Further significant copper-zinc results from Accrington

HIGHLIGHTS

- Further significant copper-zinc-silver results received from drilling at Accrington
- Assays for the first 206.5m of drill hole FR18-006 returned:
  - **26m @ 0.38% Cu, 3.06% Zn, 16 g/t Ag from 48m including 10m @ 0.52% Cu, 6.6% Zn, 32 g/t Ag, 0.11 g/t Au from 52m; and**
  - **90.6m @ 0.41% Cu, 0.29% Zn, 7 g/t Ag from 116m to 206.6m including 6m @ 1.8% Cu, 0.17% Zn, 29 g/t Ag, 0.18 g/t Au**
- FR18-006 has been extended to a final depth of 367.9m with further strong mineralisation from 206.5m to 221m and trace mineralisation from 221m to 367.9 - assays are awaited[1].
- Hole FR18-005 returned:
  - **40m @ 0.40% Cu, 0.60% Zn, 7 g/t Ag from 104m; and**
  - **14m @ 0.25% Cu, 0.27% Zn, 6 g/t Ag from 180m**
- Roadworks underway at Accrington East to allow drilling of outcropping skarns
- Drilling is continuing to test copper-zinc-lead-silver-gold bearing skarns with further results from drilling and channel sampling expected in November
- Results increase confidence in a large Cu-Zn-Ag-Au-Pb deposit at Accrington

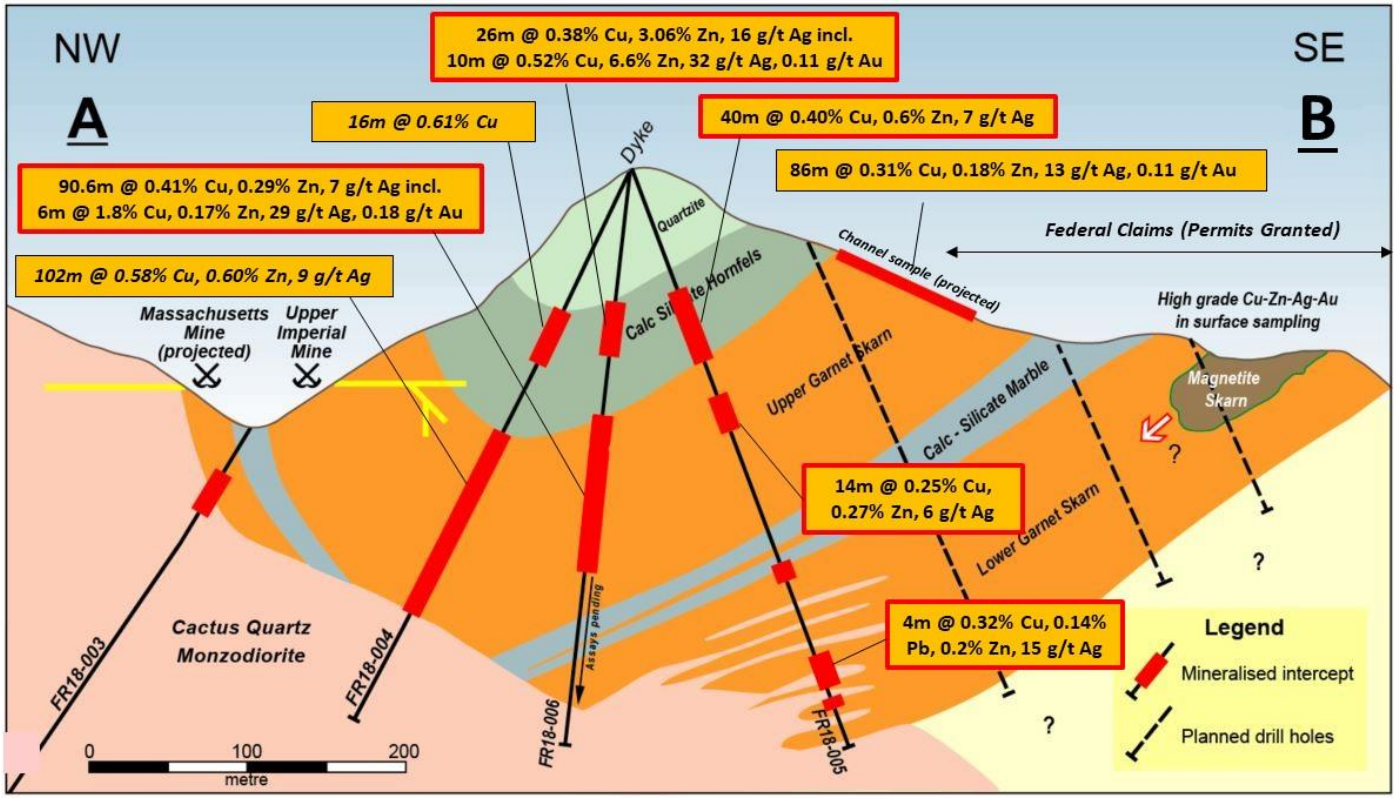

Figure 1: Conceptual cross section with intercepts from drilling and channel sampling.

1. *For visual estimates of sulphide abundance please refer to Table 2 below.*

Alderan Resources Limited (ASX: AL8) is pleased to provide an update on exploration at Accrington, part of the Company's Frisco Project located in Utah, USA. Further assay results from drilling of the Accrington skarn have been received with significant intervals of copper-zinc-silver mineralisation.

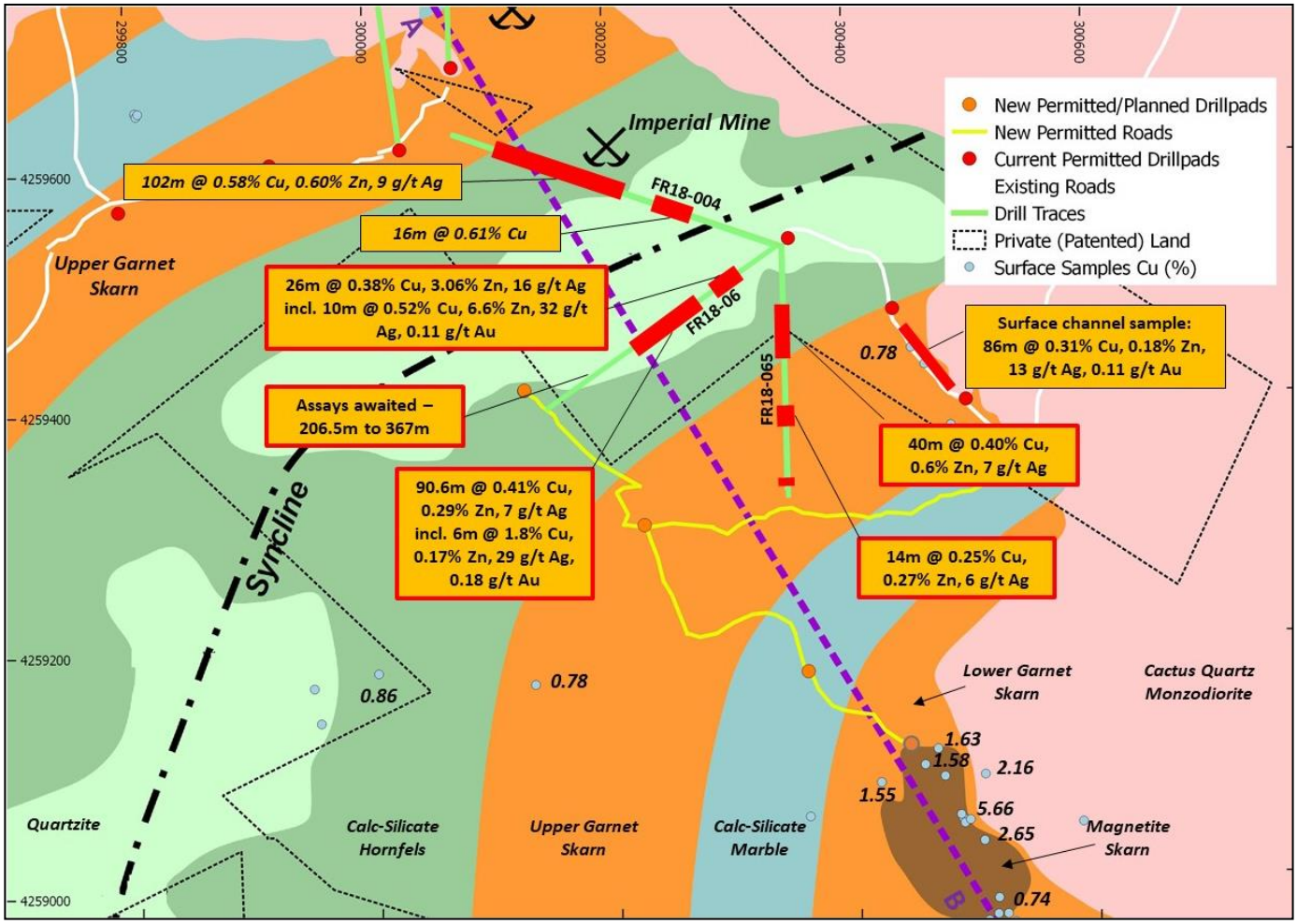

Figure 2: Geological plan of the Imperial to Accrington East Skarn Area also showing Alderan rock sample results (only copper shown)[1].

The drill results provide further confidence in the potential for Accrington to host a large deposit, amenable to modern low-cost bulk mining. Previous mapping by the Company indicates that the targeted garnet skarns, the principal host for mineralisation, are likely to extend further to the South-West under cover sequences for over 1km. Current drilling is focusing on mineralised garnet skarns that outcrop from Imperial to Accrington East, also over approximately 1km strike.

Assays confirms further significant copper-zinc-silver mineralisation at Accrington

Assay results from Accrington have been received confirming the continuation of thick garnet-skarn hosted copper-zinc-silver mineralisation in FR18-005 and FR18-006.

Drill hole FR18-006 was drilled from the same drill pad as FR18-004 and FR18-005 targeting the keel of the interpreted syncline and angled away from the Cactus Stock. Results have been received for the first 206.5m from FR18-006 with mineralisation intersected to end of hole. The

[1] For further details of exploration results, please refer to the Prospectus published on 8 June 2017

hole has subsequently been extended to 367.9m with further strong mineralisation intersected from 206.5m to 221m and trace mineralisation intersected from 221m to 342.7m whereupon Cactus Stock monzodiorite was intersected to end of hole at 367.9m. Estimates of sulphide abundance are provided in Table 2 below for the interval from 206.5m to 342.7m. Assay results from the balance of the hole are expected in November. Results within the first 206.5m include:

- 26m @ 0.38% Cu, 3.06% Zn, 16 g/t Ag from 48m including 10m @ 0.52% Cu, 6.6% Zn, 32 g/t Ag, 0.11 g/t Au from 52m; and
- 90.6m @ 0.41% Cu, 0.29% Zn, 7 g/t Ag from 116m to 206.6m including 6m @ 1.8% Cu, 0.17% Zn, 29 g/t Ag, 0.18 g/t Au.

Results are awaited for the remainder of the hole which was completed to 367.9m.

FR18-005 was drilled to target the eastern limb of the syncline and to target the upper and lower garnet skarn. Mineralisation associated with the upper garnet skarn was intersected from 104m to 144m and from 180m to 194m. From approximately 311m alternating skarn and intrusive was intersected. The intrusives post-date the skarn. Minor mineralisation was intercepted at 396m which may form part of in the lower garnet skarn. Significant intercepts included:

- 40m @ 0.40% Cu, 0.60% Zn, 7 g/t Ag from 104m; and
- 14m @ 0.25% Cu, 0.27% Zn, 6 g/t Ag from 180m

Future drilling will take place to the south of the Cactus Stock directly targeting the lower garnet skarn which outcrops at surface at Accrington East where it hosts magnetite skarn with mineralisation identified in previous selective rock chip sampling.

FR18-004 to FR18-006 are the first of several drill holes specifically targeting the Accrington garnet skarn where the Company has identified potential for a large-tonnage copper-zinc-silver deposit. The results confirm mineralisation continues to the east of the Imperial Mine where historical drilling was undertaken by Bear Creek Mining Company in 1967. For a full description of historical drill results refer to the ASX announcement “Alderan Resources expands Frisco Project” published on 19 July 2017.

Roadworks progressing well at Accrington East

Roadworks have commenced at Accrington East in preparation for additional drilling on permitted drill pads. Accrington East is located on federal claims that were subject to a separate permitting process.

Roadworks are expected to take several weeks to complete following which drilling will move to the new road to directly target the outcropping Upper and Lower Garnet Skarn including mineralised magnetite skarn that crops out at surface (see Figure 1 and Figure 2).

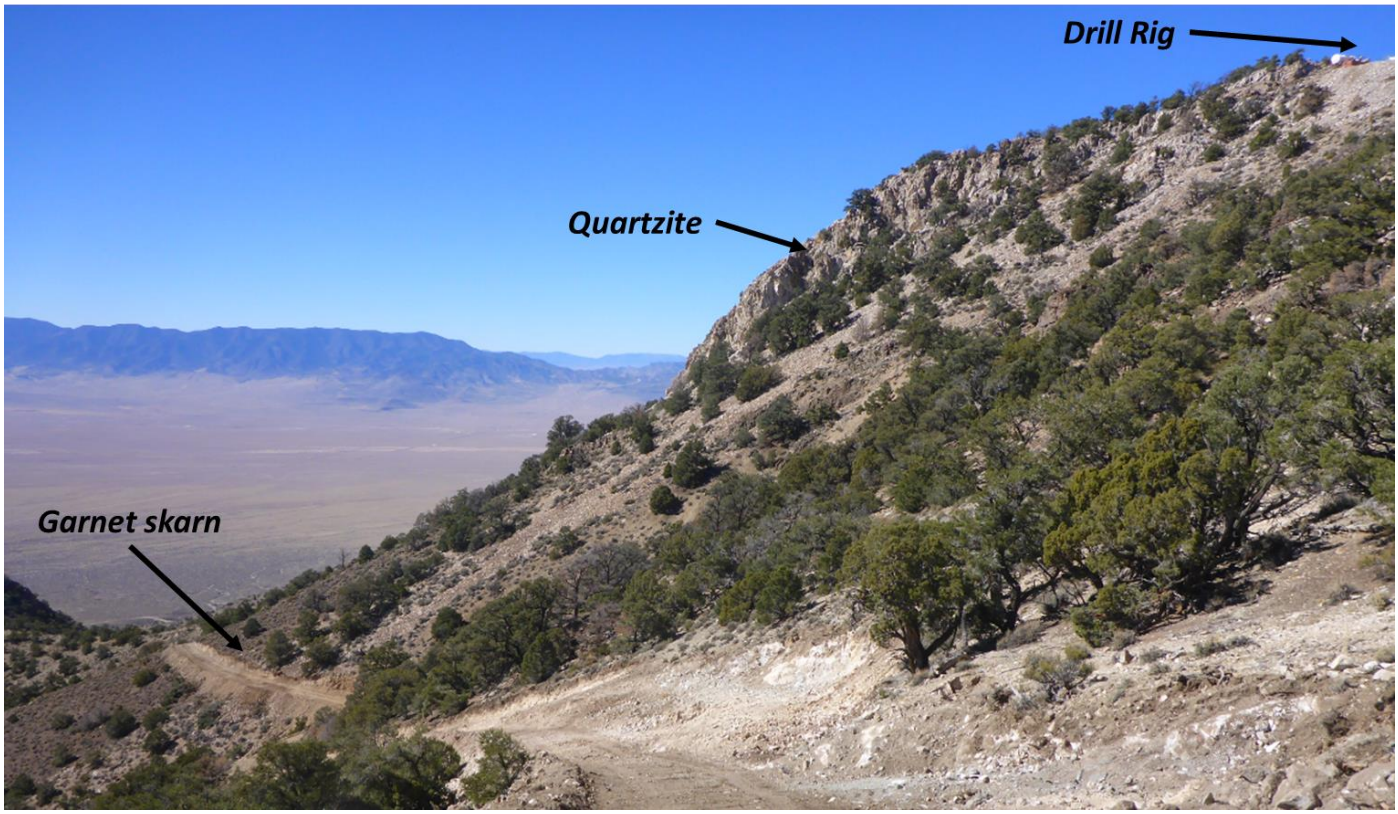

Figure 3: New road currently being constructed at Accrington East following the grant of permits in late September.

Figure 4: Copper-zinc-lead-silver-gold bearing magnetite skarn at Accrington East.

About the Accrington Skarn

Accrington is a large mineralised skarn measuring approximately 4km by up to 2km. Mineralisation is also expected to extend outside the skarn into adjoining sediments. Historical mining activity has taken place throughout the skarn focused on high grade structurally controlled Zn-Cu-Au-Ag deposits and within extensive copper-zinc-silver bearing garnet skarn. Many prospect pits exposing mineralisation also occur throughout the skarn.

The principal focus of the Company is on the thick copper-zinc-lead-silver-gold bearing garnet skarns which outcrop at Accrington East and at the Imperial Mine, a distance of over 1km. These targeted garnet skarns are expected to continue at depth to the south for over 1km (refer to Figure 2).

The Company believes that the Accrington skarn, one of the largest in North America, has the potential to host several significant deposits. North and South America are host to some of the largest mineralised skarns in the world, which are often related to major porphyry systems.

Examples of base and precious metal rich skarns include:

- Pumpkin Hollow (Nevada Copper) – open pittable and underground deposits with reserves of 571 Mt @ 0.472 copper equivalent[2]);
- Battle Mountain (Newmont) – host to the Phoenix Gold-Copper Mine with pre-mining reserves of 314.6 Mt @ 0.89 g/t Au, 0.15% Cu[2]; and
- Antamina (BHP Billiton) with reserves and resources of 1.160 Bt @ 0.92% Cu, 0.15% Zn, 9.3 g/t Ag, 0.03% Mo[3]).

Accrington is located 18 km to the west of the Valley Copper skarn deposit (located off the Company's claims), which was drilled by Anaconda in the 1960's. Whilst no resource has been published on the Valley deposit, historical drilling was reported to have intersected thick copper-garnet skarn mineralisation across an area of approximately 1000m by 600m and from 200m to 1000m depth, highlighting the potential for large skarn hosted deposits in the region[4].

Accrington is part of the Company's Frisco Project, which also hosts several tourmaline-chalcopyrite (copper) bearing breccia pipes and deeper porphyry copper potential. It is located in Beaver County, Utah, USA - a region with exceptional infrastructure, low cost power, a skilled workforce, an extremely competitive taxation system, proximal smelters and end users.

[2] Pre-mining reserves as of Dec. 2005
[3] JORC compliant ore reserves and mineral resources at 30 June 2010 (BHP Billiton, 2010)
[4] "Mines and Geology of the Rocky and Beaver Lake Districts", Beaver County, Utah, 2012

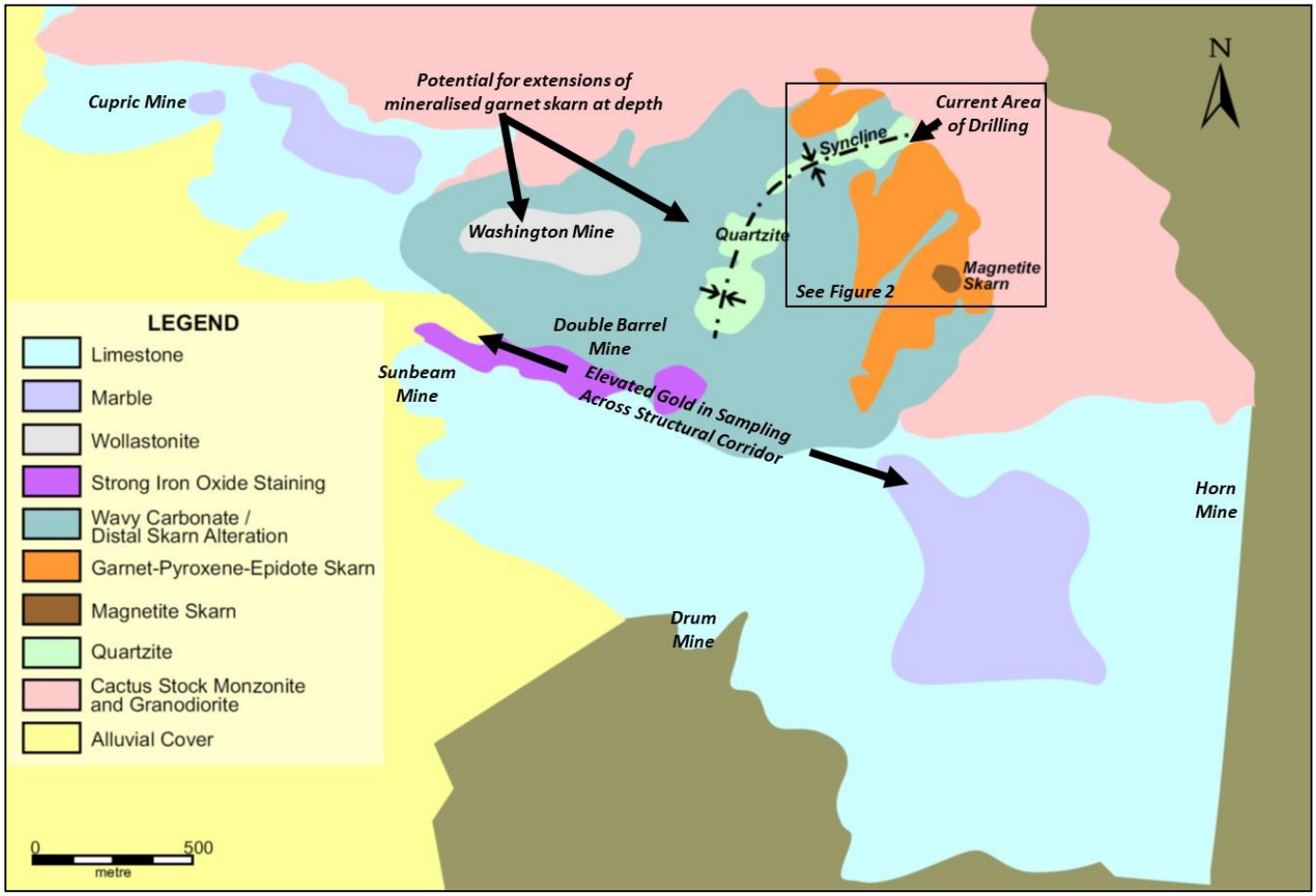

Figure 5: Simplified geology map of Accrington showing the principal areas where mineralisation has been identified through surface mapping and sampling.

Table 1: Assay results

Drillhole ID	Target	From (m)	To (m)	Interval (m)	Cu (%)	Zn (%)	Ag (g/t)	Au (g/t)
FR18-001	Perseverance	2	12	10	0.55	NSR	11	
FR18-003	Perseverance	50	66	16	0.22	NSR	NSR	
FR18-004	Accrington Skarn	84	100	16	0.62	NSR	NSR	
and		194	296	102	0.58	0.60	9	
FR18-005	**Accrington Skarn**	**104**	**144**	**40**	**0.40**	**0.60**	**7**	
		180	**194**	**14**	**0.25**	**0.27**	**6**	
FR18-006	**Accrington Skarn**	**48**	**72**	**26**	**0.38**	**3.06**	**16**	
	Including	**52**	**62**	**10**	**0.52**	**6.6**	**32**	**0.11**
	and	**116**	**206.6**	**90.6**	**0.41**	**0.29**	**7**	
	Including	**144**	**150**	**6**	**1.80**	**0.17**	**29**	**0.18**

Notes:

1. 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. No cut-off grade has been applied.

Table 2: Summary of geological observations and estimations of sulphide abundance

Hole ID	From [m]	To [m]	Lithology	Description of mineralisation	Estimated[1] sulphide abundance [%]		
					Chalcopyrite (34.6% Cu)	Sphalerite (50-60% Zn)	Pyrite
FR18-006	206.5	221	Skarn	Fine-grained disseminated and fracture fill, blebby	Trace to 2%	Trace to 0.5%	0.5-1%
	221	337.7	Skarn	Fine-grained disseminated	Trace to 0.5%	Trace to 0.5%	Trace to 1%

Table 3: Drillhole Location Details

Drillhole ID	Easting	Northing	Dip	Azimuth	Depth (m)	Drill Type
FR18-001	300100	4259693	-60	360	310.94	Diamond
FR18-002	Not utilised/abandoned					
FR18-003	300043	4259611	-61	353	1016.3	Diamond
FR18-004	300375	4259528	-55	290	362.18	Diamond
FR18-005	300368	4259525	-60	190	429.38	Diamond
FR18-006	300368	5259525	-55	245	367.9	Diamond

Notes:

1. FR18-001 was previously called ALIM001 and FR18-003 was previously called ALIM003.

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Competent Persons Statement

The information in this presentation that relates to exploration targets, or exploration results is based on information compiled by John Schloderer, a competent person who is a member of the Australian Institute of Geoscientists (AIG). John Schloderer is the Exploration Manager of Alderan Resources Limited. Mr Schloderer 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). John Schloderer consents to the inclusion of this information in the form and context in which it appears.

Mr John Schloderer 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".

Forward Looking Statement

Statements contained in this release, particularly those regarding possible or assumed future performance, costs, dividends, production levels or rates, prices, resources, reserves or potential growth of Alderan Resources Limited, are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors.

JORC Code, 2012 Edition – Table 1 report

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 multi-element assay results of holes FR18-005, FR18-006.*
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. FR18-005 and FR18-006 used standard tube and the Reflex ACT II orientation device.* • *The ACT II 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.	• *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.*

Criteria	JORC Code explanation	Commentary
	• 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.	• *Drilling through poor ground conditions has resulting in minor zones of poor drill recovery.* • *FR18-005 - Casing depth is 10m. Average core recovery is 93-96%.* • *FR18-006 – Casing depth is 6.1m. Average core recovery is 93-96%.* • *No relationship between core recovery and grade has yet been established as recovery is quite high.*
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.	• *Core is cut with an Almonte core saw and half core is sent in for multi-element analysis.* • *Sample prep includes crushing the entire sample to 70% pasing - 2mm, Boyd rotary split off 250g and pulverize split to better than 85% passing 75 microns.*
Quality of assay data and laboratory	• 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,	• *Analysis is done by ALS Geochemistry North American laboratories* • *Au analysis is by fire assay and AAS using 30g nominal sample weight.*

Criteria	JORC Code explanation	Commentary
tests	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.	• *Multi element analysis is by four acid digestion and ICP-AES* • *Standards, blanks or field duplicates are inserted exery 8 to 9 samples.* • *Acceptable levels of accuracy are 2 standard deviations.*
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• *Significant intersections are done by a competent person and checked by the the staff chief geologist.* • *Data is managed by a dedicated data base manager using Data Shed software with electronic storage and periodic backup.*
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 Major Drilling personnel at 30m intervals using a Reflex EZshot single shot magnetic survey tool.* • *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. Drill core is sampled at 2 meter intervals.*
Orientation of data in relation to	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering	• *FR18-005 Orientation of 190/-60 intersects potential stratigraphy controlled skarn at as near a true angle as possible.*

Criteria	JORC Code explanation	Commentary
geological structure	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.	• *FR18-006 Orientation of 245/-55 intersects the potentially statigraphy controlled skarn at as near a true angle as possible.* • *Insufficient data exists to properly asses degree of structural control or True Width.*
Sample security	• The measures taken to ensure sample security.	• *Samples are maintained in a secured warehouse and the chain of custody is ALS Laboratories supervision from site location pick up to the laboratory in secured ALS transport*
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*

Criteria	JORC Code explanation	Commentary
		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.* • *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: ○ 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.	• *Details for hole FR18-005* ○ Easting WGS84 Zn12 – 300368mE ○ Northing WGS84 Zn12 – 4259525nN ○ Elevation - 2343m asl ○ Collar dip -60º, Azimuth 190º ○ *Hole completed at 429.38m.* • *Details for hole FR18-006* ○ Easting WGS84 Zn12 – 300368mE ○ Northing WGS84 Zn12 – 4259525nN ○ Elevation - 2343m asl ○ Collar dip -55º, Azimuth 245º ○ *Hole completed at 324.4m.*
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	• *Significant intercepts use a weighting average technique using a quoted cut of grade or an indiction of no curtoof grade.*

Criteria	JORC Code explanation	Commentary
	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.	
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.	• *Shown in Figures 1 and 5*
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.	• *Widths of the down hole intervals are reported.*
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	•

Criteria	JORC Code explanation	Commentary
	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. • 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	•

Criteria	JORC Code explanation	Commentary
	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.	•
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.	•

Criteria	JORC Code explanation	Commentary
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	•

Criteria	JORC Code explanation	Commentary
	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 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?	•
Environmental	• 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	•

Criteria	JORC Code explanation	Commentary
	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, 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.	•

Criteria	JORC Code explanation	Commentary
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.	•
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	•

Criteria	JORC Code explanation	Commentary
	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	•

Criteria	JORC Code explanation	Commentary
	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).	
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.	•

Criteria	JORC Code explanation	Commentary

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, 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	•

Criteria	JORC Code explanation	Commentary
	considered, and classification developed accordingly.	