

**ASX Announcement** 17 December 2015

# ANOTHER LARGE MINERALISED INTERCEPT AT JOSHUA PROJECT

- Hole 3 which was drilled on the south-western edge of Target 1 has returned:

14m @0.6% Cu, 0.1g/t Au, 35ppm Mo; within 654m @ 0.2% Cu, 0.04g/t Au, 25ppm Mo from surface.

- Copper grades in Hole 3 increase up to 0.8% Cu in the last 14m of porphyry style lithologies before entering country rock.
- 3,500m of drilling has now been completed at Target 1 in 6 holes. Remaining core samples have been dispatched to the laboratory for assay.
- Drilling has identified at least three porphyry events: Andesitic, Dioritc and Dacitic Porphyry rocks are all present within Target 1.
- The drilling program has extended the strike of Target 1 to at least 800m; refer to Figure 1 for the location of the 6 drill holes.

Helix Resources is pleased to provide results from the second hole at the Joshua Porphyry Project in Region IV - Chile.

Hole 3, J0-03, was drilled west from the top of Target 1 to a depth of 683m approximately 120m south of Hole 1. This hole was designed to test behind and south of hole 1.

Copper grades in Hole 3 increased in the last 14m of porphyry-style lithologies to 654m, before entering country rock. A single 2m sample from within this zone returned 2m @ 0.8% Cu and 0.1g/t Au.

This grade increase at depth is consistent with the geological model for the system.

The diamond drilling program has now been completed by the projects JV partner, with 6 holes drilled into Target 1. All holes have intersected porphyry-style mineralisation. The program has extended the known strike of the system to at least 800m.

Remaining core samples have been dispatched to the laboratory for assay.

The drilling to date has identified the presence of at least three porphyry events including: Andesitic, Dacitic and Dioritic porphyry rocks, associated with the copper mineralisation at the Joshua Project.

The main Joshua porphyry target is at least 3 kilometres across and 1 kilometre wide comprising a large copper in soil anomaly coincident with a large IP anomaly, continuing to a depth in excess of 500m from surface. The main Joshua porphyry target comprises Target 1, the Carmelita Mine zone and Target 4.



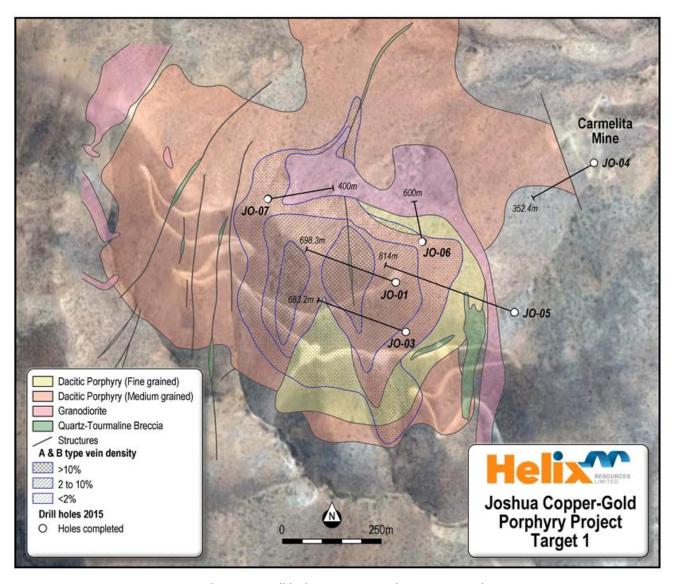


Figure 1: The 2015 Drill hole traces on Joshua Target 1 plan map

**Table 1: Drill Collar locations to date** 

| Hole ID | Easting<br>(WGS84-19S) | Northing<br>(WGS84-19S) | RL<br>(above<br>sea<br>level) | Azimuth | Dip | Target<br>Depth | Drilled<br>Depth | Comment   |
|---------|------------------------|-------------------------|-------------------------------|---------|-----|-----------------|------------------|-----------|
| JO-01   | 320750                 | 6613450                 | 1500                          | 290     | -70 | 500             | 695              |           |
| JO-02   | 320820                 | 6613350                 | 1444                          | 290     | -75 | 600             | 30               | Abandoned |
| JO-03   | 320820                 | 6613355                 | 1444                          | 280     | -75 | 600             | 683              |           |
| JO-04   | 321250                 | 6613750                 | 1178                          | 240     | -60 | 300             | 352              |           |
| JO-05   | 321050                 | 6613375                 | 1348                          | 290     | -65 | 700             | 815              |           |
| JO-06   | 320890                 | 6613550                 | 1416                          | 350     | -80 | 600             | 638              |           |
| JO-07   | 320372                 | 6613672                 | 1416                          | 80      | -65 | 450             | 242              |           |

Email: mick.wilson@helix.net.au



Table 2: Results to date

| Hole ID            | From | Result   |
|--------------------|------|--|
| JO-01 <sup>1</sup> | 0m   | 650m @ 0.2% Cu, 0.05g/t Au, 1.1g/t Ag and 10ppm Mo                 |
| Incl.              | 388m | 94m @ 0.4% Cu, 0.05g/t Au, 1.2g/t Ag and 10ppm Mo                  |
| JO-03              | 0m   | 654m @ 0.2% Cu, 0.04g/t Au and 25ppm Mo*                           |
| Incl.              | 638m | 14m @ 0.6% Cu, 0.08g/t Au and 35ppm Mo (to end of porphyry rocks)* |

Intersections based on 2m sampling, assayed using mixed acid digest technique for base metal and fire assay for gold. Results are based on a 0.1% Cu cut-off grade and subject to rounding.

#### **About the Joshua Project**

The Joshua Project is located in Region IV Chile, 40km East of Ovalle, at low altitude (less than 1,700m), nearby to infrastructure (refer Figure 2). Four porphyry targets have so far been identified in a regionally significant north-west structural corridor within the total project area of 100km<sup>2</sup>.

The main porphyry system (Target 1, Carmelita Mine & Target 4) is defined by an IP anomaly covering 10km<sup>2</sup> and is coincident with anomalous soil geochemistry over the target zone.

### **About the Joshua Project Joint Venture**

An Earn-In Agreement over the Joshua Project was executed in June 2015 with Fondo De Inversion Privado EPG Exploracion Minera (EPG Mining Exploration Fund). The fund is managed by EPG Partners S.A, a Chilean based private equity and advisory company. The fund retains an experienced team and is uniquely suited to capturing exploration opportunities in Chile.

#### Key terms:

- Stage 1: EPG has the option to earn a 33.4% interest in the Joshua Project by undertaking a minimum of 3,500m of diamond drilling within 1 year for a minimum commitment of US\$1.2m.
- Stage 2: Upon completion of Stage 1, EPG can then elect to increase its interest to 50.1% in the Joshua Project by completing up to 6,500m of RC and diamond drilling within 1.5 years for a minimum commitment of US\$1.8m.
- Following the completion of the two stage program, EPG will have a 50.1% interest in the project and Helix will retain a 49.9% interest in the project. A Joint Venture over the project will then form to progress the project.

Email: mick.wilson@helix.net.au

<sup>1.</sup> Refer to ASX announcement dated 25 November 2015, Helix is not aware of any new information or data that materially effects the information in the said announcement.

<sup>\*</sup>Silver assays remain outstanding at the time of reporting.



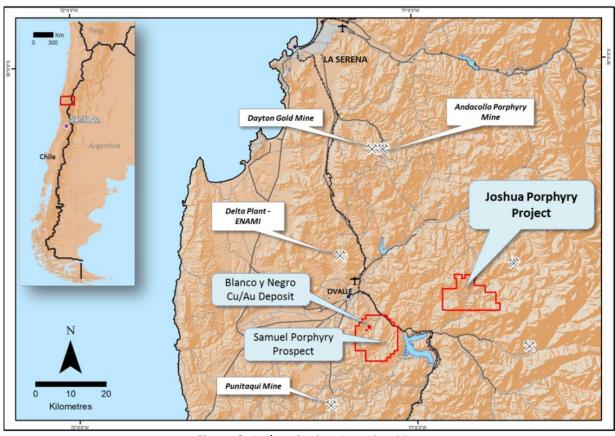


Figure 2: Joshua Project Location Map

# - ENDS -

For further information: Mick Wilson Managing Director mick.wilson@helix.net.au

Ph: +61 8 9321 2644

Pasquale Rombola Chairman

pasquale.rombola@helix.net.au

Email: mick.wilson@helix.net.au

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.



# **JORC Code – Table 1**

# **Sampling Techniques and Data**

| Criteria                 | JORC Code explanation   | Commentary  |
|--------------------------|---|---|
| Sampling<br>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 Joshua Project drilling is being managed by Helix's Chilean JV partner EPG. EPG used a commercial contractor for DDH drilling. A total of 6 holes for approximately 3500m (refer Table 1 in body of announcement). Holes were orientated in various directions depending on collar location and target</li> <li>The drill hole locations were located by handheld GPS. Down hole surveys will occur with a down-hole system at a future date.</li> <li>DDH drilling was used to obtain 2m samples over the entire hole length with 2m half core samples collected (~3kg). The 1m samples were sent to a commercial laboratory, pulverized to produce a representative charge with base metals and gold assayed.</li> </ul> |
| Drilling<br>techniques   | <ul> <li>Drill type (eg core, reverse circulation, open-hole hammer,<br/>rotary air blast, auger, Bangka, sonic, etc) and details (eg<br/>core diameter, triple or standard tube, depth of diamond<br/>tails, face-sampling bit or other type, whether core is<br/>oriented and if so, by what method, etc).</li> </ul>   | <ul> <li>DDH Drilling was the method chosen for all holes drilled. Drilling<br/>starting with PQ for collars followed by HQ and then NQ diameter<br/>depending on depth. Depths ranged from 352mm to 815m so far.</li> </ul>  |
| Drill sample<br>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</li> </ul>   | <ul> <li>DDH sample weight and recoveries are observed during the drilling and any issues were noted the geological logs.</li> <li>DDH core was checked by the geologist for recoveries. Any issues are discussed with the drilling contractor.</li> </ul>  |



| Criteria  | JORC Code explanation  | Commentary   |
|---|--|--|
|   | and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.   |  |
| 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 samples have been geologically logged.</li> <li>Logging recorded lithology, alteration, degree of oxidation, fabric and colour and presence of mineralisation. All core is stored in plastic trays, labeled with interval and hole number at EPG's site in nearby Monte Patria.</li> <li>All holes were logged in full.</li> </ul>  |
| Sub-<br>sampling<br>techniques<br>and sample<br>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 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 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<br>assay data<br>and<br>laboratory<br>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 detection. Gold 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 inhouse procedures.</li> </ul>   |



| Criteria  | JORC Code explanation  | Commentary   |
|---|--|--|
| Verification<br>of sampling<br>and<br>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<br>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 WGS84 zone 19S.</li> <li>Surface RL data collected using GPS. Topography around the drilled area is a Hill grading from Grid West to East. Variation in topography is around 320m across the drilled area.</li> </ul>  |
| Data spacing<br>and<br>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 Joshua were targeting various geological and geophysical targets.</li> <li>This was the second drilling program for the Project and therefore the amount of drilling remains insufficient to establish a JORC compliant resource.</li> <li>Sampling involved 2m interval samples collected and sent to the laboratory for assay.</li> </ul>  |
| Orientation<br>of data in<br>relation to<br>geological<br>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 DDH drilling has been completed within the mineralised zones.</li> <li>No orientation based sampling bias has been identified in the data to date.</li> <li>Copper was intersected in the hole reported in this announcement and visual reports of copper sulphide mineralisation were logged in remaining holes with assays pending.</li> </ul>   |
| Sample<br>security  | The measures taken to ensure sample security.  | <ul> <li>Chain of Custody is managed by EPG partners. Samples were<br/>collected onsite. The bags are securely tied and freighted directly to<br/>the laboratory with appropriate documentation listing sample numbers<br/>and analytical methods requested.</li> </ul>  |
| Audits or reviews   | <ul> <li>The results of any audits or reviews of sampling<br/>techniques and data.</li> </ul>  | <ul> <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  |
|--|--|---|
| Mineral<br>tenement<br>and land<br>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 Joshua Project is located on Exploration Concessions Joshua 1-<br/>39. The Joshua Project is subject to a exploration and development<br/>agreement between the tenement owner, Helix Resources Chile<br/>Limitada, a 100% owned subsidiary of Helix Resources Limited and<br/>EPG Partners (refer to commentary on the JV terms in<br/>announcement),.</li> </ul> |
| Exploration done by other parties                | <ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>  | <ul> <li>Previous modern exploration on the Joshua Project was limited to<br/>mapping, geophysics and an RC and DDH program by Helix between<br/>2011 and 2013. Copper mineralisation associated with porphyry rocks<br/>were identified from the early work.</li> </ul>  |
| Geology  | Deposit type, geological setting and style of mineralisation.  | <ul> <li>The prospect is considered to be a copper porphyry system<br/>consistent with the deposits and mines of the Chilean porphyry belts.</li> </ul>   |
| Drill hole<br>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> <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> <li>Refer to table 2 in the body of the text</li> <li>No material information was excluded from the results listed</li> </ul>  |
| Data<br>aggregation<br>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 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</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>   |



| Criteria   | JORC Code explanation  | Commentary   |
|--|--|--|
| Relationship<br>between<br>mineralisatio<br>n widths and<br>intercept<br>lengths | <ul> <li>be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> <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</li> </ul> | <ul> <li>The program was designed to intersect porphyry copper mineralisation at the Target 1 Prospect</li> <li>Result are reported as down hole length, with true width not definitive at this early stage</li> </ul>   |
| Diagrams   | <ul> <li>(eg 'down hole length, true width not known').</li> <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<br>reporting  | Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.  | Refer to Table 2 for all results exceeding 0.1% Cu cut-off in hole 1   |
| Other<br>substantive<br>exploration<br>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.  | Previously reported activities on the Joshua Project included a two drilling programs of 2000m, soil sampling, mapping and rockchip sampling and an IP survey. Refer to ASX announcements on <a href="https://www.helix.net.au">www.helix.net.au</a> for details   |
| Further work   | <ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale stepout 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>Results from the remainder of the program will be assessed as they<br/>are received with the JV partners to discuss future programs based<br/>on the results returned from the entire program. EPG has the right to<br/>earn further equity by spending an additional US\$1.8m on the project.</li> </ul> |