

27th November 2017

# **Drilling Intersects Extensive Co-Ni Sulphide Mineralisation**

- Diamond Drill Hole Do-01 intersects <u>4.1m mylonitic zone containing</u> extensive disseminated to blebby Cobaltite-Gersdorffite (Co-Ni) sulphides
- Within Mylonite zone, <u>10cm interval of semi-massive Cobaltite-Gersdorffite</u> sulphide mineralisation identified
  - Core being processed and will be immediately sent for analysis
- Disseminated styles of cobalt-nickel mineralisation had not previously been reported at Dobsina
- Mineralisation intersected is located up dip of high grade channel sampling previously reported within the Joremeny Adit. Underground channel sampling results proximal to this diamond drill hole intercept include:

o DZ-1074 to 1075: 1.7m at 2.10% Co, 4.42% Ni<sup>1</sup>

o DZ-1079: 1.7m at 0.63% Co, 3.49% Ni<sup>1</sup>

• Diamond drill hole Do-4 has commenced 80m SW- testing mineralisation along strike potential



Figure 1: Mylonitic Zone Containing Disseminated to Blebby Cobaltite-Gersdorffite Sulphides & Zone of Semi Massive Cobalt-Gersdorffite Sulphides

Refer to ASX Announcement "High Grade Cobalt and Nickel Results at Dobsina" released on 26th June 2017





Figure 2: Disseminated to Blebby Cobaltite- Gersdorffite Sulphide Mineralisation in Mylonite

**European Cobalt Ltd** ("**EUC**" or "the Company", ASX: EUC) is pleased to announce that drilling has intersected extensive cobalt-nickel sulphide mineralisation supporting the exploration model developed for the Joremeny Target. The intersection incudes a 4.1m downhole interval of disseminated to blebby cobalt-nickel sulphides and includes a 10cm interval of semi-massive cobaltite-gersdorffite sulphide mineralisation.

EUC Managing Director, Rob Jewson commented "The visual confirmation of extensive cobalt-nickel sulphide mineralisation and zones of semi massive sulphide mineralisation proximal to the Joremeny Adit provides significant further confidence towards the cobalt and nickel potential of the target.

Interestingly the disseminated style of cobalt-nickel sulphide mineralisation within the mylonitic zone had not been reported previously. Further work is required in order to ascertain the size potential of this style of mineralisation."





Figure 3: Semi-Massive Sulphide Mineralisation; Do-01, 135.10-135.65m



Figure 4: Location Plan of Drill Hole, Joremeny Adit with Channel Sampling Results<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Refer to ASX Announcement "High Grade Cobalt and Nickel Results at Dobsina" released on 26<sup>th</sup> June 2017



#### **ABOUT DO-01 MINERALISATION**

Do-01 was the first hole of the program that was completed targeting mineralisation directly above the Joremeny Adit in order determine the extent of mineralisation up dip of the adit.

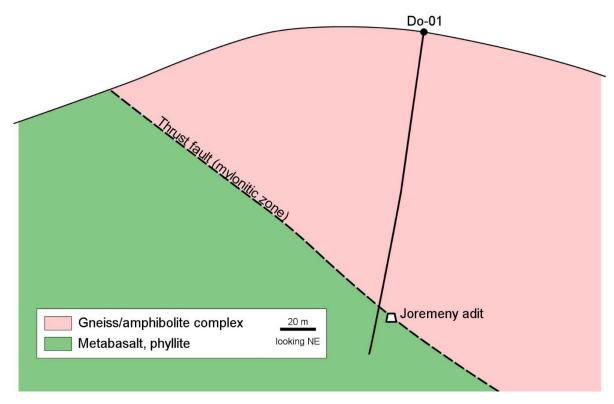


Figure 5: Drill Section, Joremeny Target

A mylonitic zone with a down hole width of 4.1m was intersected containing disseminated to blebby cobaltite-gersdorffite sulphide minerals from 132m down hole. Within this interval 10cm of semi-massive sulphides (containing 40-60% sulphides) occurred. Minerals identified include cobaltite-gersdorffite-chalcopyrite-arsenopyrite-pyrite. It should be noted that whilst the presence of sulphide minerals is indicative of mineralisation, the actual length and tenor of mineralisation will be confirmed by assay results which are anticipated to be received in mid-December.

Diamond drill hole, Do-4, has commenced 80m SW of this reported intersection aiming to test the along strike potential of the Joremeny Target.



#### ZEMBERG-TEREZIAN VEIN SYSTEM TARGET OVERVIEW

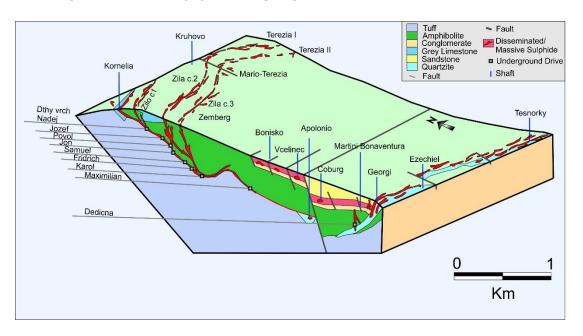


Figure 4: Dobsina Vein System

The Joremeny Target forms part of the Zemberg-Terezian Vein System. The Zemberg-Terezian vein system extends over a1,500m strike, 300m depth and 0.7-1.5m wide mineralisation. Distinct metal zonation is evident with more copper abundant mineralisation in the upper parts whereas nickel-cobalt dominant mineralisation occurs in the lower part of the vein system. Lower Level veins exploited at grades of up to 8% Co and 17% Ni. Upper levels reported grade of 1-7% Cu, 200-900 g/t Ag, 0.6-5.9% Sb, 0.1-0.3% Co and 0.1-0.6% Ni.

The Zemberg Vein system consists of three discrete vein sets, Severna, Hlavna and Juzna. The mineral assemblage of the veins consist of siderite, ankerite, quartz, sulphides and abundant nickel-cobalt sulphide minerals. Minor siderite-barite and copper minerals are also present. Veins commonly display crack seal texture. Rozlozsnika, 1935 commented "Zemberg ore contained an average of 4% Cobalt and 16% Ni"



### **DISCLAIMER**

Forward-looking statements are statements that are not historical facts. Words such as "expect(s)", "feel(s)", "believe(s)", "will", "may", "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: (i) those relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits and conclusions of economic evaluations, (ii) risks relating to possible variations in reserves, grade, planned mining dilution and ore loss, or recovery rates and changes in project parameters as plans continue to be refined, (iii) the potential for delays in exploration or development activities or the completion of feasibility studies, (iv) risks related to commodity price and foreign exchange rate fluctuations, (v) risks related to failure to obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals or in the completion of development or construction activities, and (vi) other risks and uncertainties related to the Company's prospects, properties and business strategy. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

#### **COMPETENT PERSONS STATEMENT:**

The information in this announcement that relates to the Exploration Results for Dobsina is based on information compiled and fairly represented by Mr Robert Jewson, who is a Member of the Australian Institute of Geoscientists and Managing Director of European Cobalt Ltd. Mr Jewson has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Jewson consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

For further information with respect to underground channel sampling results from Joremeny please refer to ASX Announcement "High Grade Cobalt and Nickel Results at Dobsina" released on 26<sup>th</sup> June 2017. References this announcement are annotated with "1"

### **APPENDIX 1: DRILL COLLAR LOCATION INFORMATION**

Hole	Easting	Northing	Dip	Azimuth	Total Depth
Do-001	455700	5410555	-81	305	170



## JORC CODE, 2012 EDITION - TABLE 1

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Comments
	· 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.	Diamond drill core using HQ sized drill core.
Sampling techniques	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sampling is to be completed based on geological intervals with a minimum sample length of 10cm and maximum of 1m.  Core was photographed wet and dry, cut and uncut. Half core was sampled for laboratory analysis.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Diamond core is in the process of being cut in half and sampled on intervals ranging from 10cm to 1m whilst taking into consideration geological boundaries. A minimum of 2kg sample was taken. Samples have been sent to ALS Romania for analysis. Results are pending.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Diamond drilling was completed from surface and is orientated using a Reflex ATC III Orientation Tool.
	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> </ul>	Diamond drill core recovery is recorded as a percentage of measured recovered core versus drilled distance. In general high recoveries have been reported.
Drill sample recovery	<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	HQ coring utilised and daily updates with respect to core recoveries were provided to drillers.
	<ul> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	No assays have been reported, assays currently pending.



Criteria	JORC Code explanation	Comments
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Diamond drill core is geologically logged for the total length of the hole. Logging records lithology, mineralogy, alteration, veining, structure, mineralisation, weathering and geotechnical parameters. Drill logs are coded using the company geological coding legend on logging sheets and a graphical log is also prepared. Data is entered from field sheets into Excel then imported into an access database for validation. The access database is further validated through importing into Micromine and compared to geological model.  The logging is appropriate and sufficiently detailed to support Mineral Resource
	· Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Estimation.  Logging of drill core is both qualitative and quantitative.
	The total length and percentage of the relevant intersections logged.	100% of the core drilled to date by the Company has been geological logged.
	If core, whether cut or sawn and whether quarter, half or all core taken.	Core is sawn and half core is sampled for analysis.
	· If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Only core drilling completed.
Sub-sampling	<ul> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	The sampling technique for diamond drilling is of consistent quality and appropriate for the mineralisation style.
techniques and sample preparation	<ul> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	Samples have been sent for analysis, no analysis results are yet available.
	<ul> <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> </ul>	Field duplicate samples were taken at the rate of 1:20 samples. Standard reference materials and blanks were similarly included at the rate of 1:20 samples.
	<ul> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	The minimum sample size of 2kg is considered industry standard.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> </ul>	No analytical process has been utilised as results are presently pending.
	· 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.	No geophysical tools were used.



Criteria	JORC Code explanation	Comments
	<ul> <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>	Standard reference materials and blanks were inserted at the rate of 1:20 samples. Analytical results are presently pending.
	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> </ul>	Analytical results are presently pending.
	· The use of twinned holes.	No twinned holes have been completed to date.
Verification of sampling and assaying	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	Information is initially recorded on field logging sheets. Information is validated and subsequently stored in an access database. Further validation is conducted through the importation and validation in Micromine.
	· Discuss any adjustment to assay data.	No adjustments completed.
Location of	<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> </ul>	Hand held GPS was utilised to locate drill collars. Downhole surveys have been completed by Eastman single shot camera. Gyroscopic downhole surveys to be completed at the end of the drilling campaign.
data points	· Specification of the grid system used.	UTM-WGS84- zone 34N
	· Quality and adequacy of topographic control.	A digital terrain model was generated from 1:50,000 topographic map. The quality of the DTM is sufficient for the stage of exploration for the Project.
	<ul> <li>Data spacing for reporting of Exploration Results.</li> </ul>	Drilling completed is on an irregular spacing with orientation of the drill holes aiming to be perpendicular to the mapped mineralised strike. A map illustrating the location of the drill hole and a drill section is included.
Data spacing and distribution	· 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.	The drilling completed is of a reconnaissance nature and as such is insufficient to report a mineral resource
	· Whether sample compositing has been applied.	No sample compositing is completed.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> </ul>	The drilling completed is orientated to be perpendicular to the trend of mineralisation based on mapping.
	· 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.	The drilling intercept reported is downhole. Further drilling is required to obtain confirmation of the true width of mineralisation and whether the orientation has introduced any sampling bias.
Sample security	· The measures taken to ensure sample security.	Sampling was completed by EUC staff in collaboration with contractors. Samples were transported by EUC staff to a secure sample storage facility prior to be transported by courier to ALS laboratories in Romania.



Criteria		JORC Code explanation	Comments
Audits o reviews	or	The results of any audits or reviews of sampling techniques and data.	None conducted



## **SECTION 2 REPORTING OF EXPLORATION RESULTS**

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	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.	Dobsina consists of a granted Licence (License number 2466/2017-5.3) covering a land area of 6.97km², held by CE Metals s.r.o, a 100% wholly owned subsidiary of NiCo Minerals Pty Ltd, a 100% wholly owned subsidiary of European Cobalt Ltd. Further conditional payment consideration includes:  - 73,333,334 Performance Shares (subject to ASX approval per Listing Rule 6.1) on the following terms and conditions being:  - 36,666,667 Class A Performance Shares for the achievement of an Inferred Mineral Resource in accordance with the JORC 2012 Edition Guidelines of not less than 500,000 tonnes at a minimum grade of 0.5% Cobalt equivalence within the Dobsina Licence or the sale/processing of a minimum of 50,000 of ore sold/processed at a minimum grade of 0.5% Cobalt equivalence (Performance Shares Milestone 1)  - 36,666,667 Class B Performance Shares Milestone 1)  - 36,666,667 Class B Performance Shares Milestone 1)  - 36,666,667 Class B Performance Shares for the achievement of an Inferred Mineral Resource in accordance with the JORC 2012 Edition Guidelines of not less than 1,000,000 tonnes at a minimum grade of 0.5% Cobalt equivalence within the Dobsina Licence or the sale/processing of a minimum of 100,000t of ore sold/processed at a minimum grade of 0.5% Cobalt equivalence (Performance Shares Milestone 1)  - Payment of a 2% Net Smelter Royalty ("NSR") on the production of any minerals from the Dobsina Licence.  No known impediments exist with respect to the exploration or development of Dobsina Project.
	operate in the area.  Acknowledgment and	At present the information utilised within this release
Exploration done by other parties	appraisal of exploration by other parties.	is sourced from "Geologicky prieskump s.p., Spisska Nova Ves Geologica oblast Roznava, Zaverecna sprava Dobsina- Ni-Co- VP nickel Kobalt" 1992 and "Bankse Mestro Dobsina" a publication prepared by the Slovak Ministry of Interior, published in Kosice 2013 (ISBN 978-80-97005-7-8).



Criteria	JORC Code explanation	Commentary
	Deposit type, geological setting and style of mineralisation.	The Dobsina Project lies at a major thrust contact between two regional tectonostratigraphic units called Veporicum and Gemericum.
Geology		Mineralisation at Dobsina is characterised by the following styles:  - Siderite hydrothermal veins (siderite-ankerite, quartz sulphide)  - Metasomatic Fe-Carbonate replacement  - Stratiform sediment hosted Ag-Au  - Stratiform sediment hosted magnetite-hematite  Siderite hydrothermal veins prospective for Co-Ni veins are located in two main east-west tectonic zones along a fault contact between geniss-
		amphibole and underlying phyllite green schist.
Drill hole Information	information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.  If the exclusion of this	All collar location, depth, azimuth and dip information is provided within Appendix 1 of this announcement.  All available information has been released.
	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.	
	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.	No assays are reported as no assay data has been received.
Data aggregation methods	· 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.	No assays are reported as no assay data has been received.



Criteria	JORC Code explanation	Commentary
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	No metal equivalence are reported.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	All intersections are reported as downhole lengths. Additional drill holes are required to confirm the relationship between downhole lengths and true widths.
Diagrams	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.	Maps and plans have been included in body of the announcement.
Balanced 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.	No assays reported as no assays have been received.
Other substantive exploration data	of the 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.	All relevant exploration data has been included.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further drilling is planned to be undertaken and is referenced in the body of the release.



Criteria	JORC Code explanation	Commentary
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Relevant diagrams have been included in the body of the Announcement.