right: Chargeability-surface (20Mv/V, blue) overlain on top of resistivity (orange), showing chargeability associated with a mapped phyllic zone wrapping around the apices of resistive domes*

**Mineralisation and Geochemistry**

The Cactus Canyon porphyry system exhibits extensive surface and several expressions of porphyry related mineralisation. Features of known mineralisation associated with Cactus Canyon include:

- Copper-gold-silver mineralisation at the historic Cactus, Comet and New Years Mines which exposes mineralisation across an area of 1000m by 200m to at least 275m depth. Two mineralisation events are suggested within this corridor with mineralisation hosted within tourmaline-pyrite-chalcopyrite breccia pipes (associated with a low magnetic geophysical signal) and in between the pipes (with a higher magnetic geophysical signal);
- Historical sampling at Cactus which intersected high grade mineralisation (e.g. 21.5m @ 6.1% Cu) and historical drilling that intersected broad zones of copper (e.g. 136m @ 0.76% Cu in DDH6)[1].
- Gold or silver was generally not assayed in historical drilling or sampling; however, Alderan rock chip sampling confirmed the presence of significant amounts of both gold and silver;
- Copper-bearing porphyry dykes mapped at surface and intersected in historical drilling (DDH520-1) alongside Cactus Canyon; and
- Mineralised skarns hosted within carbonate lithologies

The Cactus Mine was a historical copper-gold-silver producer with historical production amounting to approximately 1.2Mt. Mining ceased in 1914 due to underground activities having intruded into a neighbouring claim.

Historical wide-spaced geochemical sampling was undertaken over the Cactus Canyon area for copper-molybdenum-zinc by AMAX Exploration in 1971-73. The survey showed a copper dominant anomaly directly over the Cactus Canyon prospect (see Figure 5).

Footnotes: 1) Refer to full channel sampling results reported in ASX Announcement by AL8 dated 21 August 2017 (Extensive Copper in historical sampling at Cactus) and on 28 June 2017 (High Impact Exploration Program Commences at Frisco)

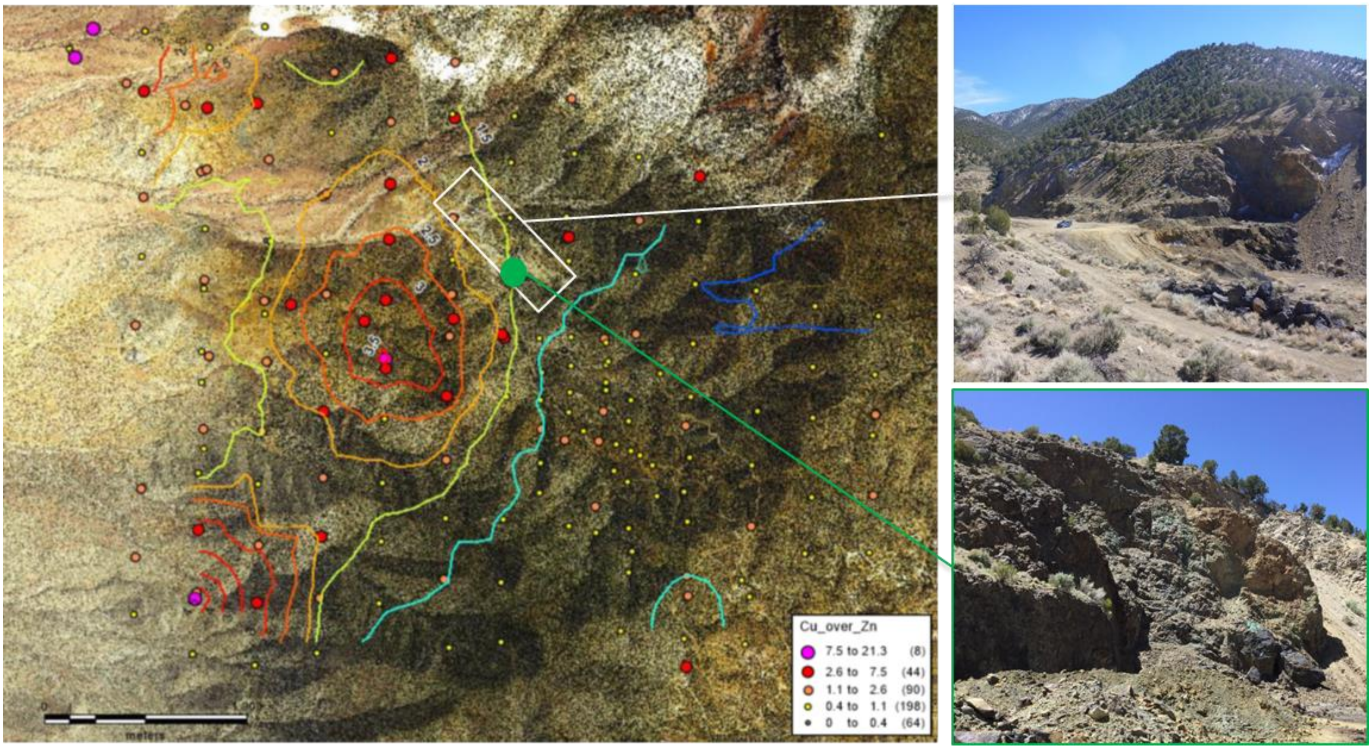


*Figure 5: Results of historical rock chip sampling (AMAX 1973) showing colour coded values of Cu over Zn ratio per sample point and as colour coded contour lines (left image). Photographs of the Cactus – Comet – New Year corridor (right, top) and Cactus chalcopyrite-tourmaline-pyrite breccia (right, bottom).*


*Figure 6: The Cactus Canyon porphyry copper prospect shown lying adjacent to the 1000m corridor hosting the Cactus, Comet and New Year breccia pipes and mines.*

**Independent Review**

An independent review was conducted by Corbett Geological Services Pty Ltd on the Frisco Project. Key observations and conclusions of the review with respect to the Cactus Canyon prospect were:

- The identification of phyllic alteration associated with a zone of brown colouration in satellite photos, typical of what might be expected from the weathering of a moderate, structurally controlled, phyllic alteration overprint upon magnetic wall rocks above a blind porphyry intrusion. This should manifest in the geophysical data as coincident mottled magnetite destruction and a positive chargeability anomaly associated with the pyrite content. The sericite overprint of the monzodiorite may provide a reduction in resistivity.
- The identification of D veins associated with surficial phyllic alteration, sheeted porphyry quartz veins of the B style characterised by a central line of chalcopyrite and hosted within monzodiorite, identified on the Comet mine dump - typical of the targeted porphyry mineralisation, here as wall rock hosted marginal to the speculated porphyry.
- The likelihood of the massive monzodiorite being an ideal host which will fracture well to facilitate any speculated porphyry and associated stockwork quartz veins.
- Confirmation of a multi intrusion and preserved porphyry system at Cactus Canyon.

*Figure 7: (Left) Oxidised banded quartz vein typical of D veins formed marginal to porphyry Cu deposits from the Cactus Canyon area. (Right) Sheeted B style quartz veins with central lines of chalcopyrite within monzodiorite form the Comet mine dump*

**Potential for a possible porphyry cluster at Frisco**

Magnetic modelling has shown that the Cactus Canyon porphyry prospect sits on a large circular magnetic low anomaly which appears in 3D modelling as a large, deep cavity, likely the result of magnetite destruction through alteration of equigranular Monzonite from a large hydrothermal porphyry system. Figure 8 shows the Cactus Canyon target on the magnetic inversion and a series of additional magnetic low anomalies extending to the south. Preliminary results of the IP survey show a ridge of resistivity and chargeability associated with these possible intrusives. Alderan expects the IP survey will be completed within the next few weeks and that all data processing including inversion modelling will be complete by early October.

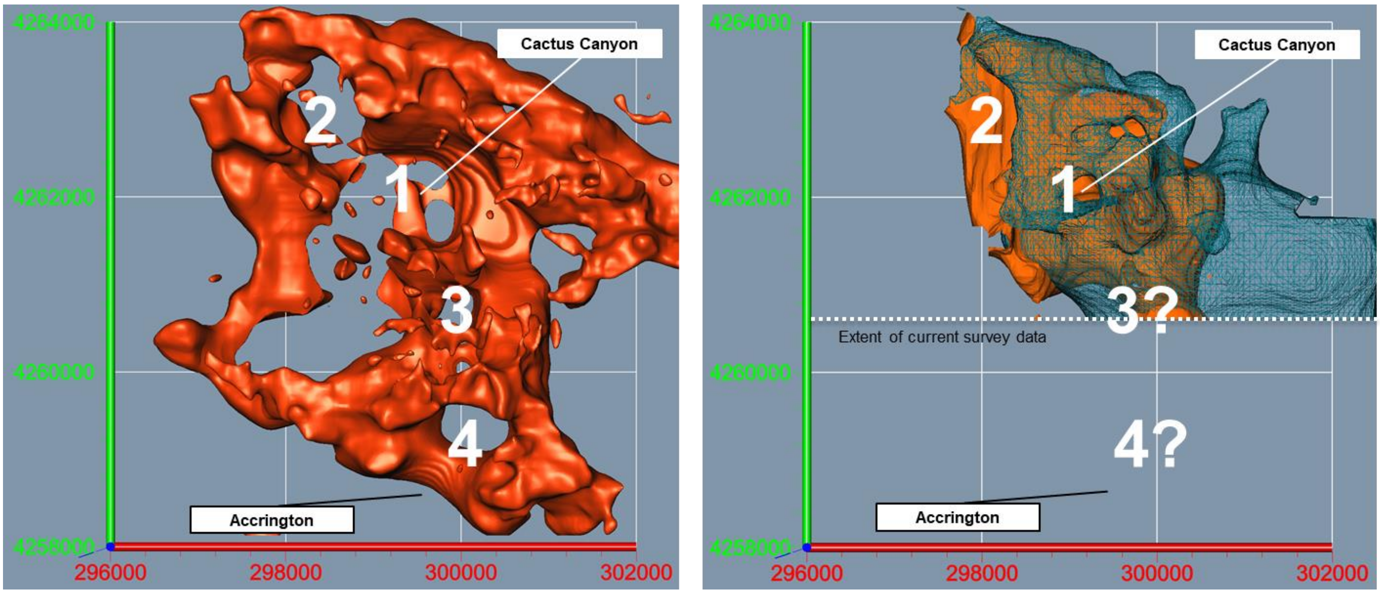


*Figure 8: (Left image) Magnetic inversion (3D) showing the large magnetic low cavity at Cactus Canyon (1) and a series of additional magnetic low anomalies (2,3,4) which may represent additional porphyry intrusions (left image) and (right image) current chargeability shell (20 mV/V) shown as a blue lattice wrapping over a central resistive zone (1000 Ohm-m) which covers the Cactus Canyon prospect*

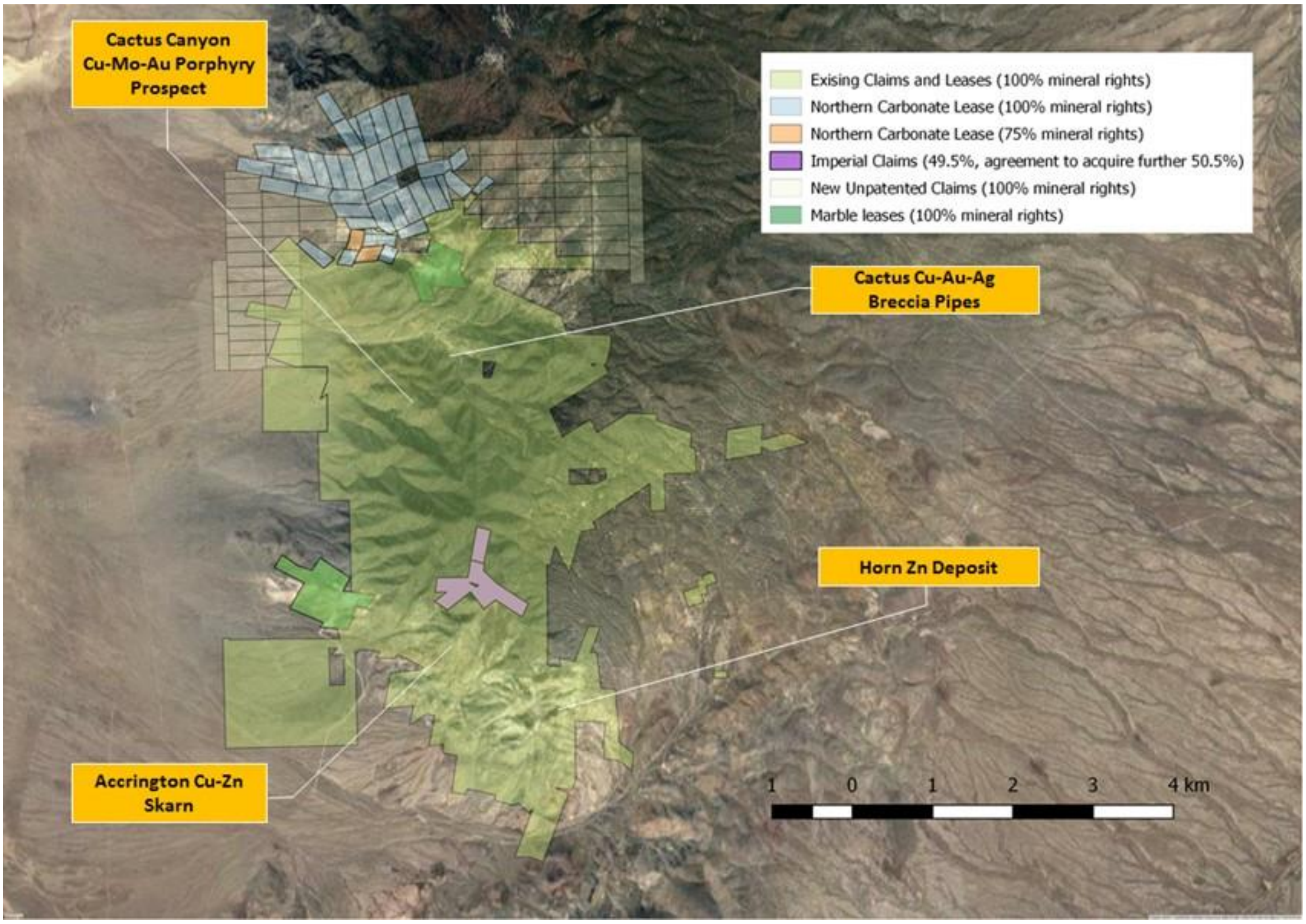


*Figure 9: Frisco Project - Tenure Map*

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**Please direct enquiries to:**


Nathan Ryan
NWR Communications
Mobile: 0420 582 887

Christopher Wanless
Chief Executive Officer
chris@alderanresources.com.au


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**Competent Persons Statement**

The information in this presentation that relates to exploration targets, exploration results, mineral resources or ore reserves is based on information compiled by Donald Smith, a competent person who is a member of the Australian Institute of Geoscientists (AIG) and Australian Institute of Mining & Metallurgy (Ausimm). Mr Smith is a Geologist and Director of Alderan Resources Limited. Mr Smith has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the JORC Code (JORC Code). Mr Smith consents to the inclusion of this information in the form and context in which it appears.

Mr Smith confirms that the information provided in this announcement provided under ASX Listing Rules Chapter 5.12.2 to 5.12.7 is an accurate representation of the available data and studies for the proposed exploration programmes that relate to this “material mining project”.

**About Alderan Resources Limited**

Alderan is a copper explorer with a focus on the Frisco Project, located in Utah, United States of America. The Frisco Project encompasses an area of significant historical mining activity with numerous old mines and workings across an area of approximately 7km by 4km. These include:

- the Cactus copper-gold-silver deposit and breccia pipe, one of several mineralised breccia pipes over an area of approximately 1000 m by 200 m. Modelling of magnetic survey data demonstrates that these pipes are likely connected at depth;
- the Accrington copper-zinc-silver-gold skarn, which hosts extensive mineralisation across an area of 1.8 km by 1.2 km; and
- the Horn zinc deposit, a historical lead-silver mine, which contains significant amounts of unmined high grade zinc.

The Company believes that these three deposits are genetically related to, and were formed contemporaneously with, underlying mineralised (copper-molybdenum-gold) porphyry intrusions. Work undertaken by the Company has confirmed the presence of a mineralised porphyry system beneath and adjacent to the Cactus breccia pipes.

# APPENDIX 1
# JORC Code, 2012 Edition – Table 1 Report
# FRISCO PROJECT

## 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 (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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *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.* | • Not applicable |
| *Drilling techniques* | • *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).* | • Not applicable |
| *Drill sample recovery* | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.* | • Not applicable |
| *Logging* | • *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate* | • Not applicable |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | Mineral Resource estimation, mining studies and metallurgical studies.<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | |
| *Sub-sampling techniques and sample preparation* | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • Not applicable |
| *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.*<br>• *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.*<br>• *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.* | • The IP data were acquired using the DIAS32 receiver system coupled to a paired GDD Tx II transmitter. Full waveform data were recorded for a transmitter fundamental frequency of 0.125 Hz |
| *Verification of sampling and assaying* | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Not applicable |
| *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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic* | • All IP survey control using non-differential GPS referenced to WGS84. Elevations interpolated from SRTM30. Horizontal +/- 2m, Vertical +/- 5m |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *control.* | |
| *Data spacing and distribution* | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • IP receiver electrode spacing of 100m, transmitter electrode spacing of 200m and line spacing of 100m which is adequate for porphyry and breccia pipe style targets. Multipoles to 400m have been measured to increase the depth of investigation of the survey.. |
| *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.*<br>• *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.* | • The double offset dipole dipole array used is only weakly dependent on the orientation of any mineralisation or alteration trends with respect to the line direction. |
| *Sample security* | • *The measures taken to ensure sample security.* | • Not applicable |
| *Audits or reviews* | • *The results of any audits or reviews of sampling techniques and data.* | • Not applicable |

## 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.*<br>• *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 Frisco Prospect comprises 275 patented and 252 unpatented claims, which are governed by the Horn, Cactus and Northern Carbonate lease agreements entered into with the private landowner, Horn Silver Mines Inc.<br>• The Horn and Cactus lease agreements grant Alderan all rights to access the property and to explore for and mine minerals, subject to a retained royalty of 3% to the landholder. Alderan holds options to reduce the royalty to 1% and to purchase the 231 patented claims.<br>• The Northern Carbonate Lease grants Alderan with all rights to access the property and to explore for and mine minerals, subject to a retained royalty of 3% to the landholder. Alderan holds options to reduce the royalty to 1% and to purchase the 231 patented claims.<br>• Alderan was in full compliance with both lease agreements and all claims were in good standing at the time of reporting. |
| *Exploration done by other parties* | • *Acknowledgment and appraisal of exploration by other parties.* | • A large amount of historical exploration has been carried out by numerous different parties dating back to the 1800's.<br>• Historical mining records including level plans and production records exist for the period between 1905 and 1915 when the vast majority of production occurred |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • Historical drilling has been carried out by multiple parties including Anaconda Company, Rosario Exploration Company, Amax Exploration and Western Utah Copper Corporation/Palladon Ventures<br>• Data has been acquired, digitized where indicated, and interpreted by Alderan. |
| *Geology* | • *Deposit type, geological setting and style of mineralisation.* | • Porphyry style mineralised district with several expressions of mineralisation at surface, such as breccia pipes, skarns, structurally-hosted mineralisation, and manto style mineralised zones, including outcropping porphyries.<br>• Part of the larger Laramide mineralising event.<br>• Overprinted by Basin and Range tectonics. |
| *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:*<br>○ *easting and northing of the drill hole collar*<br>○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>○ *dip and azimuth of the hole*<br>○ *down hole length and interception depth*<br>○ *hole length.*<br>• *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.* | • Not applicable |
| *Data aggregation methods* | • *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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • Not applicable |
| *Relationship between mineralisation widths and intercept lengths* | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a* | • Not applicable |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *clear statement to this effect (eg 'down hole length, true width not known').* | |
| *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.* | • Not applicable |
| *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.* | • Not applicable |
| *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.* | • The IP survey uses a double offset dipole-dipole array acquired with a distributed acquisition system. The data have been cleaned and then inverted using a 3D inversion package. Results to date are preliminary and features on the northern and southern limits of the inversion mesh should be treated with caution. |
| *Further work* | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • Alderan Resources is currently in the final stages of preparing a drill program which will ascertain the along strike and depth extensions of the Cactus/New Years/Comet breccia corridor.<br>• Further drilling to test porphyry targets implied from recent geophysics work is being evaluated. |

## Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Database integrity* | • *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*<br>• *Data validation procedures used.* | • All data is collected automatically through the custom built secure Dias data system.<br>• Processing of these datasets is completed on custom built secure systems hosted by ExploreGeo |
| *Site visits* | • *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*<br>• *If no site visits have been undertaken indicate why this is the case.* | • Dias geophysical have acquired the data onsite<br>• Competent persons listed regularly visit site and are intimate with the project |
| *Geological interpretation* | • *Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.*<br>• *Nature of the data used and of any assumptions made.* | • Geological interpretations are preliminary only.<br>• No mineral resources are being considered at this time. Not applicable. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *The effect, if any, of alternative interpretations on Mineral Resource estimation.*<br>• *The use of geology in guiding and controlling Mineral Resource estimation.*<br>• *The factors affecting continuity both of grade and geology.* | |
| *Dimensions* | • *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.* | • Geological interpretations are preliminary only.<br>• No mineral resources are being considered at this time. Not applicable. |
| *Estimation and modelling techniques* | • *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*<br>• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*<br>• *The assumptions made regarding recovery of by-products.*<br>• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*<br>• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*<br>• *Any assumptions behind modelling of selective mining units.*<br>• *Any assumptions about correlation between variables.*<br>• *Description of how the geological interpretation was used to control the resource estimates.*<br>• *Discussion of basis for using or not using grade cutting or capping.*<br>• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.* | • The IP data have been inverted using Res3DInv using a nominally 50m x 50m mesh draped under topography with voxel height increasing from 25m at the surface to 300m at a depth of 2km. Both L1 and L2 Norm convergence criteria were used for both linear perturbation and non-linear complex IP inversion algorithms. In a gross sense all inversions produced similar models and geological implications although there were subtle differences in detail which may effect drill targeting but not the overall conclusions.. |
| *Moisture* | • *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.* | • No mineral resources are being considered at this time. Not applicable.<br>• |
| *Cut-off parameters* | • *The basis of the adopted cut-off grade(s) or quality parameters applied.* | • No mineral resources are being considered at this time. Not applicable. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • |
| *Mining factors or assumptions* | • *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.* | • No mineral resources are being considered at this time. Not applicable.<br>• |
| *Metallurgical factors or assumptions* | • *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.* | • No mineral resources are being considered at this time. Not applicable.<br>• |
| *Environmental factors or assumptions* | • *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.* | • No mineral resources are being considered at this time. Not applicable.<br>• |
| *Bulk density* | • *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*<br>• *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and* | • No mineral resources are being considered at this time. Not applicable.<br>• |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *differences between rock and alteration zones within the deposit.*<br>• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.* | |
| *Classification* | • *The basis for the classification of the Mineral Resources into varying confidence categories.*<br>• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*<br>• *Whether the result appropriately reflects the Competent Person's view of the deposit.* | • No mineral resources are being considered at this time. Not applicable.<br>• |
| *Audits or reviews* | • *The results of any audits or reviews of Mineral Resource estimates.* | • No mineral resources are being considered at this time. Not applicable.<br>• Geophysical data and interpretation is provided by ExploreGeo who are an independent consultant<br>• Geological audit/observations/interpretations provided by Corbett Geological Services Pty Ltd who are an independent consultant |
| *Discussion of relative accuracy/ confidence* | • *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*<br>• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*<br>• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.* | • Inversion of any geophysical data is not guaranteed to produce the correct answer. It will produce an answer that best fits with the observations. Inversions using different algorithms, different data sets and different physical properties which converge to similar models provide confidence that the modelled result is more likely to reflect the true geological distribution. |