

**EUROPEAN METALS HOLDINGS LIMITED**

**Quarterly Activities Report – September 2016**

**HIGHLIGHTS:**

- **SIGNIFICANT CAPITAL SAVINGS IN REVIEWED SCOPING STUDY**
- **PRE-FEASIBILITY UPDATE**
- **APPOINTMENT OF LEAD ENGINEER TO THE PFS**
- **CONTINUED POSITIVE RESULTS FROM CURRENT DRILLING PROGRAMME**

European Metals Holdings Limited (“**European Metals**” or “**the Company**”) (**ASX** and **AIM: EMH**) is pleased to announce continued progress in the development of its 100% owned globally significant Cinovec Lithium/Tin Project in Czech Republic during the September quarter.

**SIGNIFICANT CAPITAL SAVINGS IN REVIEWED SCOPING STUDY**

Late in the quarter the Company announced a significant reduction of pre-production capital costs, based on a review of the scoping study. The review was undertaken as part of the pre-feasibility study and resulted in the identification of significant reductions to the previously-released capital expenditure estimations (CAPEX) for Cinovec.

The key points of the review were:

- Project economics enhanced
- Significant reduction in CAPEX costs
- USD 38 million saving on mining CAPEX costs
- USD 47 million saving on lithium plant CAPEX costs
- Improved design and operating procedures based on independent studies and market benchmarks
- Savings, designs and operating procedures to be included in improved pre-feasibility study

Summary of savings identified:

<b>Capital Costs (pre-production)</b>	<b>Original cost (USD millions)</b>	<b>Reduced Cost (USD millions)</b>	<b>Saving (USD millions)</b>	<b>Reduced by</b>
Mining	90	52	38	42%
Lithium Carbonate Plant	164	117	47	29%
<b>Totals</b>	<b>254</b>	<b>169</b>	<b>85</b>	<b>33%</b>

**PRE-FEASIBILITY UPDATE**

The Company released a PFS update to the market in July. The key points of the update were:

Recruitment of key members of the PFS team and a selection of owner-consultants for the metallurgical studies:

- Lead engineering, metallurgy, mining and geological consultants had been short-listed or appointed
- Metallurgical testwork to support the PFS was well under-way at a number of leading technology centers across the globe. Inclusive of large scale (300kg) bench scale testwork
- Preliminary analysis regarding a re-design of the mining process to access the high grade areas of the deposit provide strong indications of a positive impact on the economics of the project had begun
- Drilling – third rig on site which had commenced drilling as part of a 7,500m programme
- Improved design and operating procedures based on independent studies and market benchmarks
- Savings, designs and operating procedures to be included in improved pre-feasibility study

#### **APPOINTMENT OF LEAD ENGINEER TO THE PFS**

Shortly after the release of the PFS update, the Company announced the appointment of Ausenco Limited as the Lead Engineer to the PFS. Ausenco is a global engineering procurement, construction management, and operations service provider to the resources sector. They have significant recent relevant experience having completed an updated Feasibility Study for Talison Lithium's lithium carbonate plant in Australia and the PFS for Bacanora Minerals' Sonora Lithium Project in Mexico. They are the process engineers for Sonora's current Feasibility Study.

#### **CONTINUED POSITIVE RESULTS FROM CURRENT DRILLING PROGRAMME**

The Company's current drilling programme has progressed well throughout the quarter and there have been a number of recent updates released. The programme began late the previous quarter and aimed to target the higher grade, shallower lithium zones in the north and west of the Cinovec deposit. This is a 7,500 metre programme that is aimed at converting a significant portion of the currently inferred resource for lithium and tin into the indicated category. The programme will also provide significant material for further metallurgical test work.

The key highlights of the drilling programme for the quarter were:

- Drillhole PSn13 returned main mineralised intercept of 167.1m averaging 0.36 % Li<sub>2</sub>O
- This intercept included high-grade intervals of 12m averaging 0.77 % Li<sub>2</sub>O and 7m averaging 0.87 % Li<sub>2</sub>O, as well as a tin-enriched interval of 8m averaging 0.16 % Sn
- Several other lithium intervals were intercepted at shallower depth, of which the best was 19.5m averaging 0.42 % Li<sub>2</sub>O. This interval included a 2m wide high-grade tin-tungsten zone grading 0.75 % Li<sub>2</sub>O, 1.46 % Sn and 0.55 % W
- Drillhole CIW-11 returned two main mineralized intercepts of 89.95m averaging 0.61% Li<sub>2</sub>O and 109.4m averaging 0.38% Li<sub>2</sub>O

The first intercept included a high-grade interval of 63.85m @0.76% Li<sub>2</sub>O, which hosts an internal very high grade interval of 12m @1.04 %Li<sub>2</sub>O. In addition, two sections of this lithium interval

contain significant tin and tungsten mineralization: 2.85m averaging 0.27% tin and 0.053% tungsten; and 6m averaging 0.18% tin and 0.009% tungsten. This yields the best Li intercept recorded by the Company to date.

Drilling continues in the main section of the deposit, targeting near-surface mineralization on the flanks of the historic underground mine. Altogether, five drillholes (1,644m) have been completed this year up to the end of the September quarter. The Company has reported on further drilling updates since the end of the quarter.

## **DEVELOPMENTS POST REPORTING PERIOD**

### **Capital Raising**

The Company announced that it has raised \$3 million from its largest shareholder, Rare Earth Minerals Plc ("REM") via the combination of a placement and the exercise of options. The placement will raise \$2.6 million via the issue of 5 million CDI's at an issue price of \$0.52 per CDI. The placement is subject to shareholder approval which will be sought at the Company's AGM in November. In addition, REM exercised 2 million unlisted options, which were due to expire on 19 October 2016. This exercise resulted in a further \$400,000 being raised by the Company. The issuance of the placement CDI's and the option exercise will take REM's relevant interest in European Metals to 20.92%.

The funds raised will be utilised to further develop the Cinovec Project, complete the Company's Preliminary Feasibility Study (PFS), and for working capital.

### **Shallow lithium mineralization intersected**

Shortly after the end of the September quarter the Company announced analytical results for two confirmation drillholes CIW-19 and CIW-20 at Cinovec.

The key points were:

- The two drillholes are the most northern drilled by the Company and are collared near the old main shaft
- Significant lithium mineralization was intersected from less than 30m depth in both holes, these are the shallowest intervals to-date
- Drillhole CIW-19 returned two main lithium-mineralized intercepts of 53.1m averaging 0.35%Li<sub>2</sub>O (25-78.1m) and 144m averaging 0.37%Li<sub>2</sub>O (85-229m), with a high-grade interval of 10.8m@0.71% Li<sub>2</sub>O (103-113.8m)
- Drillhole CIW-20 returned three main mineralized intercepts: 98m averaging 0.35%Li<sub>2</sub>O (28-126m), 16.85m averaging 0.33% Li<sub>2</sub>O (132.15-149m) and 60m averaging 0.49%Li<sub>2</sub>O (154-214m), with the latter containing high-grade intervals of 9m@0.67%Li<sub>2</sub>O (160-169m) and 12.1m@0.85%Li<sub>2</sub>O (174-186.1m).
- Significant tin and tungsten mineralization was intersected in upper part of both drillholes: 3.1m@0.20%Sn and 0.021%W, 4.75m@0.13%Sn and 0.015%W, 2.45m@0.17%Sn and 0.003%W and 1.35m@0.122%W and 0.07%Sn in drillhole CIW-19; 3m@0.37%Sn and 0.003%W, and 1m@0.36%Sn and 0.004%W in drillhole CIW-20

Drilling continues in the western part of the Cinovec deposit (targeting highgrade zones near the rhyolite/granite contact) and in the central part (targeting near-surface mineralization on the flanks

of the historic underground mine). Altogether, eight drillholes have been completed this year (2,791m) with three other underway at this time.

### **Outstanding lithium recoveries**

More recently the Company announced the completion of the concentration testwork for lithium as part of the on-going pre-feasibility study (“PFS”). The testwork has improved recoveries significantly from those used in the scoping study which when combined with the lower operating costs of wet magnetic separation versus flotation will significantly boost the economics of the project.

The key points of the release were:

- Wet magnetic separation (“WMS”) achieved a near pure lithium mica concentrate grading 2.85% Li<sub>2</sub>O with a lithium recovery of 92%
- Lithium recoveries are 10-15% higher than those achieved via flotation in the scoping study
- Coarse grind of p100 passing 250 micron reduces milling power consumption substantially
- Wet magnetic separation plant has a smaller footprint and water demand than flotation
- Reduced operating cost and lower environmental impact as no need to import expensive reagents
- The ore is suitable for a single stage jaw crush and SAG mill which further decreases operating and capital costs.

### **SUMMARY**

It has been a very productive quarter for European Metals with a number of key and very positive developments. These developments indicate significant enhancements to the economics of the Cinovec Project. Drilling continues at site and the Company continues work on the preliminary feasibility study.

## **BACKGROUND INFORMATION ON CINOVEC**

### **PROJECT OVERVIEW**

#### **Cinovec Lithium/Tin Project**

European Metals owns 100% of the Cinovec lithium-tin deposit in the Czech Republic. Cinovec is an historic mine incorporating a significant undeveloped lithium-tin resource with by-product potential including tungsten, rubidium, scandium, niobium and tantalum and potash. Cinovec hosts a globally significant hard rock lithium deposit with a total Indicated Mineral Resource of 49.1Mt @ 0.43% Li<sub>2</sub>O and an Inferred Mineral Resource of 482Mt @ 0.43% Li<sub>2</sub>O containing a combined 5.7 million tonnes Lithium Carbonate Equivalent.

This makes Cinovec the largest lithium deposit in Europe and the fourth largest non-brine deposit in the world.

Within this resource lies one of the largest undeveloped tin deposits in the world, with total Indicated Mineral Resource of 15.7Mt @ 0.26% Sn and an Inferred Mineral Resources of 59.7 Mt grading 0.21% Sn for a combined total of 178kt of contained tin. The Mineral Resource Estimates have been previously released on 18 May 2016. The deposit has previously had over 400,000 tonnes of ore mined as a trial sub-level open stope underground mining operation.

A Scoping Study conducted by specialist independent consultants indicates the deposit could be amenable to bulk underground mining. Metallurgical test work has produced both battery grade lithium carbonate and high-grade tin concentrate at excellent recoveries with the Scoping Study. Cinovec is centrally located for European end-users and is well serviced by infrastructure, with a sealed road adjacent to the deposit, rail lines located 5 km north and 8 km south of the deposit and an active 22 kV transmission line running to the historic mine. As the deposit lies in an active mining region, it has strong community support.

## **CONTACT**

For further information on this update or the Company generally, please visit our website at [www.europeanmet.com](http://www.europeanmet.com) or contact:

**Mr. Keith Coughlan**  
**Managing Director**

## **OTHER INFORMATION**

### **COMPETENT PERSON**

Information in this release that relates to exploration results is based on information compiled by European Metals Director Dr Pavel Reichl. Dr Reichl is a Certified Professional Geologist (certified by the American Institute of Professional Geologists), a member of the American Institute of Professional Geologists, a Fellow of the Society of Economic Geologists and is a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and a Qualified Person for the purposes of the AIM Guidance Note on Mining and Oil & Gas Companies dated June 2009. Dr Reichl consents to the inclusion in the release of the matters based on his information in the form and context in which it appears. Dr Reichl holds CDIs in European Metals.

The information in this release that relates to Mineral Resources and Exploration Targets has been compiled by Mr Lynn Widenbar. Mr Widenbar, who is a Member of the Australasian Institute of Mining and Metallurgy, is a full time employee of Widenbar and Associates and produced the estimate based on data and geological information supplied by European Metals. Mr Widenbar has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the JORC Code 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Widenbar consents to the inclusion in this report of the matters based on his information in the form and context that the information appears.

### **CAUTION REGARDING FORWARD LOOKING STATEMENTS**

Information included in this release constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, and “guidance”, or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but

are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company's business and operations in the future. The company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the company or management or beyond the company's control.

Although the company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

#### **LITHIUM CLASSIFICATION AND CONVERSION FACTORS**

Lithium grades are normally presented in percentages or parts per million (ppm). Grades of deposits are also expressed as lithium compounds in percentages, for example as a percent lithium oxide (Li<sub>2</sub>O) content or percent lithium carbonate (Li<sub>2</sub>CO<sub>3</sub>) content.

Lithium carbonate equivalent ("LCE") is the industry standard terminology for, and is equivalent to, Li<sub>2</sub>CO<sub>3</sub>. Use of LCE is to provide data comparable with industry reports and is the total equivalent amount of lithium carbonate, assuming the lithium content in the deposit is converted to lithium carbonate, using the conversion rates in the table included below to get an equivalent Li<sub>2</sub>CO<sub>3</sub> value in percent. Use of LCE assumes 100% recovery and no process losses in the extraction of Li<sub>2</sub>CO<sub>3</sub> from the deposit.

Lithium resources and reserves are usually presented in tonnes of LCE or Li.

To convert the Li Inferred Mineral Resource of 532Mt @ 0.20% Li grade (as per the Competent Persons Report dated May 2016) to Li<sub>2</sub>O, the reported Li grade of 0.20% is multiplied by the standard conversion factor of 2.153 which results in an equivalent Li<sub>2</sub>O grade of 0.43%.

The standard conversion factors are set out in the table below:

**Table: Conversion Factors for Lithium Compounds and Minerals**

<b>Convert from</b>		<b>Convert to Li</b>	<b>Convert to Li<sub>2</sub>O</b>	<b>Convert to Li<sub>2</sub>CO<sub>3</sub></b>
Lithium	Li	<b>1.000</b>	2.153	5.323
Lithium Oxide	Li <sub>2</sub> O	0.464	<b>1.000</b>	2.473
Lithium Carbonate	Li <sub>2</sub> CO <sub>3</sub>	0.188	0.404	<b>1.000</b>

## WEBSITE

A copy of this announcement is available from the Company's website at [www.europeanmet.com](http://www.europeanmet.com).

## TECHNICAL GLOSSARY

The following is a summary of technical terms:

<b>"ball and rod indices"</b>	Indices that provide an assessment of the energy required to grind one tonne of material in a ball or rod mill
<b>"carbonate"</b>	refers to a carbonate mineral such as calcite, CaCO <sub>3</sub>
<b>"comminution"</b>	The crushing and/or grinding of material to a smaller scale
<b>"cut-off grade"</b>	lowest grade of mineralised material considered economic, used in the calculation of Mineral Resources
<b>"deposit"</b>	coherent geological body such as a mineralised body
<b>"exploration"</b>	method by which ore deposits are evaluated
<b>"flotation"</b>	selectively separating hydrophobic materials from hydrophilic materials to upgrade the concentration of valuable minerals
<b>"g/t"</b>	gram per metric tonne
<b>"grade"</b>	relative quantity or the percentage of ore mineral or metal content in an ore body
<b>"heavy liquid separation"</b>	is based on the fact that different minerals have different densities. Thus, if a mixture of minerals with different densities can be placed in a liquid with an intermediate density, the grains with densities less than that of the liquid will float and grains with densities greater than the liquid will sink
<b>"Indicated" or "Indicated Mineral Resource"</b>	as defined in the JORC and SAMREC Codes, is that part of a Mineral Resource which has been sampled by drill holes, underground openings or other sampling procedures at locations that are too widely spaced to ensure continuity but close enough to give a reasonable indication of continuity and where geoscientific data are known with a reasonable degree of reliability. An Indicated Mineral Resource will be based on more data and therefore will be more reliable than an Inferred Mineral Resource estimate
<b>"Inferred" or "Inferred Mineral Resource"</b>	as defined in the JORC and SAMREC Codes, is that part of a Mineral Resource for which the tonnage and grade and mineral content can be estimated with a low level of confidence. It is inferred from the geological evidence and has assumed but not verified geological and/or grade continuity. It is based on information gathered through the appropriate techniques from locations such as outcrops, trenches, pits, working and drill holes which may be limited or of uncertain quality and reliability
<b>"JORC Code"</b>	Joint Ore Reserve Committee Code; the Committee is convened under the auspices of the Australasian Institute of Mining and Metallurgy
<b>"kt"</b>	thousand tonnes
<b>"LCE"</b>	the total equivalent amount of lithium carbonate (see explanation above entitled Explanation of Lithium Classification and Conversion Factors)
<b>"lithium"</b>	a soft, silvery-white metallic element of the alkali group, the lightest of all metals
<b>"lithium carbonate"</b>	the lithium salt of carbonate with the formula Li <sub>2</sub> CO <sub>3</sub>

<b>“magnetic separation”</b>	is a process in which magnetically susceptible material is extracted from a mixture using a magnetic force
<b>“metallurgical”</b>	describing the science concerned with the production, purification and properties of metals and their applications
<b>“Mineral Resource”</b>	a concentration or occurrence of material of intrinsic economic interest in or on the Earth’s crust in such a form that there are reasonable prospects for the eventual economic extraction; the location, quantity, grade geological characteristics and continuity of a mineral resource are known, estimated or interpreted from specific geological evidence and knowledge; mineral resources are sub-divided into Inferred, Indicated and Measured categories
<b>“mineralisation”</b>	process of formation and concentration of elements and their chemical compounds within a mass or body of rock
<b>“Mt”</b>	million tonnes
<b>“optical microscopy”</b>	the determination of minerals by observation through an optical microscope
<b>“ppm”</b>	parts per million
<b>“recovery”</b>	proportion of valuable material obtained in the processing of an ore, stated as a percentage of the material recovered compared with the total material present
<b>“resources”</b>	Measured: a mineral resource intersected and tested by drill holes, underground openings or other sampling procedures at locations which are spaced closely enough to confirm continuity and where geoscientific data are reliably known; a measured mineral resource estimate will be based on a substantial amount of reliable data, interpretation and evaluation which allows a clear determination to be made of shapes, sizes, densities and grades. Indicated: a mineral resource sampled by drill holes, underground openings or other sampling procedures at locations too widely spaced to ensure continuity but close enough to give a reasonable indication of continuity and where geoscientific data are known with a reasonable degree of reliability; an indicated resource will be based on more data, and therefore will be more reliable than an inferred resource estimate. Inferred: a mineral resource inferred from geoscientific evidence, underground openings or other sampling procedures where the lack of data is such that continuity cannot be predicted with confidence and where geoscientific data may not be known with a reasonable level of reliability
<b>“SAGability”</b>	testing material to investigate its performance in a semi-autonomous grinding mill
<b>“spiral concentration”</b>	a process that utilises the differential density of materials to concentrate valuable minerals
<b>“stope”</b>	underground excavation within the orebody where the main production takes place
<b>“t”</b>	a metric tonne
<b>“tin”</b>	A tetragonal mineral, rare; soft; malleable: bluish white, found chiefly in cassiterite, SnO <sub>2</sub>
<b>“treatment”</b>	Physical or chemical treatment to extract the valuable metals/minerals
<b>“tungsten”</b>	hard, brittle, white or grey metallic element. Chemical symbol, W; also known as wolfram
<b>“W”</b>	chemical symbol for tungsten

#### **ADDITIONAL GEOLOGICAL TERMS**

“apical”	relating to, or denoting an apex
“cassiterite”	A mineral, tin dioxide, SnO <sub>2</sub> . Ore of tin with specific gravity 7
“cupola”	A dome-shaped projection at the top of an igneous intrusion
“dip”	the true dip of a plane is the angle it makes with the horizontal plane
“granite”	coarse-grained intrusive igneous rock dominated by light-coloured minerals, consisting of about 50% orthoclase, 25% quartz and balance of plagioclase feldspars and ferromagnesian silicates
“greisen”	A pneumatolitically altered granitic rock composed largely of quartz, mica, and topaz. The mica is usually muscovite or lepidolite. Tourmaline, fluorite, rutile, cassiterite, and wolframite are common accessory minerals
“igneous”	said of a rock or mineral that solidified from molten or partly molten material, i.e., from a magma
“muscovite”	also known as potash mica; formula: KAl <sub>2</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(F,OH) <sub>2</sub> .
“quartz”	a mineral composed of silicon dioxide, SiO <sub>2</sub>
“rhyolite”	An igneous, volcanic rock of felsic (silica rich) composition. Typically >69% SiO <sub>2</sub>
“vein”	a tabular deposit of minerals occupying a fracture, in which particles may grow away from the walls towards the middle
“wolframite”	A mineral, (Fe,Mn)WO <sub>4</sub> ; within the huebnerite-ferberite series
“zinnwaldite”	A mineral, KLiFeAl(AlSi <sub>3</sub> O <sub>10</sub> (F,OH) <sub>2</sub> ; mica group; basal cleavage; pale violet, yellowish or greyish brown; in granites, pegmatites, and greisens

## ENQUIRIES:

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The information contained within this announcement is considered to be inside information, for the purposes of Article 7 of EU Regulation 596/2014, prior to its release.

## JORC Code, 2012 Edition - Table 2

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the</li> </ul>	<ul style="list-style-type: none"> <li>As previously, the Company is conducting its core drilling programme and collecting samples from core splits in line with JORC Code 2012 Edition</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>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></p> <ul style="list-style-type: none"> <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>	<p>guidelines. Sample intervals honour geological or visible mineralisation boundaries.</p> <ul style="list-style-type: none"> <li>• Between 1952 and 1989, the Cinovec deposit was sampled in two ways: in drill core and underground channel samples.</li> <li>• Channel samples, from drift ribs and faces, were collected during detailed exploration between 1952 and 1989 by Geindustria n.p. and Rudne Doly n.p., both Czechoslovak State companies. Sample length was 1 m, channel 10x5cm, sample mass about 15kg. Up to 1966, samples were collected using hammer and chisel; from 1966 a small drill (Holman Hammer) was used. 14179 samples were collected and transported to a crushing facility.</li> <li>• Core and channel samples were crushed in two steps: to -5mm, then to -0.5mm. 100g splits were obtained and pulverized to -0.045mm for analysis.</li> </ul>
<p><i>Drilling techniques</i></p>	<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 (e.g. 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>• Current programme is conventional and wireline core drilling of the deposit with percussion precollars.</li> <li>• The current core size is HQ3 (62mm diameter) in upper parts of holes; in deeper sections the core size is reduced to NQ3 (44mm diameter). Core recovery is high (average exceeds 95%).</li> <li>• Historically only core drilling was employed, either from surface or from underground.</li> <li>• Surface drilling: 80 holes, total 30,340 meters; vertical and inclined, maximum depth 1596m (structural hole). Core diameters from 220mm near surface to 110 mm at depth. Average core recovery 89.3%.</li> <li>• Underground drilling: 766 holes for 53,126m; horizontal and inclined. Core diameter 46mm; drilled by Craelius XC42 or DIAMEC drills.</li> </ul>
<p><i>Drill sample recovery</i></p>	<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</i></li> </ul>	<ul style="list-style-type: none"> <li>• Core recovery for historical surface drill holes was recorded on drill logs and entered into the database.</li> <li>• No correlation between grade and core recovery was established.</li> </ul>

Criteria	JORC Code explanation	Commentary
	material.	
Logging	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• The core descriptions are recorded into paper logging forms by hand and later entered into an Excel database.</li> <li>• The historic core was logged in detail in a facility 6 km from the mine site. The following features were logged and recorded in paper logs: lithology, alteration (including intensity divided into weak, medium and strong/pervasive), and occurrence of potentially economic minerals expressed in %, macroscopic description of congruous intervals and structures and core recovery.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Core is washed, photographed, geologically logged, sample intervals determined and marked then the core is cut in half. One half is delivered to ALS Global for assaying after duplicates, blanks and standards are inserted in the sample stream. The remaining drill core is stored on site for reference.</li> <li>• Sample preparation is carried out by ALS Global in Romania, using industry standard techniques appropriate for the style of mineralisation represented at Cinovec.</li> <li>• Historically, core was either split or consumed entirely for analyses.</li> <li>• Samples are considered to be representative.</li> <li>• Sample size and grains size are deemed appropriate for the analytical techniques used.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <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 (i.e. lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>• Core samples are assayed by ALS Global. The most appropriate analytical methods were determined by results of tests using various analytical techniques.</li> <li>• The following analytical methods are used: ME-MS81 (lithium borate fusion or 4 acid digest, ICP-MS finish) for a suite of elements including Sn and W and ME-4ACD81 (4 acid digest, ICP-AES finish) additional elements including lithium. Samples with over 1% tin are analysed by XRF.</li> <li>• Standards, blanks and duplicates are inserted into the sample stream. In 2014 initial tin standard results indicated possible downgrading bias; the laboratory repeated the analysis with satisfactory results.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>Historically, tin content was measured by XRF and using wet chemical methods. W and Li were analysed by spectral methods.</li> <li>Analytical QA was internal and external. The former subjected 5% of the sample to repeat analysis in the same facility. 10% of samples were analysed in another laboratory, also located in Czechoslovakia. The QA/QC procedures were set to the State norms and are considered adequate. It is unknown whether external standards or sample duplicates were used.</li> <li>Overall accuracy of sampling and assaying was proved later by test mining and reconciliation of mined and analysed grades.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>During the 2014 drill campaign the Company indirectly verified grades of tin and lithium by comparing the length and grade of mineral intercepts with the current block model.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The drill collar locations are surveyed by a registered surveyor.</li> <li>Down hole surveys are carried out by a contractor.</li> <li>Historically, drill hole collars were surveyed with a great degree of precision by the mine survey crew.</li> <li>Hole locations are recorded in the local S-JTSK Krovak grid.</li> <li>Topographic control is excellent.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Historical data density is very high.</li> <li>Spacing is sufficient to establish Indicated and Inferred Mineral Resources (see notes on classification below). The Mineral Resource was initially estimated using MICROMINE software in Perth, 2012 and updated in 2015.</li> <li>Areas with lower coverage of Li% assays have been identified as exploration targets.</li> <li>Sample compositing has not been applied.</li> </ul>
Orientation of data in relation to geological	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>Drill hole azimuth and dip is planned to intercept the mineralized zones at near-true thickness. As the mineralized zones dip shallowly to the south, drill holes are</li> </ul>

Criteria	JORC Code explanation	Commentary
structure	<ul style="list-style-type: none"> <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>	<p>vertical or near vertical and directed to the north.</p> <ul style="list-style-type: none"> <li>The Company has not directly collected any samples underground because the workings are inaccessible at this time.</li> <li>Based on historic reports, level plan maps, sections and core logs, the samples were collected in an unbiased fashion, systematically on two underground levels from drift ribs and faces, as well as from underground holes drilled perpendicular to the drift directions. The sample density is adequate for the style of deposit.</li> <li>Multiple samples were taken and analysed by the Company from the historic tailing repository. Only lithium was analysed (Sn and W too low). The results matched the historic grades.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>As in the 2014 programme, only the Company's employees and contractors handle drill core and conduct sampling. The core is collected from the drill rig each day and transported in a company vehicle to the secure Company premises where it is photographed, logged and cut. Company geologists supervise the process and log/sample the core. The samples are transported by Company personnel in a Company vehicle to the ALS Global laboratory pick-up station. The remaining core is stored under lock and key.</li> <li>Historically, sample security was ensured by State norms applied to exploration. The State norms were similar to currently accepted best practice and JORC Code guidelines for sample security.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Review of sampling techniques possible from written records. No flaws found.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<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</li> </ul>	<ul style="list-style-type: none"> <li>Cinovec exploration rights held under two licenses Cinovec and Cinovec 2. Former expires 30/7/2019, the latter 31/12/2020.</li> <li>100% owned, no royalties, native interests or environmental concerns.</li> <li>There are no known impediments to obtaining an Exploitation Permit for the defined resource.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>any known impediments to obtaining a licence to operate in the area.</i></p>	
<p><i>Exploration done by other parties</i></p>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• There has been no acknowledgment or appraisal of exploration by other parties.</li> </ul>
<p><i>Geology</i></p>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Cinovec is a granite-hosted tin-tungsten-lithium deposit.</li> <li>• Late Variscan age, alkalic rift-related granite.</li> <li>• Tin and tungsten occur in oxide minerals (cassiterite and wolframite). Lithium occurs in zinnwaldite, a Li-rich muscovite</li> <li>• Mineralisation in a small granite cupola. Vein and greisen type. Alteration is greisenisation, silicification.</li> </ul>
<p><i>Drill hole Information</i></p>	<ul style="list-style-type: none"> <li>• <i>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:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Reported previously.</li> </ul>
<p><i>Data aggregation methods</i></p>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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</i></li> </ul>	<ul style="list-style-type: none"> <li>• Reporting of exploration results has not and will not include aggregate intercepts.</li> <li>• Metal equivalent not used in reporting.</li> <li>• No grade truncations applied.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>should be shown in detail.</i></p> <ul style="list-style-type: none"> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>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').</i></li> </ul>	<ul style="list-style-type: none"> <li>• Intercept widths are approximate true widths, unless noted.</li> <li>• The mineralization is mostly of disseminated nature and relatively homogeneous; the orientation of samples is of limited impact.</li> <li>• For higher grade veins care was taken to drill at angles ensuring closeness of intercept length and true widths</li> <li>• The block model accounts for variations between apparent and true dip.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate maps and sections have been generated by the Company, and independent consultants. Available in customary vector and raster outputs, and partially in consultant's reports.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Balanced reporting in historic reports guaranteed by norms and standards, verified in 1997, and 2012 by independent consultants.</li> <li>• The historic reporting was completed by several State institutions and cross validated.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Data available: bulk density for all representative rock and ore types; petrographic and mineralogical studies, hydrological information, hardness, moisture content, fragmentation etc.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is</i></li> </ul>	<ul style="list-style-type: none"> <li>• Grade verification sampling from underground or drilling from surface (in progress). Historically-reported grades require modern validation in order to improve the resource classification.</li> <li>• The number and location of sample sites have been determined from a 3D wireframe model and geostatistical considerations reflecting grade continuity.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>not commercially sensitive.</i>	<ul style="list-style-type: none"> <li>• The geologic model will be used to determine if infill drilling is required.</li> <li>• The deposit is open down-dip on the southern extension, and locally poorly constrained at its western and eastern extensions, where limited additional drilling might be required.</li> <li>• No large scale drilling campaigns are required.</li> </ul>