INTERIM MAIDEN RESOURCE AT COLLERINA COPPER PROJECT – COBAR REGION NSW

Highlights

- **Interim Indicated and Inferred resource estimate for the Collerina Deposit of 2.02 million tonnes grading 2.03% Copper, 0.1g/t Au containing 40,400 tonnes of copper, 9,400 ounces of gold.**
- **Interim Maiden Resource includes an indicated and inferred massive sulphide component from the Central Zone plunge of 1.4 million tonnes grading 2.6% Copper, 0.2g/t Au, that remains open in all directions.**
- **High confidence in geological model derived from the drilled portion of the Central Zone (50% in Indicated category).**

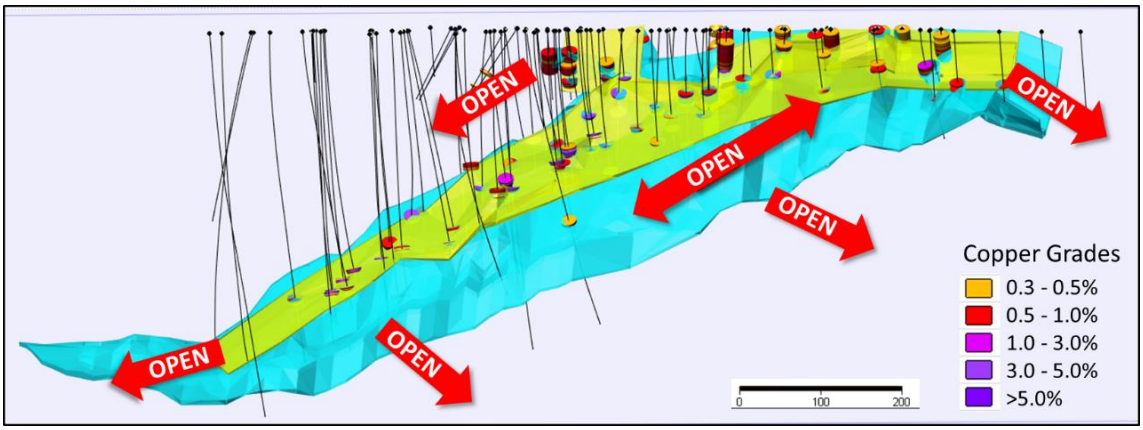

Figure 1: Collerina Deposit: Drilling to date and interim resource shape (yellow), surrounded by geological and structurally defined exploration target shape (blue) looking south.

Helix Resources Limited (ASX:HLX) (**Helix** or **the Company**) is pleased to report an interim maiden Indicated and Inferred Mineral Resource estimate for the Central Zone portion of the Collerina Copper Deposit, located in the Cobar Region of Central NSW.

Scalable Copper System

- The Collerina Deposit Exploration Target potentially consisting of an additional 2-5Mt at similar grades (1.5-3% Cu) * to a depth of 450m from surface.
- Exploration Target encapsulates shallow drilling, geological shape from mapping (above consistent footwall marker), EM and structural studies.
- The immediate priority – planning to drill test the Exploration Target* to expand the interim resource inventory to better reflect the known near surface strike and target thickening on plunge parallel structural repeats.
- This initial Mineral Resource estimate provides a strong foundation for the deposit. It illustrates strike continuity near-surface and high grade copper continuity in the plunge. The surrounding Exploration Target illustrates the potential for the larger scale within the Collerina mineral system.
- The Collerina deposit remains open at depth and along strike, with probable repeats both in the footwall and hanging wall. The modelling process and geological interpretation have identified priority targets in the immediate vicinity of the deposit.

*Cautionary Statement: Whilst the near-surface strike continuity of the Collerina mineralisation is well understood, the potential quantity and grade of the Exploration Target remains conceptual until drill tested. Geophysical and structural evidence is present to provide confidence in the geometry and dimensions, however, there has been insufficient drilling within these plunge extensions to estimate Mineral Resources in the broader shape to date. Therefore it should be considered uncertain if further exploration drilling will result in defining additional Mineral Resources within the broader Collerina Deposit extensions.

Corporate Details

Ordinary Shares
424.47m

Market Cap
8.1m

ASX Code
HLX

Board of Directors

Mr Peter Lester
Non-Executive Chairman

Mr Michael Wilson
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High grade copper from near surface at Collerina provides scope for potentially advantageous development optionality and the Project is well located in a region with increasing development and exploration activity.

The interim Indicated and Inferred Mineral Resource estimate is **2.02 million tonnes grading 2.03% Copper, 0.1g/t Au and includes a high-grade massive sulphide component of 1.4 million tonnes grading 2.6% Copper, 0.2g/t Au** (see table below). The mineral resource has been reported by an independent resource specialist, PayneGeo.

This Resource announcement has been delayed from earlier expectations due to a substantial re-interpretation of the mineral systems localised geometry, particularly in the deeper parts of the system, and with several delays in drilling. The new interpretation will be a critical part in the planning for future drilling to expand on the Resource estimate. The review has established a robust and refined interpretation of the broader Collerina copper system. It provides clear vectors to expand the known copper mineralisation envelope, well beyond the current drill pattern.

The challenge of drill density in the resource modelling is illustrated in the photographs of Collerina drill core in Figure 2, which is a fractal representation of the larger scale. In the absence of close-spaced drill density, zones of structural thickening (and generally increased grade) are insufficiently represented in the resource database and shape.

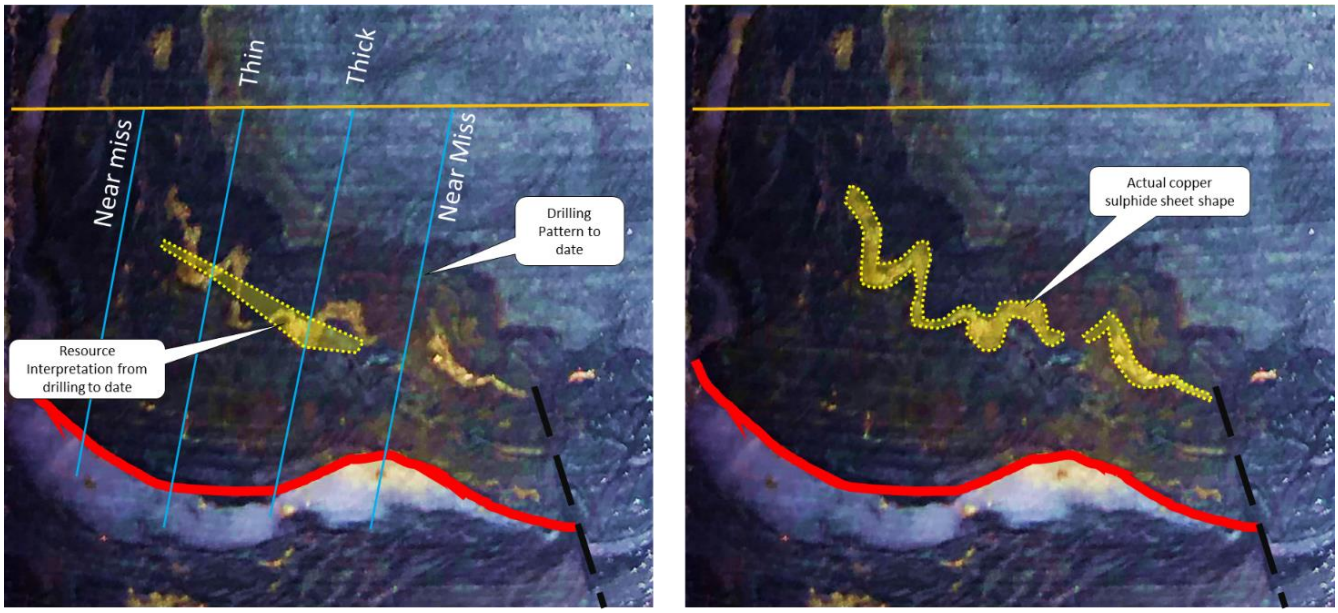

Figure 2.Schematic representation of resource modelling and drill density on photo of Collerina core showing intense localised folding of a copper-bearing sulphide lens nearby to a gently folded silica-rich vein. The simplified resource shape on low density drilling (left) significantly under-calls actual copper sulphide present (right).

Managing Director Mick Wilson said: "The interim resource modelling process has substantially improved our overall understanding of the controls on the distribution of copper at the Collerina Deposit. Due to the drill density so far, only a modest portion of the Collerina system can be converted to JORC 2012 compliant resources at this stage. However, the low discovery costs to date and near-surface high grade copper reporting in the fresh portion of the Central Zone Plunge underpin the projects emerging value. Drilling in adjacent target areas, particularly up and down dip of the Central Zone Plunge are clear priorities. Our confidence in the refined geological shape and understanding of the structural controls on copper distribution and enrichment, with further drilling, we expect to see significant portions of the surrounding Exploration Target shape included in a deposit scale resource estimate.

The resource modelling seen at **Collerina is consistent with early interpretations of nearby deposits**, such as the Tritton Deposit owned by Aeris Resources (prior to the decision to mine). The Tritton Deposit, **after 77,000m of drilling, was interpreted to be a multiple lens deposit offset by faults and shears**. This interpretation was **later revised to an intensely folded single sheet-like body** as drill density increased and continuity was confirmed (result of short-sharp 10-20m scale roll overs in cross-cutting structural zones) during mine development (Refer Appendix Figure).

Exploration Target

Central Zone mineralisation lies within a larger Exploration Target envelope (which has been constrained between interpreted cross-cutting faults, coincident with the strike of the surface geochemical footprint and shallow copper oxide drilling) consisting of an additional 2-5 Mt, where similar grades of (1.5-3% Cu) may be possible with additional drilling (additional 30,000-150,000t Cu)*.

The refined geological and structural interpretation is expected to enable more accurate targeting in both infill and extensions of the mineralisation, particularly where copper appears to be present in the structural zones (thickened), and where the sulphide system extends below known oxide copper intercepts.

The immediate priority is to plan and complete sufficient drilling within the Exploration Target envelope with the aim of defining additional zones of copper mineralisation to include within a deposit scale revised Resource Estimate*.

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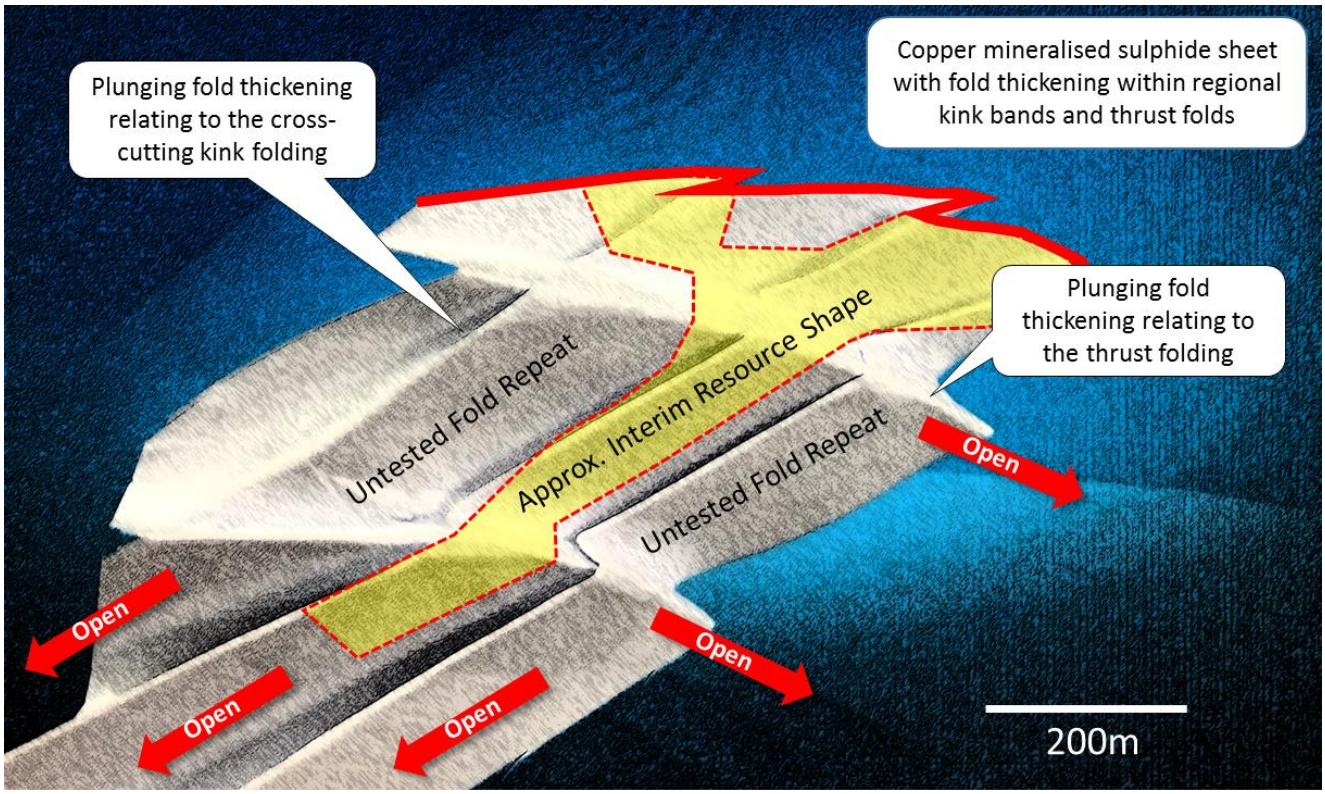

Figure 3. A 3D Schematic representation of the broader Collerina mineralised envelope - illustrates how the sheet-like mineralised sulphide body interacts with cross-cutting kink folds, and bedding parallel thrust folds. This structural interpretation is consistent with the geology and mineralisation intercepts in the drilling so far, modelling of EM conductivity (Surface and Downhole), and the broader geological/structural interpretation of the Collerina Deposit.

Significance

The maiden Collerina Mineral Resource has been defined from an internally generated greenfield discovery. The project is located in a highly fertile copper-rich trend, nearby to operating mines and infrastructure.

Whilst a high-level mining study assessment is yet to be conducted, the near surface nature of the mineralisation suggests the deposit may be amenable to initial open cut mining methods. There remains **significant potential for locating additional copper mineralisation within the Exploration Target envelope** surrounding this maiden resource, **as well as potential nearby repeats and associated with surface copper mineralisation** at numerous copper prospects along the regional trend. The prospective trend that hosts Collerina, hosts numerous historic copper shafts and pits that are yet to be drill tested.

Helix has defined the maiden Collerina resource with capital efficiency at a discovery cost of US3c/lb of copper, less than half the recent industry average of US7c/lb of copper in 2017-18 (ref: S&P global market intelligence). The refined understanding of the geological and structural controls on copper distribution at Collerina emerging from the resource modelling process should see similar efficiencies as more of the surrounding exploration target is drill tested.

Collerina Deposit Extensions

A series of large Exploration Target zones immediately surrounding to the maiden resource have been identified during the modelling and estimation process. These, combined with a review of surface EM and recent DHEM surveys in the deep holes at Collerina provide immediate priority targets to significantly add to the resource inventory with further drilling.

<u>Near deposit drill targets include:</u>

- Hanging-wall and footwall extensions to the Central Zone plunge where the structural interpretation and DHEM suggests further massive sulphide is likely to have accumulated particularly at depths below 100m from surface.
- A possible plunging sub-parallel fold nose target immediately south of the Central Zone, where limited drilling has confirmed the presence of oxide copper near surface and presence an off-hole DHEM conductive body that requires drill testing.

- A series of potential northwest plunging thickening zones within the sulphide body, where EM conductance in MLEM surveys highlights conductor positions that may represent fold thickening relating to the thrust folding present at Collerina.
- Direct depth extensions of the Central zone plunge position – The Central Zone remains open down plunge/dip with DHEM confirming extension immediately beyond the last intercepts and the deeper FLEM position remains unresolved.

Mineral Resource Estimate

An initial Mineral Resource estimate has been completed for the Collerina copper deposit in the Cobar region of New South Wales.

The deposit is considered to be structurally modified VMS-style mineralisation. Collerina has been intersected over a plunge length of 1,200m and mineralisation has been tested to a vertical depth of approximately 420m (Figures 1 & 4). The deposit remains open and untested below that depth. Up dip, down dip, and plunge parallel positions coincident with EM conductivity below shallow oxide copper drilling also remain untested.

The deposit was delineated by Helix with RC and diamond drilling completed in drilling campaigns between 2015 and 2019. The Mineral Resource is defined by a **total of 57 drill holes for 11,434m**. **The total cost to complete this work including geophysics and wages is less than $4m to date.**

The Mineral Resources have been classified as Indicated and Inferred Mineral Resources in accordance with the JORC Code, 2012 Edition and are shown in Table A. This table represents the total deposit and is reported using a cut-off grade of 0.5% Cu.

Resource interpretations and wireframes were prepared using a nominal 0.3% Cu cut-off grade. The boundaries were generally modelled as sharp for this interim resource and therefore are not sensitive to cut-off grade. The main zone of the deposit was estimated using ordinary kriging ("OK") grade interpolation of 1m composited data. Small, peripheral zones of mineralisation were estimated using inverse distance interpolation.

Table A: Collerina Deposit Interim 2019 Mineral Resource Estimate (0.5% Cu Cut-off)

Classification	Type	Tonnes	Cu	Au	Cu	Au
		Mt	%	ppm	t	Oz
Indicated	Ox/Tr	0.17	1.1	0.0	1,900	200
Inferred	Ox/Tr	0.46	0.6	0.0	2,700	100
Total	**Ox/Tr**	**0.63**	**0.7**	**0.0**	**4,600**	**300**
Indicated	Fresh	0.83	2.6	0.2	21,800	6,600
Inferred	Fresh	0.57	2.5	0.1	14,100	2,500
Total	**Fresh**	**1.4**	**2.6**	**0.2**	**35,800**	**9,100**
Indicated	Ox/Tr	0.17	1.1	0.0	1,900	200
	Fresh	0.83	2.6	0.2	21,800	6,600
Inferred	Ox/Tr	0.46	0.6	0.0	2,700	100
	Fresh	0.57	2.5	0.1	14,100	2,500
Total		**2.02**	**2.03**	**0.1**	**40,400**	**9,400**

(Rounding discrepancies may occur in summary tables)

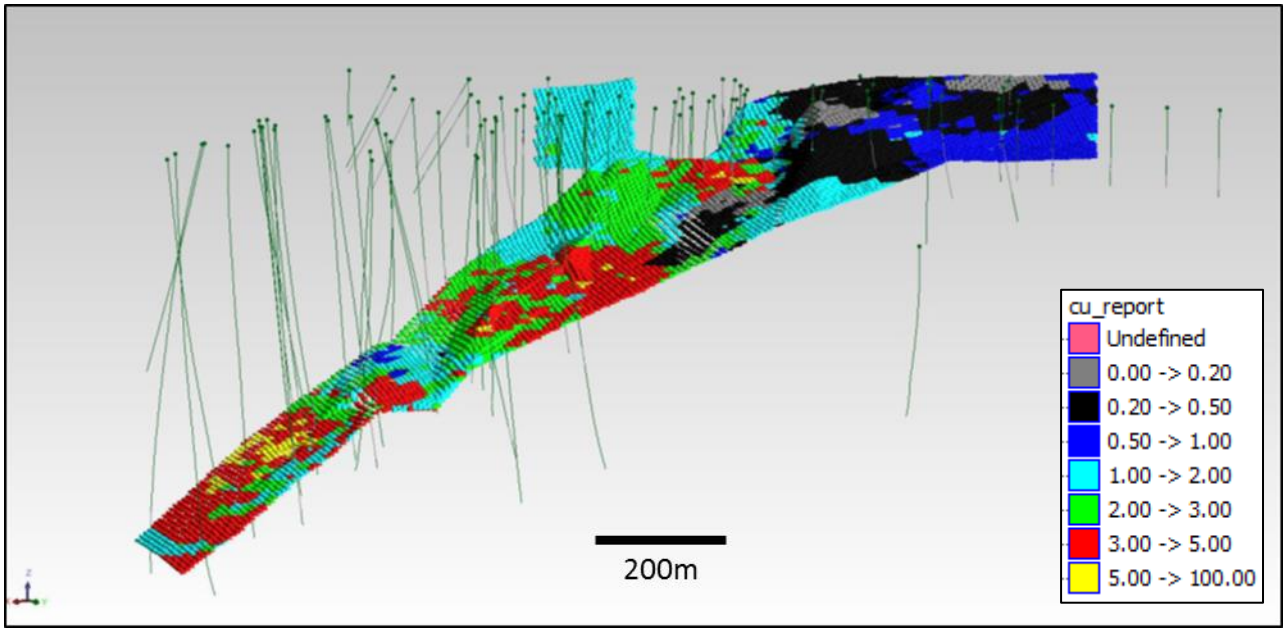

Figure 5: 3D 0.3% Copper Envelope (looking S) Note variation in copper grades in the Central Zone plunge can be directly correlated to drill density, with further upside expected in resource, as "gaps" in the drilling pattern are filled.

Resource Summary – Collerina Copper Deposit

Geology

The Collerina deposit is considered to be Besshi-style volcanogenic massive sulphide-style ("VMS") mineralisation occurring within metasediments of the Girilambone Group. Copper ("Cu") mineralisation with minor gold ("Au") mineralisation occurs as massive and disseminated sulphides within a well-defined, folded sheet trending approximately east-west, dipping north at approximately 40° with structural thickening plunging ENE at approximately 15°.

The mineralised zone is typically 2-6m thick, but in a number of holes multiple lenses of massive sulphide mineralisation occur, resulting in mineralised intersections of up to 17m (eg CORC019 - 17m at 3.9% Cu from 157m). Chalcopyrite occurs as clots, and wisps or disseminations, through to massive sulphide zones within the more massive pyrite dominated sheet. In Intervals with multiple massive sulphide positions, zones between the massive sulphide comprise variably deformed sediments, often with stringer style and disseminated copper sulphides and are likely to represent thickening from localised kink and thrust folding.

The mineralised zones and host rocks are weathered to a depth of approximately 60m below surface.

Drilling

All resource drill holes at the Collerina project were completed by Helix between 2015 and 2019. The majority of holes were reverse circulation ("RC") with a number of diamond holes ("DD") and pre-collared diamond holes ("RCDD"). A total of 57 holes were included in the estimate. The majority of the Central Zone has been drilled with 40m spaced holes on 40m to 80m spaced sections with holes drilled to the SW at -60°. Portions of the deposit have been infilled to 20m spacings and the deeper portions have variable drill hole spacing up to 80m apart.

Drill collar locations were surveyed in MGA grid by licenced surveyors using DGPS equipment. A small number of holes were located using hand held GPS. Down hole surveys were collected by Camtech or Reflex electronic multi-shot equipment, at varying intervals typically 30m or 50m.

Sampling and Sub-Sampling Techniques

Samples from RC drilling were collected using rig mounted splitters at 1m intervals in the mineralised zones. Some intervals of 4m were also sampled. DD holes were sampled to geological boundaries and generally had a maximum length of 1m. Core was cut in half with a diamond saw and half core submitted for analysis.

Sample Analysis Method

Samples were submitted for analysis by mixed acid digest and ICP-MS analysis for base metals and fire assay with AAS finish for Au. Quality control procedures adopted by Helix include the use of standards which have provided support to the quality of the drill results.

Estimation Methodology

Resource interpretations and wireframes were prepared using a nominal 0.3% Cu cut-off. The boundaries were generally very sharp and not sensitive to cut-off grade. The main zone of the deposit was estimated using ordinary kriging ("OK") grade interpolation of 1m composited data. Small, peripheral zones of mineralisation were estimated using inverse distance interpolation.

Interpolation parameters were based on the geometry of each zone and geostatistical parameters determined by variography. Estimation was carried out for Cu, Zn, Au, silver ("Ag") and sulphur ("S"). No high grade cuts were applied to the data due to the uniformly low coefficient of variation ("CV") of the data.

Sample data was composited into 1m intervals then block model grades estimated using ordinary kriging (OK) grade interpolation. A first pass search range of 60m was used and oriented to match the plunge of the mineralisation. A minimum of 10 samples and a maximum of 24 samples were used to estimate each block. The majority of the resource (64%) was estimated in the first pass with expanded search radii of 120m used for the blocks not estimated in the first pass.

The block dimensions used in the model were 20m EW by 10m NS by 5m vertical with sub-cells of 5m by 2.5m by 1.25m.

Pulverised drilling samples were submitted for bulk density measurements using laboratory pycnometer. All samples were from mineralised fresh rock and showed quite consistent results with an average density of 3.24t/m^3. This was applied to fresh mineralisation in the estimate, with assumed values of 2.7t/m^3 for fresh unmineralised rock, 2.5t/m^3 in transition material and 2.0t/m^3 in oxide material.

Mineral Resource Classification

The Mineral Resources was classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012) and Resource classification was considered on the basis of drill hole spacing and continuity of mineralisation.

Within much of the Collerina deposit, drill hole spacings were at 40m by 40m but due to hole deviation and some infill drilling, the spacing is variable in the deeper parts of the deposit. At depths less than 80m, drill hole intersection of the lodes is in the order of 60m to 80m at irregular spacing. The central, sulphide portion of the main zone has been drilled at spacings as close as 20m by 20m. These show excellent continuity of the sulphide horizon and good continuity of grade and thickness. This has allowed that portion of the deposit to be classified as Indicated Mineral Resource.

The deeper portion of the main zone , the sparsely drilled (80m apart) oxide portion of the main zone and the peripheral zones were classified as Inferred Mineral Resource.

Cut-off Grades

The Mineral Resource has been reported at a 0.5% Cu cut-off grade. This reflects the breakeven cut-off reported at the nearby Tritton underground mine currently in operation. The Tritton deposit, which is being mined using underground mining methods and has similar geometry to the Collerina deposit.

Based on the comparison with the Tritton mine, and with the Collerina mineralisation being shallower and of higher grade, PayneGeo considers that Collerina has reasonable prospects for eventual economic extraction and that it is reasonable to report the Mineral Resource at a 0.5% Cu cut-off.

Metallurgy

No metallurgical test work has been conducted at the project. Due to the similarities with the mineralisation at the adjacent operating Tritton copper mine, and the simple sulphide mineralogy observed at Collerina, it can be reasonably assumed that good recoveries will be achieved via conventional sulphide flotation.

Modifying Factors

No modifying factors were applied to the reported Mineral Resource estimate. Parameters reflecting mining dilution, ore loss and metallurgical recoveries will be considered during the any future mining and development evaluation of the project.

Exploration Target

The interim Mineral Resource Estimate was completed for the Collerina deposit. It was modelled and estimated for the area drilled in detail by Helix. The Inferred Mineral Resource Estimate was extended up to 140m down plunge from drilled area toward untested FLEM targets at depth.

The massive sulphide of high grade Central Zone Shoot copper grades appear in places to be closed off by sparse drilling to the east and west of the shoot. However, the sulphur-rich horizon which hosts the copper mineralisation is continuous and has been demonstrated by mapping and geophysical surveys to be tightly folded and extend well beyond the current limits of drilling. Surface and down hole EM suggests that further massive sulphide lens extensions may be developed in the target horizon as zones parallel to the defined Central Zone Shoot. These targets are currently untested by drilling.

The strike length of the target horizon is approximately 3-5 times the length of the defined Central Zone Shoot. The target zone has similar characteristics in host geology and geophysical response to suggest that massive sulphide mineralisation could be present within this shape in the system. As a consequence, the Exploration Target* shape for the Collerina deposit is considered to be at least a 4 Mt to 7Mt in the interval from surface (Inclusive of the Resource Shape) to 450m vertical depth with a potential grade range of 1.5% Cu to 3% Cu, based on the existing Collerina Mineral Resource grade.

*Cautionary Statement: Whilst the near-surface strike continuity of the Collerina mineralisation is well understood, the potential quantity and grade of the Exploration Target remains conceptual until drill tested. Geophysical and structural evidence is present to provide confidence in the geometry and dimensions, however, there has been insufficient drilling within these plunge extensions to estimate Mineral Resources in the broader shape to date. The Exploration shape's range of tonnes and grade were derived by completing polygonal estimates in Micromine using a range of densities (2.4-2.9) which are less than those used in the resource estimate. Therefore it should be considered uncertain if further exploration drilling will result in defining additional Mineral Resources within the broader Collerina Deposit extensions.

COMPETENT PERSONS STATEMENT

The Information in this report that relates to Mineral Resources is based on information compiled by Mr Paul Payne, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Payne is a full-time employee of Payne Geological Services Pty Ltd and an indirect shareholder of Helix Resources Limited. Mr Payne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Payne consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr Michael Wilson, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Wilson is a director, shareholder and full-time employee of Helix Resources Limited. Mr Wilson has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Wilson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

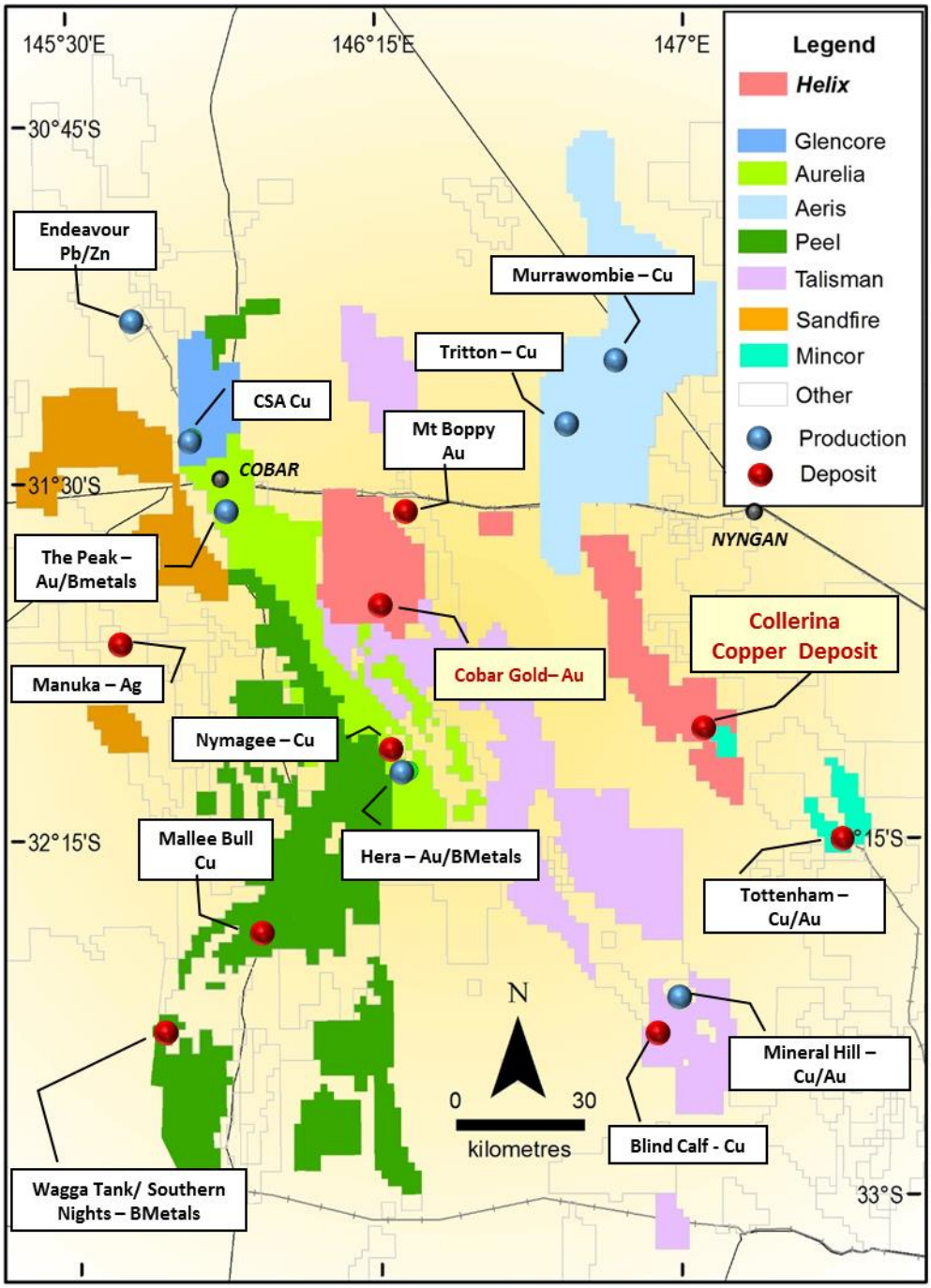

Figure 6: Location of Helix's Collerina Copper Project near mining operations in the Central West Region of NSW

- ENDS -

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Details of the assumptions underlying any Resource estimations are contained in previous ASX releases or at www.helix.net.au

For full details of exploration results refer to previous ASX announcements on Helix's website. Helix Resources is not aware of any new information or data that materially effects the information in this announcement

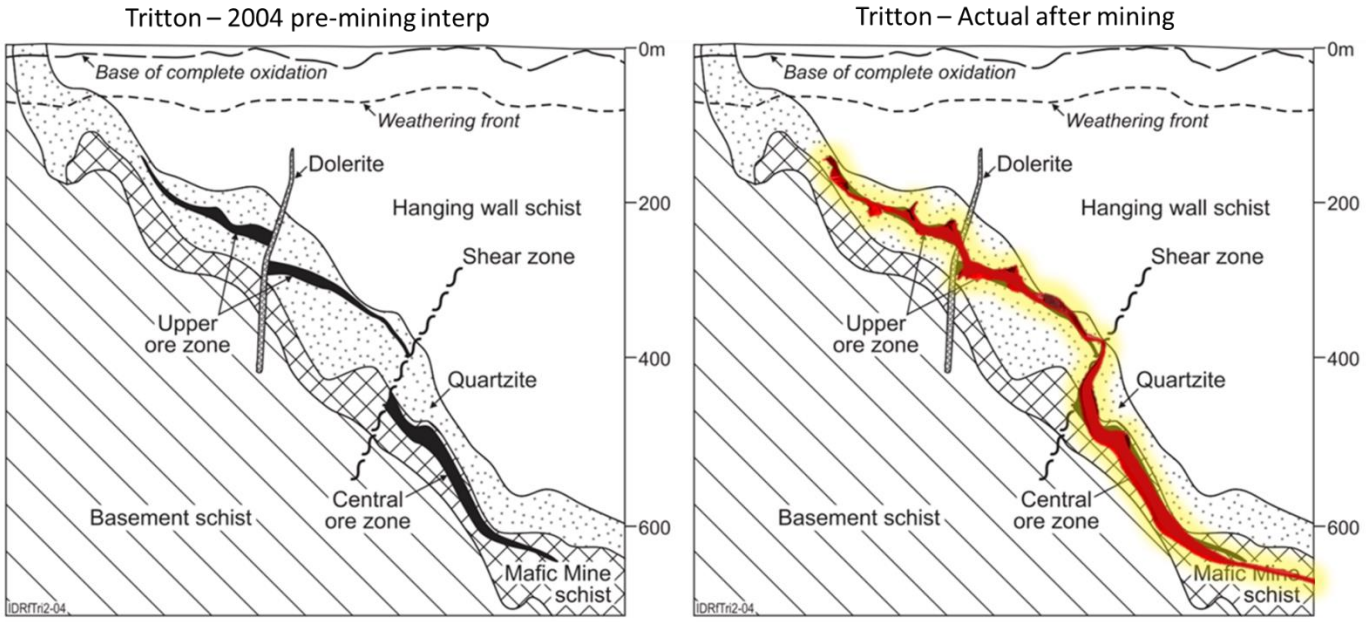
[1] For full details of exploration results refer to the ASX announcements dated 4 February 2015, 29 June 2016, 1 December 2016, 3 August 2017, 8 November 2017, 14 February 2018, 27 February 2018, 5 April 2018, 14 May 2108, 13 June 2018, 18 July 201816 November 2018 and 10 December 2018. Helix Resources is not aware of any new information or data that materially effects the information in these announcements.

Forward-Looking Statements

This ASX release may include forward-looking statements. These forward-looking statements are not historical facts but rather are based on Helix Resources Ltd.'s current expectations, estimates and assumptions about the industry in which Helix Resources Ltd operates, and beliefs and assumptions regarding Helix Resources Ltd.'s future performance. Words such as "anticipates", "expects", "intends", "plans", "believes", "seeks", "estimates", "potential" and similar expressions are intended to identify forward-looking statements. Forward- looking statements are only predictions and are not guaranteed, and they are subject to known and unknown risks, uncertainties and assumptions, some of which are outside the control of Helix Resources Ltd. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. Actual values, results or events may be materially different to those expressed or implied in this presentation. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward- looking statements in this announcement speak only at the date of issue of this announcement. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Helix Resources Ltd does not undertake any obligation to update or revise any information or any of the forward-looking statements in this announcement or any changes in events, conditions or circumstances on which any such forward looking statement is based.

No new information that is considered material is included in this document. All information relating to exploration results has been previously released to the market and is appropriately referenced in this document. JORC tables are not considered necessary to accompany this document.

APPENDIX 1



Appendix 1 Figure: Initial long-section interpretation of Aeris' Tritton Deposit (source: Fogarty 2001), an upper and central zone separated by interpreted faults and shears (left) – Tritton Deposit after Mining - Continuous sulphide body with structural thickening and roll-overs at positions of cross-cutting structural interference (right).

JORC Code – Table 1

JORC Table 1 Section 1 Sampling Techniques and Data

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.*	• Samples have been collected by reverse circulation drilling and diamond drilling. • RC holes were generally sampled at 1m intervals. Portions of the holes were also sampled as 4m composite samples. • Diamond holes were sampled at 1m intervals or at geological intervals. • Each 1m sample generally weighs 2-4kg. • The independent laboratory then takes the sample and crushes it before taking a split for pulverizing and analysis.
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).*	• RC drilling used a face sampling bit; • Diamond drilling was typically completed using NQ size core.
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.*	• All samples were visually assessed for recovery. • Samples are considered representative with good recoveries. • There is no known relationship between sample recovery and sample grades.
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,*	• All drill holes were logged in full by Company geologists. • Logging was carried out in detail in anticipation of being used in subsequent Mineral Resource estimates.

Criteria	JORC Code explanation	Commentary
	channel, etc) photography. • *The total length and percentage of the relevant intersections logged.*	
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *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.*	• Diamond core was cut using a core saw and half core taken for analysis. • The sampling of the RC sample was rotary split via the rig cyclone and sampled at 1m intervals. • A QAQC program of standards, and laboratory duplicates have been used to confirm assay integrity. • The samples are considered representative and appropriate for this type of drilling and for use in future resource estimates.
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.*	• The samples were submitted to an independent commercial laboratory in Perth, Western Australia. • Au was analysed by 40g charge Fire Assay fusion technique with ICP-OES finish. • Base metals were analysed by a 4 acid digest with ICP-MS finish. • The techniques are considered quantitative in nature. • No geophysical tools were used to determine any element concentrations. • Certified standards were inserted by Helix and the laboratory carries out internal standards and repeats in each individual batch. • The standards and repeats were considered satisfactory.
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.*	• The assay results have been checked by company geologists. • No adjustments have been made to the assay data. • Results are reported on a length weighted basis.
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*	• Drill hole collars were located by either differential GPS (DGPS) surveys to a high degree of accuracy or in some cases hand held GPS. • Locations are to GDA94 Zone 55.

Criteria	JORC Code explanation	Commentary
	Resource estimation. • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Down hole surveys were recorded by Camtech or Reflex system at varying intervals from 10m to 30m. • Topographic surface is based on drill collar positions and is adequate.
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 Collerina, hole spacing is nominally 40m by 40m although the spacing is irregular. from 20m to more than 100m spacing. • The drilling was sufficient for Mineral Resource estimation. • Sample compositing was used to give equal support to data in the Mineral Resource estimate.
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.*	• Holes were generally angled to optimize the intersection angle with the interpreted structures. The drilling is considered to be perpendicular to the mineralised trend and therefore the sampling is considered representative of the mineralised zone. • No orientation based sampling bias has been identified in the data.
Sample security	• *The measures taken to ensure sample security.*	• Company representatives supervised the collection and submission of samples up to the point of transfer to the assay laboratory
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No external audit or review of the sampling techniques has been undertaken. • Company geologists have reviewed the results. • PayneGeo reviewed the QAQC data.

JORC Table 1 Section 2 Reporting of Exploration Results

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 license to operate in the area.*	• The Collerina Project is on EL6336, now EL8768. • Helix secured the precious and base metal rights under a split commodity agreement with the owners Augur minerals Limited (now Collerina Cobalt/ALPHA HPA Limited). • The tenement is in good standing, and was renewed in October 2018. • There are no known impediments to operating in this area.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The deposit has had limited previous drilling undertaken. • The majority of work completed at the project was carried out by Helix between 2015 and 2019.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The mineralisation targeted is VMS style base metal mineralisation and is similar in style to many other deposits in the Cobar region.

Drill hole information	• *A summary of all information material to the under-standing 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 (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.*
		• A comprehensive listing of significant intersections from previous drilling at Collerina has been included in previous ASX releases. A listing of the most recent drilling at Collerina completed by Helix during 2019 were reported to the ASX on 10 December 2018.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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 new exploration results are not being reported. • The Exploration Target shape has been derived by combining the structural and geological interpretation mapped at surface by an independent geologist, the surface geochemical footprint, positioning of dip and plunge extensions over the well mapped footwall maker horizon that is consistently present below the copper-bearing sulphide position and all surface and down-hole modelled EM conductors. The Exploration shape's range of tonnes and grade were derived by completing polygonal estimates in Micromine using a range of densities (2.4-2.9) which are less than those used in the resource estimate (2.5-3.24).
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').*	• Drill holes are angled to grid southwest, which is approximately perpendicular to the orientation of the mineralised trend. • True width as interpreted to be approximately equal to downhole intervals.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant Collerina being reported. These should*	• Relevant diagrams have been included in this and previous ASX releases.

Criteria	JORC Code explanation	Commentary
	include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
Balanced Reporting	• *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.* • *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.*	• Drill hole collars were located by either differential GPS (DGPS) surveys to a high degree of accuracy or in some cases hand held GPS. • Locations are to GDA94 Zone 55. • Down hole surveys were recorded by Camtech or Reflex system at varying intervals from 10m to 30m. • Representative reporting of significant intersections from previous drilling has been included in previous Helix releases to the ASX. These reports are considered by Helix to be balanced and provided in context.
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.*	• A detailed structural and geological assessment has been completed by an independent geologist. Down hole EM surveys have been conducted and modelled to assist in interpreting the geometry of orebody projections and for targeting further mineralisation
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Mineralisation remains open in many directions at Collerina and planning is underway to drill test immediate and nearby priority targets with the aim of expanding the resource inventory to better reflect the scale of the geological understanding of the copper mineralisation envelope.

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.*	• The database is created and validated by Helix Resources Limited. • PayneGeo performed data audits in Surpac and checked collar coordinates, down hole surveys and assay data for errors. No material errors were found.
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.*	• A site visit to the Collerina Project was conducted in February 2016 by Paul Payne who is a full time employee of PayneGeo.
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.*	• The confidence in the geological interpretation at Collerina is considered to be good. Successive drill programs have increased the confidence in the geological interpretation of the deposit. • Diamond core and RC drill chips have been used to interpret the geology. • The interpretation of the mineralisation based on assay results, geological logging, and the well-known regional geological setting, makes the current interpretations robust. Alternative interpretations are not likely to have any effect on the Mineral Resource estimation. • Geological logging has been used to define oxide, transition and fresh domains.
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.*	• VMS mineralisation at Collerina has been intersected over a plunge length of 1,200m and mineralisation has been tested to a vertical depth of 420m. It remains open and untested below that depth • The main mineralised zone is approximately 100m in dip length.
Estimation and modeling 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.*	• Using parameters derived from modelled variograms, Ordinary Kriging (OK) was used to estimate average block grades within the Collerina domains using Surpac software. The OK interpolation technique is suitable as it allows the measured spatial continuity to be incorporated into the estimate and results in a degree of smoothing which is appropriate for the nature of the mineralisation. • Inverse Distance Squared interpolation was used to estimate block grades in the minor zones due to the small number of samples within each lode. • Drill hole sample data was coded using mineralisation wireframes. Samples were composited to 1m based on an analysis of sampling intervals used at the deposit. • Three estimation passes were used in each model. For the main zone, the first pass used a range of 60m, with a minimum of 10 samples. For the second pass, the range was extended to 120m. A maximum of 24 samples

	• *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.* • *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.*	was used for each pass. • For the minor zones, the first pass used a search radius of 60m, with a minimum of 4 samples. For the second pass, the range was doubled and a minimum of 4 samples used. For the third pass the range was doubled again and the minimum samples reduced to 2. A maximum of 24 samples was used for each pass. • The extrapolation distance from the end points was approximately 50m down dip and 145m down plunge at the eastern end of the main zone. • No previous estimates have been prepared. • The deposit has not been mined so no production records exist. • No assumptions have been made with regards to by-products. • Sulphur was estimated using the same procedures as Cu, Zn, Au and Ag. • For Collerina, the parent block size was 10m NS by 20m EW by 10m vertical with sub-cells of 2.5m by 5m by 1.25m. The parent block size was selected on the basis of being approximately 50% of the average drill hole spacing. An orientated 'ellipsoid' search was used to select data and was based on parameters taken from the variography or based on lode geometry. • Selective mining units were not modelled. The block size used in the Mineral Resource model was based on drill sample spacing and lode orientation. • There is a strong correlation between Cu and Au/Ag. • The deposit mineralisation was constrained by wireframes constructed using down hole assay results and associated lithological logging. At the Collerina deposit a nominal grade cut-off of 0.3% Cu was used for the mineralisation interpretations. • Interpreted weathering surfaces were used to code material type at each deposit. The wireframes were used as hard boundaries in the interpolations at each deposit. • Log-probability plots and histograms were generated for the mineralisation domains. The data from the domains typically showed slightly skewed distributions for all the elements. Low CV values and a lack of outlier values suggested that no high grade cuts were required. • A three step process was used to validate the models. A qualitative assessment was completed by slicing sections through the block model in positions coincident with drilling. A quantitative assessment of the estimate was completed by comparing the average grades of the composite file input against the block model output for the mineralised domains. A trend analysis was completed by comparing the interpolated blocks to the sample composite data within the domains. This analysis was completed for 20m bench heights in the main zone. Validation plots showed good correlation between the composite grades and the block model grades.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages and grades were estimated on a dry in situ basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The Mineral Resource has been reported at a 0.5% Cu cut-off grade based

		on comparable underground mining operations in the region.
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.*	• Mining of the deposit is anticipated to be mineable by open pit and underground mining methods involving mechanised mining techniques. No other assumptions on mining methodology have been 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.*	• No metallurgical test work has been completed.
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.*	• The area is on cleared farm land or areas of remnant vegetation. It is not known to be environmentally sensitive and there is no reason to think that proposals for development including the dumping of waste would not be approved if planning and permitting guidelines are followed.
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.*	• Bulk density measurements have been made on 42 drilling samples using pycnometer readings. • Density values assigned to the fresh mineralisation was based on the average value within the mineralised lodes. Assumed values were used for unmineralised fresh rock and for oxide and transitional material. Values were assigned to the models as follows; Fresh sulphide - 3.24t/m^3, Fresh unmineralised - 2.70t/m^3, Transition - 2.5t/m^3, and Oxide - 2.0t/m^3.
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.*	• Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). • The Mineral Resource at Collerina was classified as Indicated and Inferred Mineral Resource on the basis of data quality, sample spacing, and lode continuity. • The portion of the resource at Collerina defined by the 20m to 40m spaced drilling and displaying good continuity of mineralisation was classified as Indicated Mineral Resource. • The peripheral and less well drilled portions of the deposit were classified as

		Inferred Mineral Resource due to the sparse drilling. Small zones of discontinuous mineralisation were also classified as Inferred Mineral Resource • The input data adequately covers the mineralisation and does not favour or misrepresent in-situ mineralisation. The definition of mineralised zones at Collerina is based on a good geological understanding producing a robust model of mineralised lodes. Validation of the block models show good correlation of the input data to the estimated grades. • The input data is considered reliable as Helix has implemented Quality Control measures which have confirmed the suitability of data for use in the Mineral Resource estimates. • The Mineral Resource estimate appropriately reflects the view of the Competent Person.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• Internal audits have been completed by PayneGeo which verified the technical inputs, methodology, parameters and results of the estimate.
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.*	• The Collerina Mineral Resource estimate has been estimated with a high degree of confidence. The mineralisation geometry and continuity of the main zone has a robust interpretation and is reflected in the applied classification of Indicated and Inferred Mineral Resource. • The data quality at the deposit is good and the drill holes have detailed logs produced by qualified geologists. Recognised laboratories have been used routinely. • The Mineral Resource statement relates to global estimates of tonnes and grade. • No substantial mining has taken place at the deposit, so no production data is available.