Drilling confirms wide intervals of copper at Cactus

30 October 2017

Market Data

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Options on Issue: 17,657,454

Board and Management

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Non-executive Chairman

Christopher Wanless
Chief Executive Officer & Managing Director

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Highlights

- Drilling at the Cactus Mine (Frisco Project) has confirmed extensive copper mineralisation within and surrounding historic workings
- Drilling is currently progressing with the second hole (ALCA002) at a depth of 236m. Copper mineralisation (chalcopyrite) hosted within sulphide veins and quartz-tourmaline-pyrite-chalcopyrite breccia has been observed from 148m to current depth
- The first diamond drill hole (ALCA001) at the Cactus Mine was completed having intersected pyrite/chalcopyrite veining from 77m downhole, increasing in density to 84.9m where a historic stope was intercepted and further pyrite/chalcopyrite veins and stockworks within tourmaline breccia between 94.4 to 100.5m
- Assays are expected by early December
- Drilling at the Cactus Mine has been designed to confirm the nature, grade and precious metal content of mineralisation identified in historical drilling and sampling within and surrounding mine workings, as previously reported by the Company
- The drilling program at the Cactus Mine is part of a 10,000m program aiming to test the Cactus Corridor and the Accrington Prospect

Alderan Resources Limited (ASX: AL8) is pleased to announce that diamond drilling has confirmed wide intervals of copper mineralisation at the Cactus Mine as part of its Frisco Project, located in Utah, USA.

The first hole, ALCA001, was completed to a depth of 206m, having intersected mineralisation within the vicinity of historical workings from 77m to 107m. The drill hole was designed to test the upper extent of the Cactus Mine in the vicinity of recorded historical workings, and to test for mineralisation around the underground stopes. Copper mineralisation (chalcopyrite) associated with pyrite/chalcopyrite veining was intersected from 77m downhole with filled stopes intercepted from 84.9m to 94.4m downhole and from 100.5m to 107.1m. The pillar between the first and second stopes (94.4 to 100.5m) contains pyrite/chalcopyrite veins and stockwork with tourmaline breccia. Figure 2 and Figure 3 show photographs of drill core ALCA001.

Following the intersection of the second stope at 107.1m, down to 158.00m, mineralisation is dominated by fractures and veins of pyrite and localized vein breccias of tourmaline+pyrite+/-quartz within competent host quartz monzonite with patchy K-feldspar alteration. Rare very fine grained disseminated chalcopyrite and pyrite were noted locally within this section and appear to be associated with quartz micro-fractures. Due to drilling difficulties the hole was terminated short of the proposed depth (250m) at 208.68m within weakly to moderately magnetite veined and altered Cactus (Stock) Monzonite.

Hole ALCA002 was drilled from the same pad location as ALCA001 to test for mineralisation below in the lower levels of the Cactus Mine (see Figure 6). Pyrite/chalcopyrite mineralisation is noted from 148m to current depth. Both suphide veins, and quartz-tourmaline-pyrite-chalcopyrite breccia styles are present (see Figure 1 and Figures 4 and 5).The hole traversed Cactus Stock monzonite from casing to current depth at 236m. Strong faulting and shearing is evident throughout the hole, consistent with the Cactus Structural Corridor.

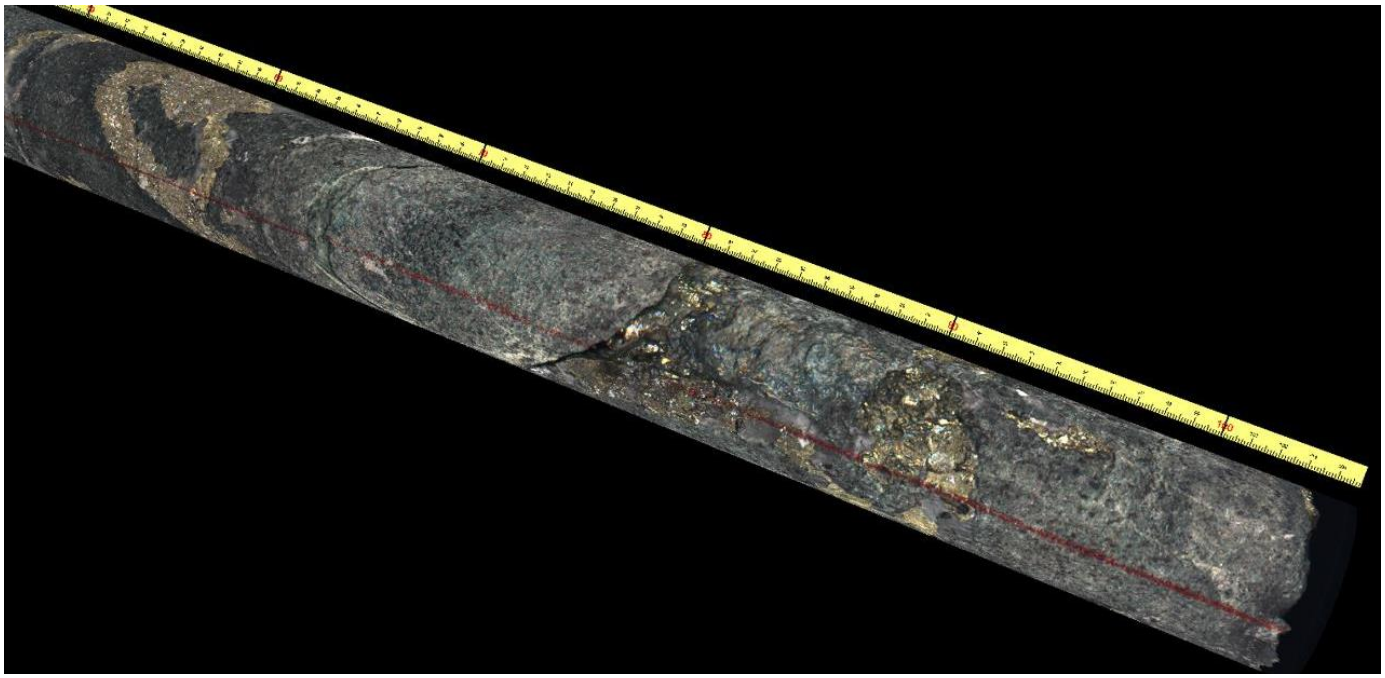

Figure 1: Drillcore intercept from ALCA002 (227.69m to 228.19m) showing chalcopyrite/pyrite mineralisation within a chlorite altered quartz-tourmaline breccia zone in a wider zone of weakly potassic altered monzonite.

The Company believes the mineralisation intercepted in holes ALCA001 and ALCA002 is related to a porphyry system. To date the style and texture of veins and breccias have been insufficiently studied to enable analysis of their preferred structural orientation which would allow estimates of true width. Mineralisation displayed can only be interpreted in terms of downhole interval which may exceed true width.

The Cactus Mine is part of series of outcropping breccia pipes and mineralised zones (New Years, Cactus, Comet) aligned along a NW-SE trending, prospect scale structural Cactus Corridor (see ASX announcements dated 28 September 2017 and 12 September 2017). Historical exploration, previously reported by Alderan, has identified significant mineralisation remaining within the Cactus mine (see ASX announcement dated 28 September 2017). Outcropping mineralisation at Cactus is associated with brecciated and strongly altered Cactus Stock monzonite containing quartz-tourmaline-pyrite-chalcopyrite +- hematite within the breccia zones and a possible earlier vein-type quartz-magnetite-pyrite-chalcopyrite mineralisation event adjacent to and in between the breccia zones (see announcement dated 12 September 2017).

The Company believes that the mineralisation within the Cactus Corridor formed as part of a larger, porphyry style mineralising system (Cactus Canyon Prospect) and intends to use the data collected from recent drilling to identify vectors towards potential deeper seated mineralisation (see ASX announcements dated 28 September 2017 and 12 September 2017).

In order to complement the geological on site observations and magnetic geophysical datasets, a project scale dipole-dipole IP survey is currently being finalised with results expected towards the end of November. Technical data and parameters collected during drilling will be used to complement and refine the geophysical models going forward.

Figure 2: Hole ALCA001 (99.8m) quartz-tourmaline-pyrite-chalcopyrite breccia.

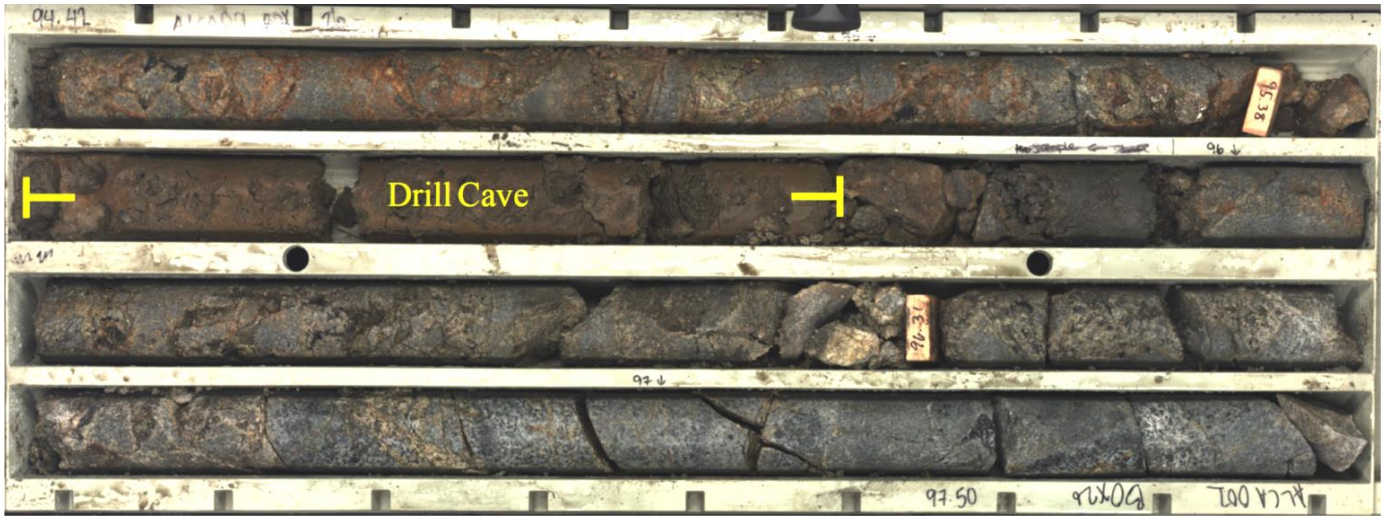

Figure 3: Photo of drill core from ALCA001 (94.42m to 97.5m).

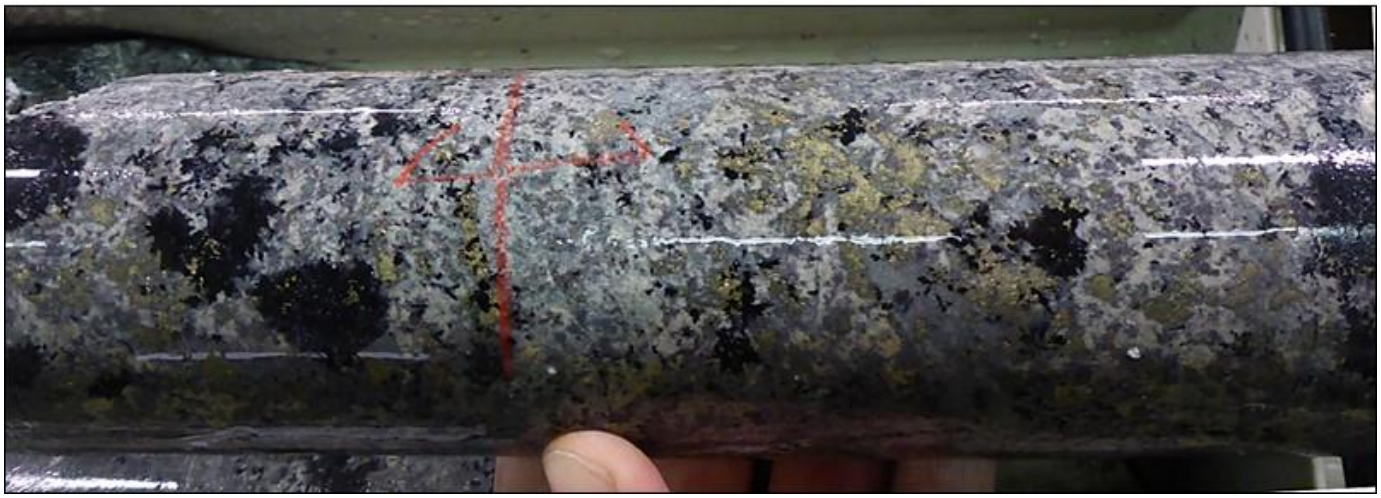

Figure 4: Core-box containing quartz-tourmaline-chalcopyrite-pyrite breccia (176.65m to 180.22m, ALCA002). Lower image showing detail from core box above (outlined by red box in upper image).

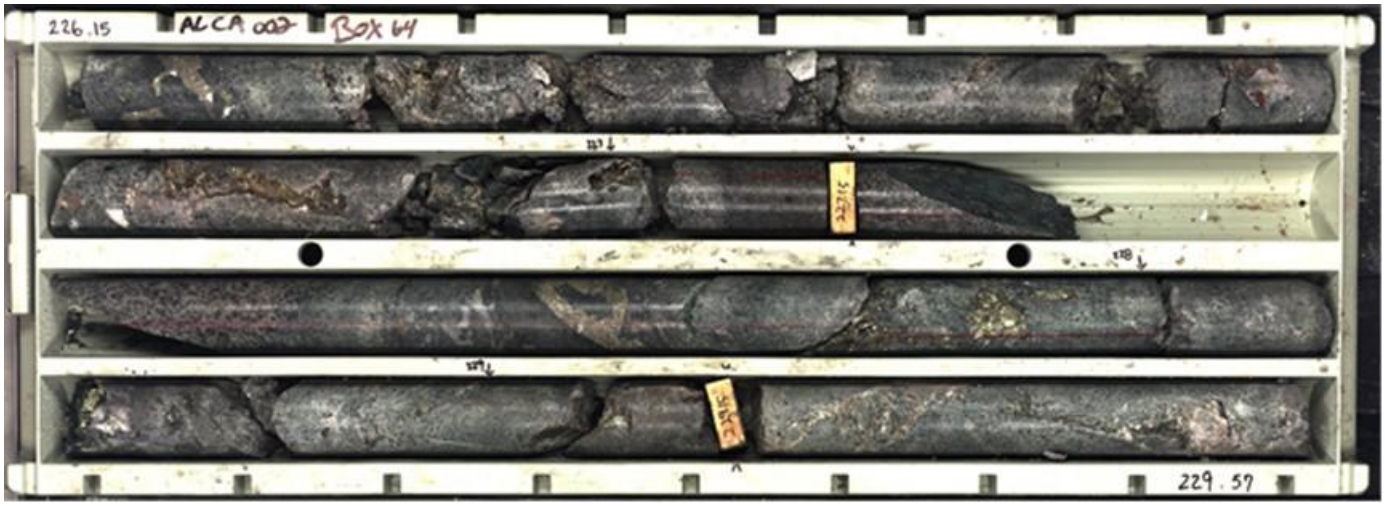

Figure 5: Photo of drill core from ALCA002 (226.15m to 229.57m).

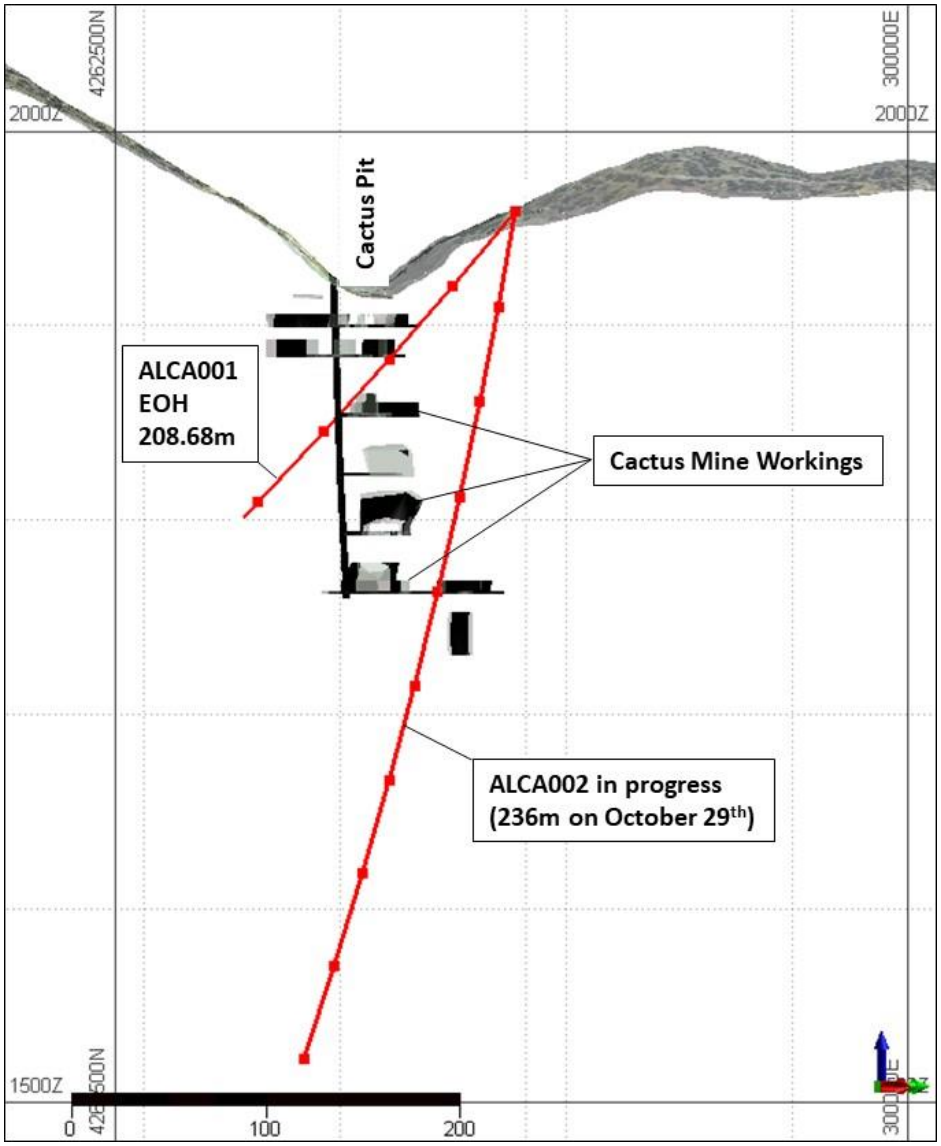

Figure 6: Cross Section showing the current hole ALCA001 and ALCA002.

Figure 7: The historical Cactus copper-gold-silver mine shown lying adjacent to the Cactus Canyon porphyry prospect.

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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 Peter Geerdts, a competent person who is a member of the Australian Institute of Geoscientists (AIG). Peter Geerdts is the Chief Geologist of Alderan Resources Limited. Peter Geerdts 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). Peter Geerdts consents to the inclusion of this information in the form and context in which it appears.

Mr Geerdts confirms that 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 up to 400 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 (Cactus Canyon prospect) which is coincident with a large circular magnetic anomaly and a large induced polarisation anomaly. The Accrington prospect is also considered to be related to a large underlying mineralised (copper-molybdenum-gold) porphyry.

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 (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.* • *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 (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.*	• This release refers to drilling progress of holes ALCA001 (completed) and ALCA002 to a depth of 236.5m; and visual assessments of geology only. No sampling or assaying has taken place. • Reaming activities and backfilled underground workings have resulted in some zones of poorly consolidated "core" returned which do not constitute *in-situ* rock. Possible sources of this material are interpreted as caving of the back, inflow of surficial sediments by water. As transport distance and source cannot be defined, these zones are excluded from future sampling. • Mineralisation is determined by the presence of sulphide minerals as logged by a qualified geologist. Chalcopyrite is identified as the mineral of economic interest.
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).*	• Drilling is by diamond core of HQ (61mm) diameter, using triple tube splits and TruCore orientation device. • The Trucore device requires competent core at the core lifter in order to result in a useable orientation line. Sections of core which are broken results in limited or no oriented core in these intervals.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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 is measured by a qualified geologist using downhole marking blocks placed by the driller. Zones of cave or fill are assessed by competence, texture and geologic relationship to surrounding rock, as well as reported cave from drill crew. • Drilling through poor ground conditions has resulting in minor zones of poor drill recovery. • ALCA001 - Casing depth is 15.9m. Average recovery from 15.9-206.68m is 90%. • ALCA002 – Casing depth is 12.19m. Average recovery from 12.19 to

Criteria	JORC Code explanation	Commentary
		236.5m is 94%. • No assays are reported, so no relationship between core recovery and grade has yet been established.
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All core has been geologically logged to a level of detail to support future geological modelling and resource estimation. • All logging is qualitative with visual estimates of various characteristics conducted by a qualified geologist. • All core is photographed by DMT Corescan and photographs recorded in a proprietary database.
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.*	• No sampling has taken place
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 and model, reading times, calibrations factors applied and their derivation, etc.* • *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.*	• No sampling has taken place
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*	• No sampling has taken place

Criteria	JORC Code explanation	Commentary
	verification, data storage (physical and electronic) protocols. • *Discuss any adjustment 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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Collar locations are set with handheld GPS with a positional accuracy of +/3m. Upon completion of drilling, collar locations will be surveyed with DGPS to a positional accuracy of +/-0.1m, to be conducted by a licensed surveyor. • Progress downhole surveys are conducted by Boart Longyear personnel at 30m intervals using a Reflex EZshot single shot magnetic survey tool. • End of hole downhole surveys are conducted by IDS Drilling Services using a North Seeking Gyro on 10m sample spacing. • Grid coordinate system is WGS84 Zone 12, UTM (m) units. • Upon completion of drilling, topographic control will be provided by DGPS to a positional accuracy of +/-0.1m, to be conducted by a licensed surveyor.
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.*	• At this early exploration stage, the data spacing is variable as the focus is on identifying new zones of mineralisation. • Reconnaissance drilling only, no resource estimation being undertaken at this time. • No sample compositing is applied. No sampling is reported
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.* • *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.*	• Drillhole azimuth of 210 degrees intersects the interpreted controlling ESE-WNW structures at an optimal angle. • Insufficient data exists to properly asses degree of structural control or True Width.
Sample security	• *The measures taken to ensure sample security.*	• No sampling has taken place
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No external audits have been undertaken. These would be part of future resource estimation work.

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.*	• 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. • 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. • 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. • 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. • Historical mining records including level plans and production records exist for the period between 1905 and 1915 when the vast majority of production occurred • Historical drilling has been carried out by multiple parties including Anaconda Company, Rosario Exploration Company, Amax Exploration and Western Utah Copper Corporation/Palladon Ventures • 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. • Part of the larger Laramide mineralising event. • 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:*	• Details for hole ALCA001 ○ *Easting WGS84 Zn12 – 299900mE* ○ *Northing WGS84 Zn12 – 4262675nN*

Criteria	JORC Code explanation	Commentary
	○ *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.* • *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.*	○ *Elevation - 1958m asl* ○ *Collar dip -49.64º, Azimuth 213.86º* ○ Chalcopyrite mineralisation is noted from 77m downhole. ○ Hole completed at 208.68m • Details for hole ALCA002 ○ *Easting WGS84 Zn12 – 299900mE* ○ *Northing WGS84 Zn12 – 4262675nN* ○ *Elevation - 1958m asl* ○ *Collar dip -80º, Azimuth 214.8º* ○ Chalcopyrite mineralisation is noted from 77m downhole. ○ Hole in progress at 236.5m, target depth 450m.
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.* • *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.*	• No sampling has taken place
Relationship between mineralisation 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 (eg 'down hole length, true width not known').*	• Reported mineralisation is quoted in downhole depths. True width may be less than downhole intercept width (apparent width), and insufficient work has been completed to enable accurate calculation of true widths.
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.*	• See Figure 6 of the above announcement for a sectional view of the current drilling
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.*	• No sampling has taken place

Criteria	JORC Code explanation	Commentary
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.*	• Details of other exploration results are recorded in the Independent Geologist's Report, contained in the Prospectus and on the announcement dated 28 June 2017.
Further work	• *The nature and scale of planned further work (eg 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.*	• Details of intended exploration activities are mentioned in the report above and in previous announcements made by the Company on the 28 June 2017 and also recorded in the Independent Geologist's Report, contained in the Prospectus.

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.* • *Data validation procedures used.*	• No resource estimation has been undertaken
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	•
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *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.*	•
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.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.*	•

Criteria	JORC Code explanation	Commentary
	• *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	•
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	•
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.*	•
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.*	•
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.*	•

Criteria	JORC Code explanation	Commentary
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.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *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.* • *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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	•
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	•
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.* • *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.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	•

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• No resource estimation has been undertaken
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	•
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	•
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	•
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in*	•

Criteria	JORC Code explanation	Commentary
	mining studies and the sensitivity of the outcome to their inclusion. • *The infrastructure requirements of the selected mining methods.*	
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	•
Environmen-tal	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	•
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	•
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	•
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns,*	•

Criteria	JORC Code explanation	Commentary
	etc. • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	•
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	•
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	•
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	•
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	•
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	•

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *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.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	•

Section 5 Estimation and Reporting of Diamonds and Other Gemstones

(Criteria listed in other relevant sections also apply to this section. Additional guidelines are available in the 'Guidelines for the Reporting of Diamond Exploration Results' issued by the Diamond Exploration Best Practices Committee established by the Canadian Institute of Mining, Metallurgy and Petroleum.)

Criteria	JORC Code explanation	Commentary
Indicator minerals	• *Reports of indicator minerals, such as chemically/physically distinctive garnet, ilmenite, chrome spinel and chrome diopside, should be prepared by a suitably qualified laboratory.*	• No resource estimation has been undertaken
Source of diamonds	• *Details of the form, shape, size and colour of the diamonds and the nature of the source of diamonds (primary or secondary) including the rock type and geological environment.*	•
Sample collection	• *Type of sample, whether outcrop, boulders, drill core, reverse circulation drill cuttings, gravel, stream sediment or soil, and purpose (eg large diameter drilling to establish stones per unit of volume or bulk samples to establish stone size distribution).* • *Sample size, distribution and representivity.*	•
Sample treatment	• *Type of facility, treatment rate, and accreditation.* • *Sample size reduction. Bottom screen size, top screen size and re-crush.* • *Processes (dense media separation, grease, X-ray, hand-sorting, etc).* • *Process efficiency, tailings auditing and granulometry.* • *Laboratory used, type of process for micro diamonds and accreditation.*	•
Carat	• *One fifth (0.2) of a gram (often defined as a metric carat or MC).*	•
Sample grade	• *Sample grade in this section of Table 1 is used in the context of carats per units of mass, area or volume.* • *The sample grade above the specified lower cut-off sieve size should be reported as carats per dry metric tonne and/or carats per 100 dry metric tonnes. For alluvial deposits, sample grades quoted in carats per square metre or carats per cubic metre are acceptable if accompanied by a volume to weight basis for calculation.* • *In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive sample grade (carats per tonne).*	•

Criteria	JORC Code explanation	Commentary
Reporting of Exploration Results	• *Complete set of sieve data using a standard progression of sieve sizes per facies. Bulk sampling results, global sample grade per facies. Spatial structure analysis and grade distribution. Stone size and number distribution. Sample head feed and tailings particle granulometry.* • *Sample density determination.* • *Per cent concentrate and undersize per sample.* • *Sample grade with change in bottom cut-off screen size.* • *Adjustments made to size distribution for sample plant performance and performance on a commercial scale.* • *If appropriate or employed, geostatistical techniques applied to model stone size, distribution or frequency from size distribution of exploration diamond samples.* • *The weight of diamonds may only be omitted from the report when the diamonds are considered too small to be of commercial significance. This lower cut-off size should be stated.*	•
Grade estimation for reporting Mineral Resources and Ore Reserves	• *Description of the sample type and the spatial arrangement of drilling or sampling designed for grade estimation.* • *The sample crush size and its relationship to that achievable in a commercial treatment plant.* • *Total number of diamonds greater than the specified and reported lower cut-off sieve size.* • *Total weight of diamonds greater than the specified and reported lower cut-off sieve size.* • *The sample grade above the specified lower cut-off sieve size.*	•

Value estimation	• *Valuations should not be reported for samples of diamonds processed using total liberation method, which is commonly used for processing exploration samples.*
	• *To the extent that such information is not deemed commercially sensitive, Public Reports should include:*
	  ○ *diamonds quantities by appropriate screen size per facies or depth.*
	  ○ *details of parcel valued.*
	  ○ *number of stones, carats, lower size cut-off per facies or depth.*
	• *The average $/carat and $/tonne value at the selected bottom cut-off should be reported in US Dollars. The value per carat is of critical importance in demonstrating project value.*
	• *The basis for the price (eg dealer buying price, dealer selling price,*
		•

Criteria	JORC Code explanation	Commentary
	etc). • *An assessment of diamond breakage.*	
Security and integrity	• *Accredited process audit.* • *Whether samples were sealed after excavation.* • *Valuer location, escort, delivery, cleaning losses, reconciliation with recorded sample carats and number of stones.* • *Core samples washed prior to treatment for micro diamonds.* • *Audit samples treated at alternative facility.* • *Results of tailings checks.* • *Recovery of tracer monitors used in sampling and treatment.* • *Geophysical (logged) density and particle density.* • *Cross validation of sample weights, wet and dry, with hole volume and density, moisture factor.*	•
Classification	• *In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive grade (carats per tonne). The elements of uncertainty in these estimates should be considered, and classification developed accordingly.*	•