

ASX Announcement 29 June 2016

# Collerina Mineralisation Confirmed over 700m of Strike and New Large EM Target

#### **Eastern Extension**

Two holes drilled on the eastern-most line have expanded the sulphide zone and intersected:

- 9m @ 2.5%Cu, 1.6% Zn, 9 g/t Ag from 217m, including 3m @ 4% Cu, 2.4% Zn, 14g/t Ag in CORC033 and;
- 6m @ 2.2% Cu, 0.3% Zn, 3g/t Ag from 192m, including 2m @ 4% Cu in CORC032

The results are within primary sulphides and remain open to the east and down dip.

Another eastern extension hole has returned:

8m @ 2.4% Cu, 6.4g/t Ag including 2m @ 5% Cu, 13g/t Ag from 123m in CORC022

This intercept is up-dip from the previously reported 12m @ 5% Cu, 2.1% Zn from 157m in CORC019¹ and is also within primary sulphides.

Zinc values are increasing in an easterly direction, with a peak zinc assay of 4.1% Zn associated with 5.1% Cu in a single metre result from CORC033.

### **Western Extension**

The drilling program to the west has delineated wide zones of oxide copper from surface and expanded the oxide copper zone within the system. Drilling on the western-most line intersected:

- 9m @ 1% Cu within 25m @ 0.5% Cu from 39m in CORC036 and;
- 2m @ 2.1% Cu within 12m @ 0.5% Cu from 65m in CORC025.

The system remains open down dip and to the west.

The drilling program has expanded the strike length of the Collerina Copper-Zinc Prospect to over 700m, which is significant by comparison to other deposits in the Cobar Region, refer to Figure 1.

### **High Powered EM Survey**

Following the drilling program, the Company undertook a high powered EM survey targeting dip extensions of the mineralization and expanding the survey coverage from the Collerina Prospect to the northeast on 1.5km long lines.

A preliminary data review during the survey has identified a large, discrete, sub-parallel conductor on the northern extent of the new survey area (approximately 1km NE of the Collerina Prospect). This area is completely un-explored, refer to Figures 2 & 3.

Further EM survey work is planned to close-off the new target area. Modelling from the survey will be reported in a separate release as soon as available.



Helix Resources is pleased to advise that results from the recent RC drilling program at the Collerina Copper-Zinc Project in Central NSW have been received.

The program was designed to test extensions to the system and provide better definition of the known mineralisation. The drilling has intersected mineralisation to the west, to the east and down dip, expanding the known strike length of Collerina Prospect to at least 700m.

The main primary mineralisation continues to be intersected at depth on the eastern-most line with hole CORC033 returning 9m @ 2.5%Cu, 1.6% Zn, 9 g/t Ag from 217m, including 3m @ 4% Cu, 2.4% Zn, 14g/t Ag in a broader mineralised zone. This is the deepest and eastern most hole drilled to date, with the system remaining completely open beyond this intersection.

Zinc values are increasing in an easterly direction, with a peak zinc assay of 4.1% Zn associated with 5.1% Cu in a single metre result from CORC033.

The drilling program to the west has delineated wide zones of oxide copper from surface and expanded the oxide copper zone within the system. Drilling on the western-most line intersected 9m @ 1% Cu within 25m @ 0.5% Cu from 39m in CORC036 and 2m @ 2.1% Cu within 12m @ 0.5% Cu from 65m in CORC025. The system remains open down dip and to the west.

The large footprint of the Collerina Prospect is significant in comparison to high-grade copper systems in the district. Further drilling is required to determine the full extent of the system along the mineralised zone.

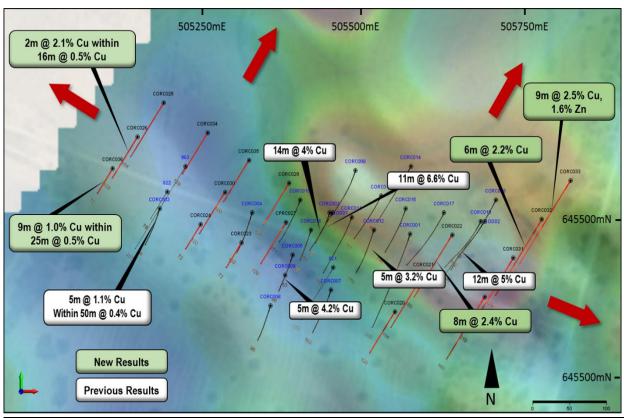


Figure 1: Collerina drilling - significant results to date and location of 2016 RC drilling (red traces) on 2014 MLEM image<sup>1</sup>



### **Moving Loop EM Survey**

Following the drilling program, the Company undertook a high powered MLEM survey targeting dip extensions of the Collerina mineralisation, expanding survey coverage from the Collerina Prospect to the northeast on lines 1.5km in length. This was an extra 500m extension to the original low-powered MLEM survey

A preliminary data review during the survey has identified a large, discrete, sub-parallel conductor on the northern extent of the survey (approximately 1km NE of the Collerina Prospect) refer to Figure 2. This area is completely un-explored.

Extensions both down dip and along strike of the Collerina main zone are also apparent in both early and late time images refer Figure 3.

Further EM survey work is planned to close-off the target areas. This will commence as soon as possible and include extra lines along strike of the system and also extensions of the current lines to the north-east to clearly define the new northern anomaly.

Modelling from the survey will be reported in a separate release as soon as available

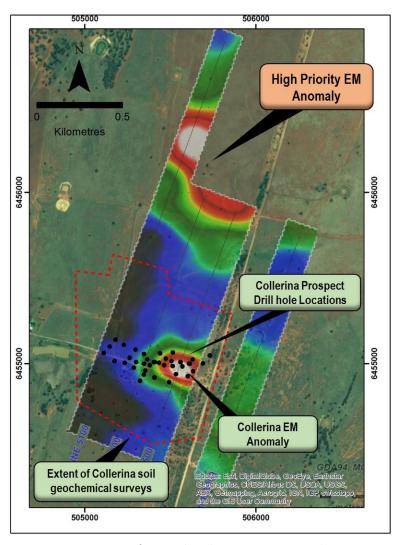


Figure 2: Location of untested north-eastern target in preliminary late-time high-powered EM image, additional EM surveying is planned



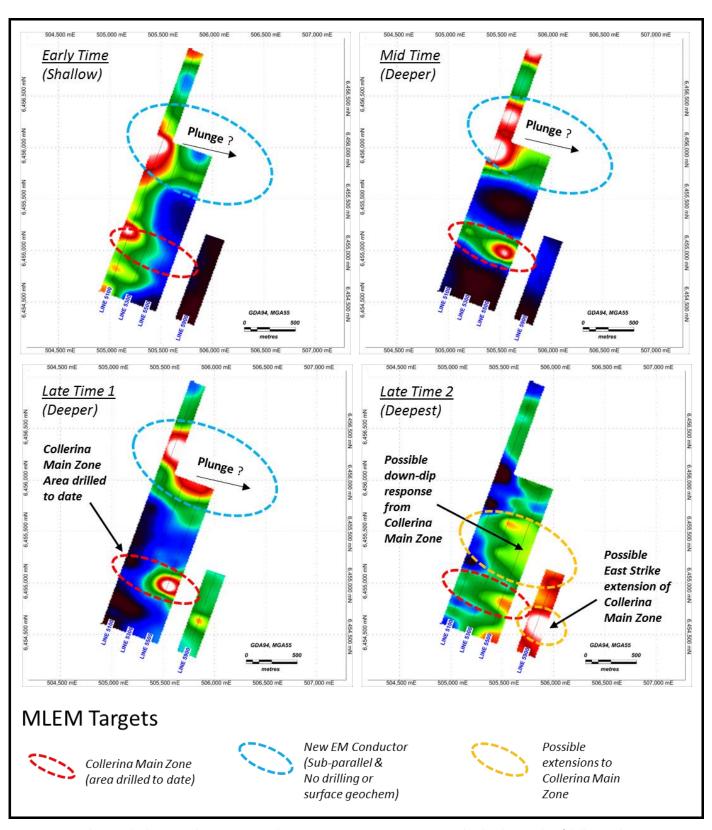


Figure 3: Preliminary high-powered MLEM images illustrating new EM targets at varying depths along strike of drilling and in new areas



Table 1: Collerina Copper-Zinc Prospect Results from May-June drilling

Hole ID	Depth From	Result	Mineralisation Type	Target/Comment
CORC020	47m			Extension copper oxide 120m further to the east
and	65m	13m @ 0.5% Cu	oxide-transition?	Tartifer to the cast
incl.	68m	3m @ 1.5%, 5g.t Ag Cu	oxide-transition?	
CORC021	-	NSR		Drilled to confirm fault position
CORC022	123m	8m @ 2.4% Cu, 0.1% Zn, 6g/t Ag	primary sulphide	Main sulphide horizon 50m east of CORC001 up dip of CORC019
incl.	127m	2m @ 5.0% Cu, 0.1 Zn, 13g/t Ag	primary sulphide	
CORC023	19m	19m @ 0.2% Cu	oxide	Shallow oxide above CORC004
and	45m	12m @ 0.2% Cu	oxide	
CORC024	4m	54m @ 0.2% Cu	oxide	Shallow Oxide between CORC004 & CORC003
CORC025	49m	14m @ 0.3% Cu	oxide	Western extension of Mineralisation
incl.	58m	1m @ 1.2% Cu	oxide	
CORC026	62m	16m @ 0.4% Cu	oxide-transition	Western Extension of mineralisation
incl.		2m @ 2.1% Cu, 4g/t Ag	oxide-transition	
CORC027	70m	6m @ 0.6% Cu	oxide-transition	Infill between CORC004 and CORC016
	70m	1m @ 2.2% Cu	oxide-transition	
CORC028		NSR		Drilled to confirm fault position
CORC029	62m	7m @ 0.3% Cu	oxide	Oxide behind CORC004
CORC030		NSR		Drilled to confirm fault position
CORC031		NSR		Drilled to confirm fault position
CORC032	192	6m @ 2.2% Cu, 0.3% Zn, 3g/t Ag	primary sulphide	Eastern extension of main mineralisation 120m east of CORC022
incl.	194	2m @ 4% Cu, 0.2% Zn, 5g/t Ag	primary sulphide	
CORC033	217m	16m @ 1.6% Cu, 1.1% Zn, 3.3 g/t Ag	primary sulphide	Eastern extension and Dip extension of main mineralisation
incl.	217m	9m @ 2.5% Cu, 1.6% Zn, 4g/t Ag	primary sulphide	
incl.	217m	3m @ 4% Cu, 2.4% Zn, 6g/t Ag	primary sulphide	
CORC034		NSR		Drilled to confirm fault position
CORC035	81m	3m @ 0.3% Cu oxide-transition		
CORC036	39m	25m @ 0.5% Cu	oxide	Shallow oxide on Western extension
	51m	9m @ 1% Cu	oxide	

Intersections based on 1m sampling, assayed using mixed acid digest technique for base metal and aqua regia for gold.

Results are based on a 0.1% Cu cut-off grade and subject to rounding. Significant results (>1% Cu) are highlighted in bold.



Table 2: RC Collar details for May-June Drilling - Collerina Prospect

Project	Site_ID	Northing	Easting	RL	Dip	Azimuth	<b>Total Depth</b>
EL6336	CORC020	6454893	505493	217	-60	215	120
EL6336	CORC021	6454938	505533	215	-60	215	156
EL6336	CORC022	6454984	505571	213	-60	215	180
EL6336	CORC023	6454976	505286	214	-60	215	72
EL6336	CORC024	6455005	505234	215	-60	215	72
EL6336	CORC025	6455140	505180	212	-60	215	156
EL6336	CORC026	6455100	505145	215	-60	215	120
EL6336	CORC027	6454999	505346	216	-60	215	102
EL6336	CORC028	6454927	505603	215	-60	215	180
EL6336	CORC029	6455057	505346	216	-60	215	120
EL6336	CORC030	6455035	505263	215	-60	215	120
EL6336	CORC031	6454956	505634	218	-60	215	198
EL6336	CORC032	6455002	505692	217	-68.5	215	222
EL6336	CORC033	6455048	505731	214	-70	215	240
EL6336	CORC034	6455110	505229	215	-60	215	120
EL6336	CORC035	6455082	505296	214	-60	215	102
EL6336	CORC036	6455063	505111	215	-60	215	72

## ABOUT THE COLLERINA COPPER-ZINC PROSPECT

The Collerina Copper-Zinc Prospect is located within a regionally significant VMS prospective belt between the Tritton Mine to the North and Tottenham deposits to the south on the eastern edge of the Girlambone Basin in Central NSW.

The Collerina Prospect is a regionally significant high-grade copper-zinc (+gold) system starting at surface and remains open along strike and at depth.

- ENDS -

For further information:

Mick Wilson Pasquale Rombola

Managing Director Chairman

mick.wilson@helix.net.au pasquale.rombola@helix.net.au

Ph: +61 8 9321 2644 Ph: +61 413 239 630

### **Competent Persons Statement**

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

Details of the assumptions underlying any Resource estimations are contained in previous ASX releases or at <a href="https://www.helix.net.au">www.helix.net.au</a>

<sup>&</sup>lt;sup>1</sup>For full details of exploration results refer to ASX announcements dated 1 April 2015, 10 November 2015 & 18 February 2016. Helix Resources is not aware of any new information or data that materially effects the information in these announcements.



# JORC Code - Table 1

# **Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>The Collerina Prospect drilling used a commercial contractor for Reverse Circulation (RC) drilling. A total of 17 holes were drilled for 2314m (refer Table 2 in body of announcement). Holes were orientated to Grid SW (200 or 210°), and were drilled at dips of 60-70°.</li> <li>The drill hole locations were located by handheld GPS. Down hole surveys were conducted during drilling, using an in-rod down-hole system. More accurate DGPS and gyro downhole is envisaged at a future date.</li> <li>RC drilling was used to obtain 1m samples over the entire hole length with 1m split samples collected (~3kg). The 1m samples were sent to a commercial laboratory, pulverized to produce a representative charge with gold and base metals assayed.</li> </ul>
Drilling techniques	<ul> <li>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).</li> </ul>	<ul> <li>RC Drilling was the method chosen for all holes drilled. A 140mm face sampling hammer was used. Depths ranged from 72m to 240m.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>RC sample weight and recoveries are observed during the drilling and any sample undersized or over-sized was noted the geological logs.</li> <li>RC samples were checked by the geologist for volume, moisture content, possible contamination and recoveries. Any issues are discussed with the drilling contractor.</li> </ul>



Criteria	JORC Code explanation	Commentary
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All RC chip samples have a representative grab sample placed in 1m intervals in chip trays and geologically logged.</li> <li>Logging of RC samples recorded lithology, alteration, degree of oxidation, fabric and colour. All RC 1m intervals are stored in plastic chip trays, labeled with interval and hole number.</li> <li>All holes were logged in full.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>The preparation of RC samples follows industry practice. This involves oven drying, coarse crushing (core-only), pulverization of total sample using LM5 mills until 85% passes 75 micron.</li> <li>Field QA_QC involved field duplicates of RC samples to test repeatability as well as field standards and the laboratories standard QA_QC procedures.</li> <li>The sample sizes are considered appropriate to the grain size of the material being sampled. Repeatability of assays was good.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>All assays were conducted at accredited assay laboratory. The analytical technique used for base metals, a mixed acid digest with a ICP-AES &amp; MS detection. Gold via the aqua regia method.</li> <li>Laboratory QA/QC samples involving the use of blanks, duplicates, standards (certified reference materials), replicates as part of in-house procedures. Standard, repeat and duplicate assays for drilling suggest the presence of coarse gold.</li> </ul>



Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Results have been verified by Company management.</li> <li>Geological data was collected using handwritten log sheets which detailed geology (weathering, structure, alteration, mineralisation), sampling quality and intervals, sample numbers, QA/QC and survey data. This data, together with the assay data received from the laboratory and subsequent survey data were entered into a secure Access databases and verified.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>The drill collar positions were picked-up using GPS.</li> <li>Grid system is GDA94 Zone 55.</li> <li>Surface RL data collected using GPS. Topography around the drilled area is a slight slope grading from Grid North-East to drainage west of the main drilled area. Variation in topography is less than 5m across the drilled area.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Drill holes at the Collerina Prospect were targeting various geological and geophysical targets.</li> <li>This was an extension and mineralization definition program for the Project and therefore the amount of drilling remains insufficient to establish a JORC compliant resource.</li> <li>Sampling involved 1m interval samples collected and sent to the laboratory for assay.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>Inclined RC drilling has been completed within the mineralised zones with good correlation observed between data sets.</li> <li>No orientation based sampling bias has been identified in the data to date.</li> <li>Massive sulphides was intersected in several of the holes drilled.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Chain of Custody is managed by the Company. RC Samples were collected onsite generally in bags containing 5-10 samples. The bags are securely tied and freighted directly to the laboratory with appropriate documentation listing sample numbers and analytical methods requested.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No additional QA/QC has been conducted for the drilling to date.



# **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	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The Collerina Prospect is located on EL6336 (Collerina Project), which is subject to a exploration and development agreement between the tenement owner, Augur Resources Limited and Helix Resources Limited, via its 100% owned subsidiary Oxley Exploration Pty Ltd. Helix has earned 100% of the precious and base metal rights (excluding nickel laterite) which are subject to a 1.5% net smelter royalty retained by Augur. The tenement is in good standing, with a renewal due in October 2018. There are no known impediments to operating in this area.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Previous modern exploration on the Collerina Prospect was limited to mapping and three holes drilled by CRA in the 1980's. All three holes intersected copper mineralization. Historic shafts and pits are present in the area, which date back to small scale mining activities in the early 1900's.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	The prospect is considered to be a base metal VMS style system consistent with the deposits and mines of the Girilambone-Tottenham district.
Drill hole Information	<ul> <li>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:</li> </ul>	<ul> <li>Refer to table 1 in the body of the text</li> <li>No material information was excluded from the results listed</li> </ul>
	<ul> <li>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.</li> </ul>	
Data aggregation methods	<ul> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high</li> </ul>	<ul> <li>A cut-off grade of 0.1% Cu was used</li> <li>No weighting has been used</li> <li>No metal equivalent results were reported.</li> </ul>
	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.	



Criteria	JORC Code explanation	Commentary
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul> <li>The program was designed to intersect geological model for the mineralization and its extensions.</li> <li>Result are reported as down hole length, with true width not definitive at this early stage, however review of geological logs suggest the system is dipping/plunging to the Northeast and results are likely to be close to true-width.</li> </ul>
Diagrams	<ul> <li>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.</li> </ul>	Refer to body of announcement Figure 1
Balanced reporting	<ul> <li>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.</li> </ul>	Refer to Table 1 for all results exceeding 0.1% Cu cut-off
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.	<ul> <li>Previously reported activities on the Collerina Prospect includes drilling programs of 21 holes for 2700m, soil auger sampling, mapping and rockchip sampling and surface EM and DHEM Surveys. Refer to ASX announcements on <a href="https://www.helix.net.au">www.helix.net.au</a> for details</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Based on results from this drill program, a high powered moving loop EM survey is underway and further drilling is planned to complete a maiden resource estimation later in the year. Further drilling will also be considered to assess the extensions and new targets surrounding the Collerina Prospect.</li> </ul>