



## **Mundarlo Project Update**

### **Sulphide source confirmed for large EM conductor**

#### **Highlights**

- Hole extensions have intersected several positions of semi-massive to massive sulphide (up to 13m thick) hosted in silica-rich units (probable exhalite).**
- The sulphide intercepts correlate very well with the top edge of the modelled EM conductor plates defined by both MLEM and follow-up DHEM surveys.**
- Anomalous gold and elevated zinc was returned in samples from these zones, which are dominated by iron sulphide species (pyrite and pyrrhotite).**

#### **Significance of the Results**

- The initial drilling tested the near surface (and southern edge) of the modelled MLEM conductor and has confirmed it has a sulphide-bearing source.**
- The EM conductor is discrete on the target horizon, but also large, with modelled EM plates having strikes up to 1km and dip extents of 600m.**
- Exhalite units are commonly present adjacent to and in the periphery of massive sulphide lenses in VMS systems.**
- In the classic VMS model, mineralisation is zoned with copper sulphides towards the centre near the feeder zone, grading out to zinc, lead and then iron-rich sulphides on the margins (the interpreted position of the initial drilling).**
- The centre of the large conductive EM source (possible core of a massive sulphide lens) is along strike and down dip/plunge of the initial drilling.**
- Helix has already secured 60% project equity by completing the initial RC drilling and is now earning a further 20% by spending A\$150,000 by February 2019.**

#### **Next Steps**

- Various samples of the sulphide bearing zones have been dispatched for petrological assessment.**
- Further litho-geochemical studies are underway to assist in vectoring toward the zones of possible base metal bearing sulphide accumulation.**
- The next phase of work, including drilling, will be planned once the results of the petrological and litho-geochemical studies have been received and the exploration target refined.**

Helix Resources Limited (ASX:HLX) (**Helix** or **the Company**) is pleased to provide an update on its progress at the Mundarlo Project, near Gundagai NSW.

Follow-up extension RC drilling extended MURC001 and MURC002 were undertaken and assays from this work have been received. The RC hole extensions both intersected massive and semi-massive sulphide over zones 2-13m thick. The thicker sulphide intercepts correlate very well with the top edge of the main modelled DHEM conductor plate, with several other sulphide-rich zones matching various modelled plates defined by both MLEM and the follow-up DHEM surveys.

Anomalous gold and elevated zinc was returned in assays from the sulphide-rich zones including 12m @ 0.12g/t Au from 198m in the deeper hole MURC002 and 8m @ 0.1g/t Au from 118m in MURC001, with zinc noted between three to six times the background response (up to 0.06% Zn). Based on field observations and the iron to sulphur ratios in the assays, these sulphide zones appear to be dominated by iron sulphide species (pyrite and pyrrhotite).

### ***Significance of the Results***

This initial three-hole program was the first known drilling at the Mundarlo Project. The drilling tested the near surface (and southern edge) of the modelled MLEM conductor and has confirmed it has a sulphide-bearing source. This was an important relationship to confirm prior to committing to larger, deeper and more comprehensive exploration programs.



*Figure 1: Zone of massive and semi-massive sulphide in a silica-rich unit (probable exhalite) in MURC002; zone correlates well with the DHEM modelled plate position.*



*Figure 2: Pulses of massive and semi-massive sulphide in silica-rich units in MURC001 surrounded by highly altered volcanics; also correlated well with the DHEM plate position.*

Whilst the EM anomaly appears to be discrete on the broader target horizon, it is also large, with modelled EM plates having strikes up to 1km and dip extents of 600m (data derived from both the initial MLEM survey and the DHEM surveys undertaken in holes MURC001 and MURC003 prior to drilling the extensions).

The centre of the large conductive EM source (the possible core of a massive sulphide lens) is located along strike (approx. 500m) and down dip/plunge to the northwest of the initial drilling. This provides a compelling follow-up geophysical target for future drill testing (refer to Figure 3 and 4).

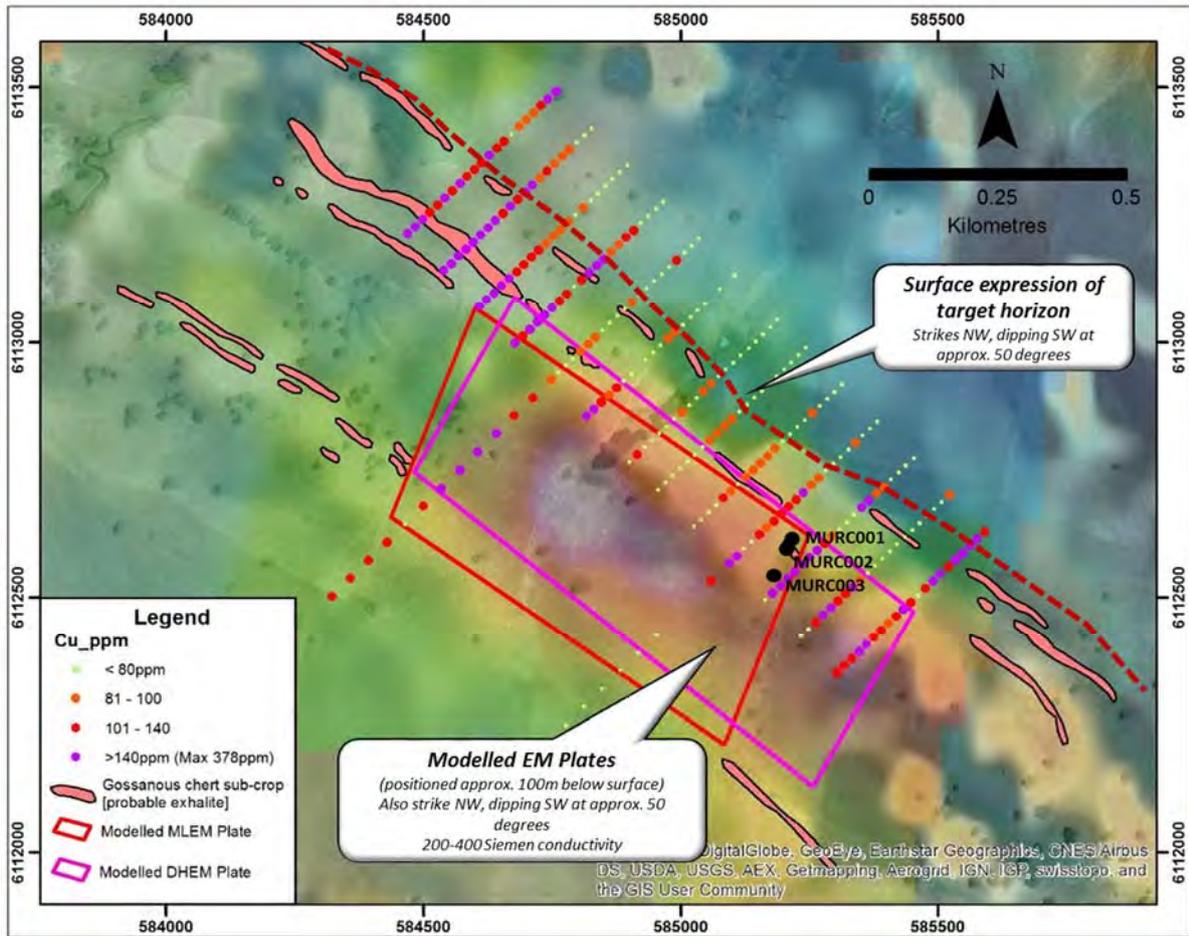


Figure 3: Auger soil results draped on late-time MLEM, aeromagnetics and aerial imagery; shows the modelled EM conductor plates projected to surface, and surface expression of the target horizon.

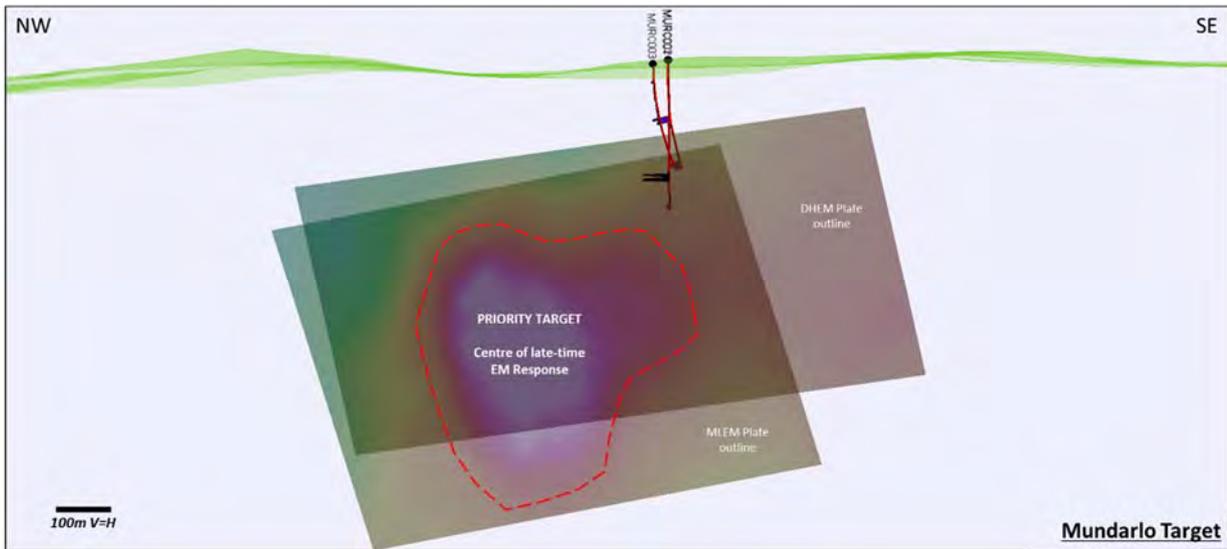


Figure 4: Long-section showing position of recent drilling compared to the modelled EM plates, with late-time MLEM image projected to the EM plate planes. This is a priority geophysical drill target – the centre of highest intensity of late-time EM located along strike and down dip/plunge of initial drilling.

**Geological Target and Setting:**

Based on the information gathered so far, the Company is pursuing VMS style mineralisation at the Mundarlo Project. Exhalite units are commonly present adjacent to and in the periphery of massive

sulphide lenses in VMS systems. This is consistent with the surface mapping and initial drilling results at Mundarlo.

In the classic VMS model, mineralisation is typically zoned with copper-rich sulphides located in massive and brecciated form towards the centre near the hotter feeder zone, grading out through zinc, lead sulphide and then iron-rich sulphides gradually becoming more bedded and laminated (including more silica) in the cooler zones on the margins. This peripheral iron-rich sulphide zone is the interpreted position of the initial drilling at Mundarlo (Refer to Figure 5).

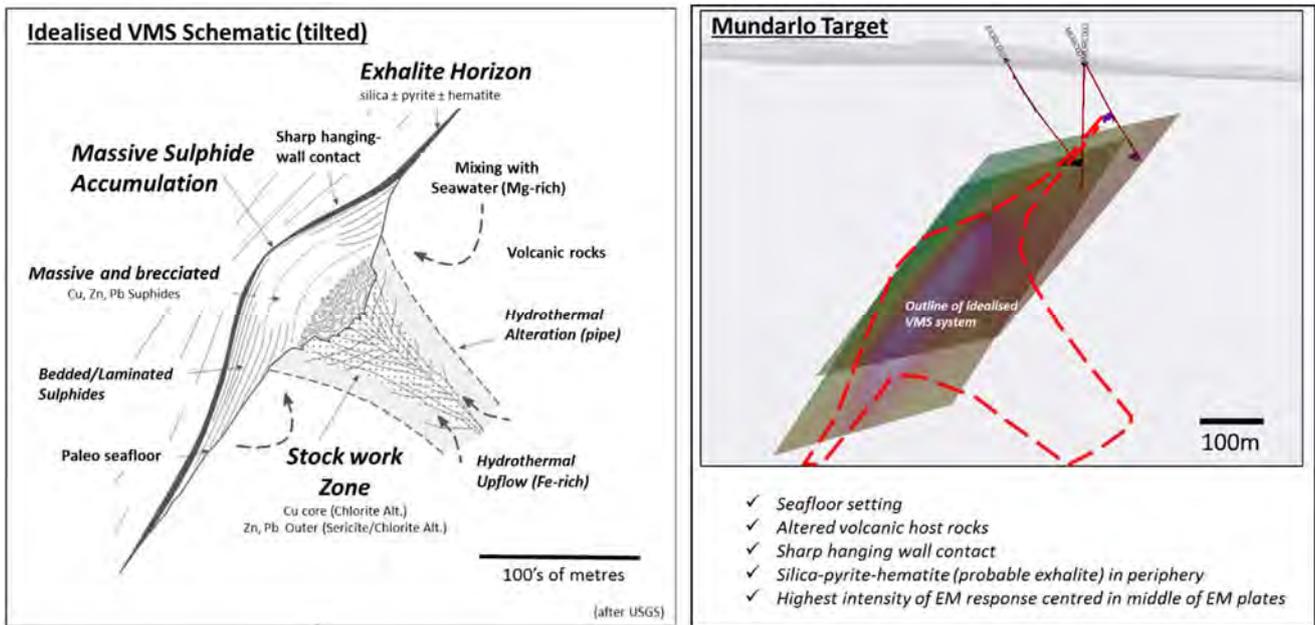


Figure 5: Idealised VMS conceptual model tilted to the same dip as the current Mundarlo exploration setting – showing how the VMS model may relate to the Mundarlo Project with several analogous VMS style features noted in results and observations so far.

## RC assays

Four metre composite sampling from the extensions of holes MURC001 and MURC002 have been received. The iron to sulphide ratios in the assays confirmed that the majority of massive and semi-massive sulphide present were iron-rich species (pyrite and pyrrhotite). Gold was elevated in these zones with the deeper hole MURC002 returning 12m @ 0.12g/t Au from 198m and MURC001 returning 8m @ 0.1g/t Au from 118m. Zinc was noted at levels between three to six times background; with several other pathfinder elements also elevated in the sulphide bearing target horizons (Sb, As, S & Fe).

Table 1: Mundarlo RC drill hole information

Project	Site_ID	Northing	Easting	RL	Dip	Azimuth	TotalDepth	Result/Comment
EL8096	MURC001	6112640	585140	290	-60	45	228	8m @ 0.1g/t Au from 118m
EL8096	MURC002	6112637	585140	290	-90	N/A	260	12m @ 0.12g/t Au from 198m
EL8096	MURC003	6112545	585010	290	-60	45	228	Hole not extended in this program

## **Next Steps**

Several samples of the sulphide bearing zones have been dispatched to Dr Tony Crawford for petrological assessment.

Litho-geochemical studies are also underway with a suite of additional pathfinder elements being assayed, including those typically seen in and on the periphery of VMS style mineralisation. This is expected to assist in confirming the vector toward the zones of possible base metal bearing sulphide accumulation.

The next phase of work, which is expected to include drilling of the centre of the EM plate as a priority, will be planned once the results of the petrological and litho-geochemical studies have been completed. This should provide a more refined exploration target prior to committing to deeper drilling.

Mundarlo is a high quality geological and geophysical drilling target that is supported by encouraging findings from the initial three RC holes. The interpreted geological setting is favourable for the targeted mineralisation styles, which includes influences from the nearby significant regional structure, the Gilmore Fault Zone which controls many major deposits in NSW and appears to have propagated re-activation of local faults and fluid flow throughout the project area.

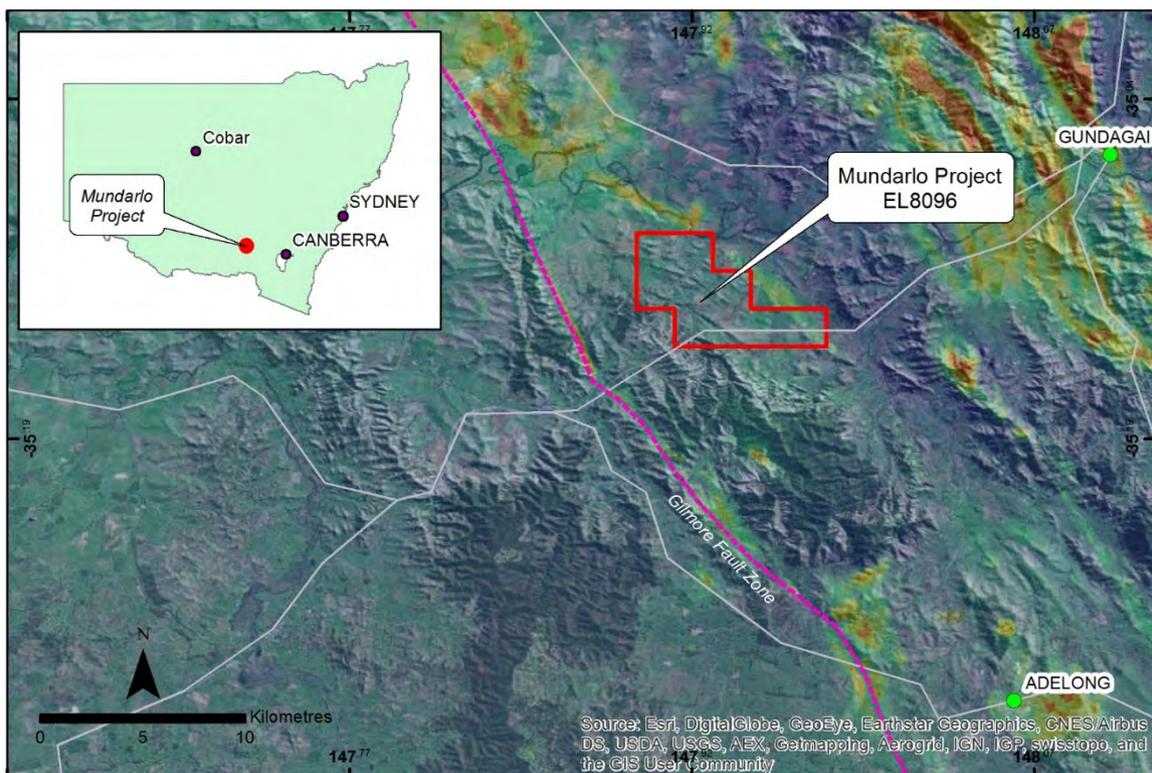


Figure 6: Location of Mundarlo Project adjacent to the regionally significant Gilmore Fault Zone, a controlling structure of several major deposits in NSW.

## **MUNDARLO JV**

Helix has secured a 60% equity interest in the Mundarlo Project having satisfied the first earn-in requirement under the JV terms following completion of the initial RC drill program.

Helix has the sole right to earn a further 20% project equity in the Mundarlo Project (for a total of 80% equity) by spending an additional A\$150,000 on exploration by February 2019.

- ENDS -

For further information:

Mick Wilson  
Managing Director  
mick.wilson@helix.net.au  
Ph: +61 8 9321 2644

#### **Competent Persons Statement**

The information in this announcement that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information reviewed 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 2004 and 2012 Editions 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 [www.helix.net.au](http://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

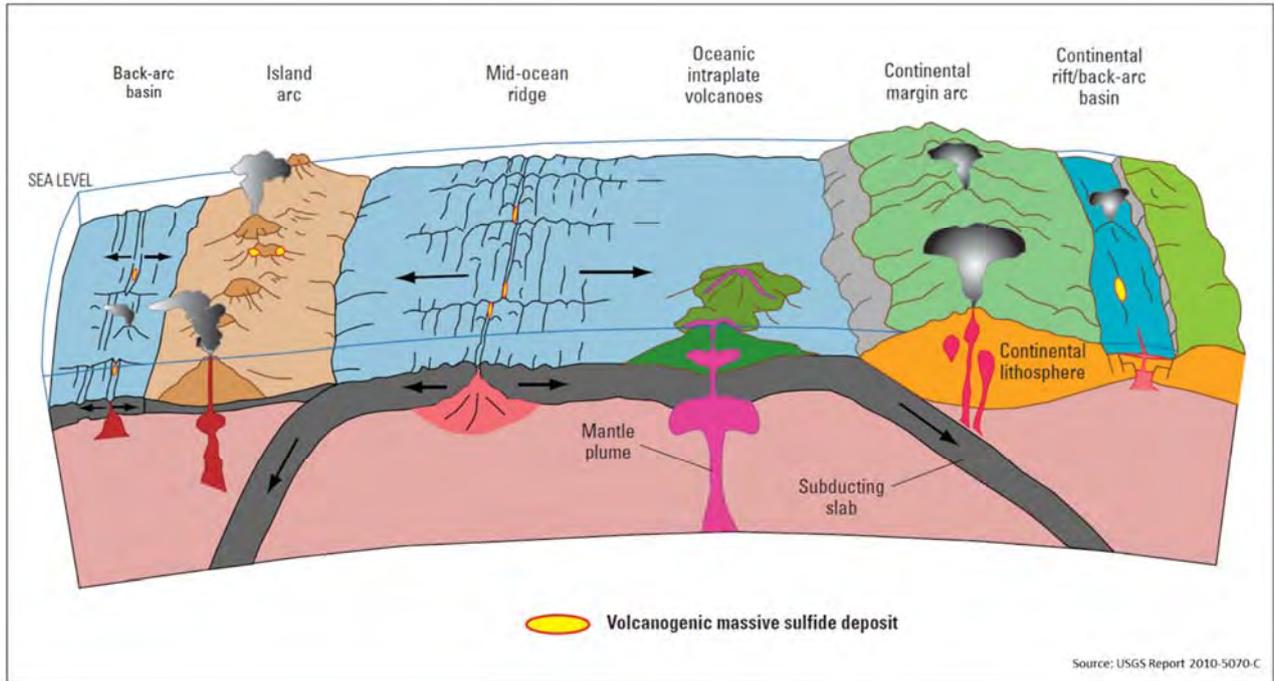
<sup>1</sup> For full details of exploration results refer to the ASX announcements dated 7 December 2017, 19 January 2018, 13 February 2018, 27 February 2018, 29 March 2018 and 6 April 2018. Helix Resources is not aware of any new information or data that materially effects the information in these 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: Typical geological settings for VMS deposits**



**Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Mundarlo drilling used a commercial contractor for RC drilling. Approximately 250m of extensional drilling occurred on 2 holes drilled (refer Table 1 in body of announcement). Holes were orientated to grid 45 grid directions, and were drilled at dips of 60-90°.</li> <li>• The drill hole locations were located by handheld GPS with down hole surveys were conducted during drilling, using an in-rod down-hole system.</li> <li>• RC Drilling was used to obtain 1m samples. Sampling was completed as 4m composites as a first pass, collected by Helix staff and transported to the laboratory for assay.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>• <i>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).</i></li> </ul>	<ul style="list-style-type: none"> <li>• RC was the method chosen for the holes drilled and were drilled with a 150mm face sampling hammer using industry practice drilling methods.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Sample weight and recoveries are observed during the drilling and any sample under-sized or over-sized was noted the geological logs.</li> <li>• 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
<b>Logging</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All RC samples have a representative sieved amount of drill chips collected in trays for future reference.</li> <li>• Logging of Drilling recorded lithology, alteration, degree of oxidation, fabric and colour.</li> <li>• All holes were logged in full.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The preparation of RC samples follow industry practice. This involves oven drying, pulverization of total sample using LM5 mills until 85% passes 75 micron. DDH assays are pending.</li> <li>• Field QA_QC involved repeat sampling 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>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All assays were conducted at accredited assay laboratory. The analytical technique used for base metals is a mixed acid digest with a MS collection. Gold was assayed via the fire assay method.</li> <li>• Laboratory QA/QC samples involving the use of blanks, duplicates, standards (certified reference materials), replicates as part of in-house procedures.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <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>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <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 slope grading from Grid North-East with drainage intersecting northwest of the drilled area. Variation in topography is less than 50m across the area.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drill holes at the Mundarlo Project were targeting a geological and geophysical target.</li> <li>• This was a maiden drilling program conducted by Helix for the Project.</li> <li>• Sampling involved 4m interval composite samples.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• This was the first drilling program, and is yet to intersect economic mineralisation, therefore the information available is insufficient to make any such observations.</li> <li>• No significant results yet in drilling.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Chain of Custody is managed by the Company. The samples were freighted directly to the laboratory with appropriate documentation listing sample numbers intervals and/or cut, with analytical methods requested.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No additional QA/QC has been conducted for the drilling to date.</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The Mundarlo Project is on EL8096. Helix has secured a 60% equity in the project and is earning another 20% at present. The tenement is in good standing, with a renewal due in March 2020. There are no known impediments to operating in this area.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Previous modern exploration on the Mundarlo was limited to surface sampling by JODODEX in the 1980's, copper anomalism was noted.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The project is considered to be prospective for VMS and possibly intrusion related precious and base metal mineralisation styles</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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> <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>	<ul style="list-style-type: none"> <li>Refer to table 1 in the body of the text</li> <li>No significant results were derived from the initial drilling, although anomalous gold was present.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <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 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.</li> </ul>	<ul style="list-style-type: none"> <li>No significant results were reported, although anomalous gold was present in the sulphide-bearing zones.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The program was designed to target the MLEM position below surface soil geochemistry, subsequent DHEM suggests the target was deeper, the extensions intersected sulphide-bearing zones at depths that correlated well with the EM plate modelling.</li> <li>From our understanding of the Geophysics, drilling is designed to intersect target mineralisation as close to perpendicular as practical.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Refer to figure 1,2,3,4 and 5</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Refer to Table 1, remaining litho-geochemical and petrological results have not been received at the time of release and will be released when they become available</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Previously reported activities Refer to ASX announcements on <a href="http://www.helix.net.au">www.helix.net.au</a> for details</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Additional petrological and lith-geochemical studies are underway with planning of additional drilling expected to follow, to further assess the potential for the_Mundarlo Project to host economic base metal mineralisation.</li> </ul>