

E2 Metals Limited

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**Directors / Secretary** 

Melanie Leydin Chair & Company Secretary

Todd Williams Managing Director

Alastair Morrison Non-Executive Director

Michael Sapountzis Company Secretary

#### **Issued Capital**

76.4M fully paid ordinary shares

### **Drilling Complete at Sierra Morena**

24 April 2019

E2 Metals Limited (**E2 or the Company**) is pleased to advise that the Reverse Circulation (**RC**) drill program at the Sierra Morena Project in the Santa Cruz province of Argentina (Figure 1) has been completed.

#### Highlights

- 23 RC drill holes completed for 1903 metres
- Drilling at SM6 Eastern and Western Vein prospects intercepted veins at expected depth ranges confirming E2's target models
- All drill samples have been submitted to Alex Stewart laboratories in Puerto San Julian and results are pending

The Sierra Morena Project is located on the western margin of the Deseado Massif geological province that is host to world-class epithermal gold and silver deposits like Goldcorp's Cerro Negro and AngloGold Ashanti's Cerro Vanguardia mines.

The drill program comprised 23 holes totalling 1903 metres at four prospect areas (Figure 2) centred some 30 kilometres east of Pan American Silver's COSE development project, and Patagonia Gold's Cap Oeste mine that is currently on care and maintenance.

#### **SM6 Prospect**

Seventeen holes for 1361 metres were completed at the SM6 prospect where historical sampling has yielded high surface grades of up to 23.3 gpt gold and 3240 gpt silver at the Eastern Vein and 7.17 gpt gold and 602 gpt silver at the Western Vein.

All drill holes intercepted the outcropping vein or host structure at expected depth ranges confirming the Company's target models and that the historical drilling was suboptimal. This yielded encouraging visual results at both prospects and identified additional targets that were previously unrecognised.



Figure 1: Location of the Sierra Morena Project

Drill holes at the Eastern Vein intercepted the known mineralised vein breccia which is characterised by red haematitic clasts in a matrix of grey to white quartz and is discernible in RC chips (Photo 1). This included a second principal 'hanging wall' vein that does not outcrop at surface, with broad intervals of quartz and sulphide veinlets that range from 5 to 10 metres true width linking the two veins. Vein thickness and frequency increases to the southeast with SMRC-13 yielding the best visual intercept.

At the Western Vein, drilling intercepted an intensely oxidised red haematitic fault zone with an estimated true width of 3 to 5 metres. Samples from this interval contain 10 to 50 modal percent quartz vein fragments confirming the haematitic fault zone to be the depth extension of the outcropping mineralised vein breccia. Additionally, drill holes extending into the fresh unoxidized foot wall rocks intercepted a previously unrecognised zone of 'black silica alteration' characterised by intense silicification and up to 30% pyrite and black sulphides. In all holes this new style of alteration occurs at the brecciated contact with an altered rhyolite and is up to 8 metres wide in SMRC-17.



Figure 2: Sierra Morena Project drill hole location plan



Photo 1: RC chip tray for SMRC-02 showing the Eastern Vein from 33 to 35m depth

#### **ASC Prospect**

Five reconnaissance scout holes totalling 472 metres were completed at the Acid Sulphate Cap (ASC) Prospect to target the 'feeder' structure prospective for blind epithermal veins.

The first three holes were successful in defining the subsurface geometry of the acid-sulphate alteration blanket and informing a new geological target model that led to the fourth hole SMRC-20 being relocated 140m to the northwest. This hole intercepted a zone of intense white argillic clay alteration from 100 to 121m downhole depth confirming the prospect's potential.

The fifth hole SMRC-22 drilled into a zone of intense iron oxide surface alteration associated with a trail of vein float. The hole intercepted a relatively fresh sequence of volcaniclastics with minor argillic clay alteration from the top to the end of hole depth of 66 metres.

#### **Southern Project Area**

One 70 metre deep hole was drilled within the Southern Project Area where the Company has identified multiple vein targets in areas with no prior systematic exploration. The hole was collared northeast of a prominent white topographic high with abundant quartz vein float and intercepted an interval of black silica alteration including 3-5% sulphides from 22 to 36m downhole depth.

This scout hole confirms the potential of the Southern Project Area for additional gold and silver mineralised prospects like those defined at the SM6 Prospect.

The Company will make use of the current camp facilities and logistics to conduct geochemical surveys within the Southern Project Area with the objective of defining prospects for future drill programs.

Managing Director Todd Williams states: "We are pleased with the execution of the first drill program at Sierra Morena and E2's Santa Cruz portfolio. The program was completed in good time and all drill holes intercepted key geological targets at modelled depth ranges. But importantly, the program has highlighted new prospectivity options for Sierra Morena including the potential for additional blind veins at SM6 and additional mineralised prospects at the Southern Project Area. All samples have been submitted to the laboratory and drill results are expected in two to three weeks".

For enquiries please contact:

#### **Todd Williams**

Managing Director Ph: + 61 3 9692 7222

#### **Competent Person's Statement**

The information in this announcement that relates to the Santa Cruz Gold Projects, 80% owned and operated by E2 Metals, is based on information compiled and fairly represented by E2 Metals and Benjamin Nicolson. Benjamin visited the Sierra Morena Project in April-May 2018. Benjamin Nicolson is a Member of the Australian Institute of Geoscientists (AIG) and is a consultant to the company. Benjamin Nicolson 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. Benjamin Nicolson consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

#### Table 1: Sierra Morena Drill hole locations, April 2019 Datum WGS84 UTM 19S

Prospect	Hole ID	Northing	Easting	Elevation	Depth	Dip	Azimuth
ASC	SMRC-06	4687601	418312	673	108	-59	54
ASC	SMRC-07	4687658	418403	667	72	-59	234
ASC	SMRC-08	4687683	418443	670	105	-60	237
ASC	SMRC-20	4687691	418210	686	121	-70	71
ASC	SMRC-22	4687859	418066	679	66	-60	224
SM6 EAST VEIN	SMRC-01	4687460	418196	670	84	-55	219
SM6 EAST VEIN	SMRC-02	4687403	418222	668	78	-60	218
SM6 EAST VEIN	SMRC-03	4687340	418250	665	78	-64	216
SM6 EAST VEIN	SMRC-04	4687422	418236	668	108	-58	215
SM6 EAST VEIN	SMRC-05	4687368	418270	667	110	-57	216
SM6 EAST VEIN	SMRC-09	4687425	418198	670	76	-60	213
SM6 EAST VEIN	SMRC-10	4687373	418245	669	66	-58	216
SM6 EAST VEIN	SMRC-11	4687319	418264	663	60	-60	218
SM6 EAST VEIN	SMRC-12	4687289	418280	661	77	-59	216
SM6 EAST VEIN	SMRC-13	4687265	418303	660	85	-59	216
SM6 EAST VEIN	SMRC-14	4687246	418289	659	69	-63	229
SM6 EAST VEIN	SMRC-21	4687200	418142	666	131	-59	77
SM6 WEST VEIN	SMRC-15	4687265	417957	669	78	-58	96
SM6 WEST VEIN	SMRC-16	4687231	417957	663	76	-59	100
SM6 WEST VEIN	SMRC-17	4687197	417955	662	58	-58	92
SM6 WEST VEIN	SMRC-18	4687161	417962	660	66	-56	90
SM6 WEST VEIN	SMRC-19	4687078	417948	652	61	-61	87
SOUTHERN VEIN	SMRC-23	4686010	417835	631	70	-59	267

# Table 1: JORC Code Reporting CriteriaSection 1 Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling Techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialized 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> </ul>	<ul> <li>The Sierra Morena Project was explored by De Grey Mining (ASX: DEG) during the period 2011 to 2013. De Grey collected and reported the results for 316 drainage BLEG, 860 coarse fraction LAG, 68 float rock, 209 rock, 35 trench and 1441 diamond core samples.</li> <li>Sample methodology for the coarse fraction LAG samples is not publicly available.</li> </ul>
		<ul> <li>Sample methodology for the stream samples is stated in the De Grey ASX announcement on the 9<sup>th</sup> of June 2011. Samples were analyzed by ACME Analytical Laboratories, Mendoza, Argentina. ICP Mass Spectrometer analysis of 30g sample split from original 500g sample after Aqua Regia digestion for ultra-low determinations. Basic suite of elements consisted of 37 elements.</li> </ul>
		<ul> <li>Sample methodology for rock, trench and float samples are stated in the De Grey ASX announcement on the 21<sup>st</sup> of May 2012. Samples were anlaysed by ALS Mineral Laboratories (ALS), Mendoza, Argentina. ICP Mass Spectrometer analysis of 30g sample split from original 500g sample after Aqua Regia digestion for ultra-low determinations. The element suite consists of 51 elements. Samples that returned &gt;10gpt Au were re-assayed using a 30g Fire Assay with gravimetric finish. Samples that returned &gt;100gpt Ag were re-assayed using aqua regia with AAS finish. Samples that returned &gt;150 gpt Ag were re-assayed using 30g Fire Assay with gravimetric finish.</li> </ul>
		The surface geochemical surveys conducted by De Grey are considered suitable in the context of target models for epithermal gold and silver deposits in the Deseado Massif geological terrane of Santa Cruz.
		<ul> <li>Sample methodology for drill core samples are provided in the De Grey ASX announcement on the 23<sup>rd</sup> of January 2013. Samples were analyzed</li> </ul>

Criteria	JORC Code Explanation	Commentary
		by ALS, Mendoza, Argentina. Au was analyzed using fire assay and AAS finish of a 30g nominal sample weight. Ag and all other elements (33) were analyzed using aqua regia digestion with ICP-AES finish.
		• De Grey inserted gold and silver standards, duplicates and blanks were into drill core batches at irregular spacings of every five to 20 samples.
		No significate mineralisation was intercepted by De Grey however the drill sampling and QAQC program is considered JORC compliant.
		Subsequent to De Grey Mining, the project was explored by private Australian company Circum Pacific Pty Ltd during the period April to May 2018 Circum Pacific completed a Gradient Array Induced Polarisation (GAIP) and a pole-dipole Induced Polarisation (IP) geophysical survey at the Sierra Morena.
		• The data was acquired by Geofisica Argentina S.A. using pole-dipole (P- DP) surveys with short 50m dipoles and n-10 or n-20 dipole separations, and 1500m bi pole gradient arrays. The data acquisition employed a 0.125 Hz time-domain 'box car' transmitter waveform. The receiver set- up employed 20 arithmetically spaced channels of 80 ms which follow 240 ms delay.
		The data is considered suitable for defining narrow low sulphidation epithermal veins and associated sulphide halos.
Drilling Techniques	• Drill type (e.g. 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).	<ul> <li>De Grey Diamond Sierra Morena drilling (2012 to 2013)</li> <li>16 diamond core holes completed totaling 3213m.</li> <li>Holes were drilled in two campaigns. The first by Energold utilized a 'S2' diamond rig while the second by Goland utilized a Boart Longyear LF90D N1 with HQ and NQ hole dimensions. Holes were surveyed for downhole inclination and azimuth using a REFLEX tool.</li> </ul>
		<ul> <li>E2 Metals Limited Sierra Morena Drilling (2019)</li> <li>23 Reverse Circulation holes totalling 1903m</li> <li>Holes were drilled by Major Perforaciones based in Mendoza, using a Schramm T685WS truck mounted rig with RCH 5 ½ inch hole dimensions. Holes were survey using a gyroscope survey tool at shot intervals no greater than 30 metres.</li> </ul>

Criteria	JORC Code Explanation	Commentary
Drill Sample Recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	<ul> <li>De Grey Diamond Sierra Morena drilling (2012 to 2013)</li> <li>Sample quality is documented on the drill logs when compromised, no other record of sample quality is recorded.</li> </ul>
	• 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.	<ul> <li>E2 Metals Limited Sierra Morena drilling (2019)</li> <li>All RC samples where split onsite at the cyclone into a coarse reject and sample for laboratory analysis. Both samples were weighed to measure the total sample weight and recovery.</li> </ul>
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.	<ul> <li>De Grey Diamond Sierra Morena drilling (2012 to 2013)</li> <li>Drill core was logged qualitatively and split on the basis of geology, alteration, structure and mineralisation</li> </ul>
	<ul> <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>E2 Metals Limited Sierra Morena Drilling (2019)</li> <li>RC Chips were logged by a geologist on site with the rig as the hole was completed. A representative chip sample from each 1-meter interval was sieved and washed in order and stored within chip trays for each RC hole.</li> <li>Holes were logged qualitatively and classified on the basis of geology, alteration and mineralisation.</li> </ul>
Sub- Sampling Techniques and Sample Preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	<ul> <li>De Grey Diamond Sierra Morena drilling (2012 to 2013)</li> <li>Not specified</li> </ul>
	<ul> <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 baing appropriate</li> </ul>	<ul> <li>E2 Metals Limited Sierra Morena Drilling (2019)</li> <li>No geochemical data has been reported in this announcement</li> </ul>

Criteria	JORC Code Explanation	Commentary
Quality of Assay Data and Laboratory Tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. 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> <li>De Grey Diamond Sierra Morena drilling (2012 to 2013)</li> <li>All core samples submitted by De Grey for the Sierra Morena project were anlaysed by aqua regia digestion with ICP-AES finish. Aqua regia digestion is limited in determining the acid leachable portion of the elements. Au was by fire assay which is appropriate for quantitative analyses of elemental Au concentrations. Drill core batches were submitted with a Duplicate, Standard and Blank samples every 20, 25 and 35 samples.</li> </ul>
		<ul> <li>E2 Metals Limited Sierra Morena Drilling (2019)</li> <li>No geochemical data has been reported in this announcement</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Historical surface and drill core sampling collected by De Grey at Sierra Morena have not been validated because the sample methodology is well documented, and all data was verified by De Grey with their internal QAQC programs.
Location of Data Points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down- hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	Sample locations and drill hole collars at Sierra Morena are referenced by De Grey using the datum Campo Inchauspe Zone 2.
Data Spacing and Distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>De Grey LAG Sampling         <ul> <li>Samples were collected on 200m spaced lines and on 50m sample centers. This sample spacing is considered appropriate for defining corridors of elevated arsenic that correlate to structures with known outcropping veins.</li> </ul> </li> <li>Circum Pacific Geophysics         <ul> <li>IP traverses were completed on 200m line spacing at the SM6 prospect, Sierra Morena Project, and is appropriate for first phase of drill planning in a prospect area. Prospects at Angostura or Corona where reconnaissance IP traverses were completed to determine the subsurface response of areas with limited outcrop a standard line spacing of 400 to 500m was utilized.</li> </ul></li></ul>
Orientation of Data in Relation to	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Circum Pacific Geophysics

Criteria	JORC Code Explanation	Commentary
Geological Structure	• 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.	<ul> <li>IP and GAIP geophysical surveys conducted by Circum Pacific were undertaken perpendicular to the observed fabric of the geology and structures.</li> </ul>
Sample Security	<ul> <li>The measures taken to ensure sample security.</li> </ul>	All surface rock chip samples collected by Circum Pacific were shipped directly from the field to the laboratory.
Audits or Reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	Circum Pacific collected duplicate samples of the IAMGOLD rock samples and demonstrated that the surface gold, silver and arsenic values for the Conserrat and Corona project are accurate and repeatable.

## Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

Criteria	JORC Code Explanation	Commentary
Mineral Tenement and Land Tenure Status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	All the Santa Cruz and Rio Negro titles are owned 100% by Minera Los Domos S.A., a private company incorporated in Argentina. E2 Metals Limited through its Australian holding company Los Domos Pty Ltd owns 80% of Minera Los Domos. Sierra Morena Project titles
Exploration Done by Other Parties	• Acknowledgment and appraisal of exploration by other parties.	<ul> <li>2011 to 2013: De Grey conducted detailed surface geochemistry, a CSAMT geophysical survey at Sierra Morena.</li> <li>2017 to 2018: Circum Pacific conducted IP and gradient array geophysical programs at Sierra Morena.</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>Gold and silver mineralisation is associated with quartz &amp; carbonate vein deposits classified in geological literature as Low-Sulphidation Epithermal.</li> <li>The projects are in the Deseado Massif geological terrane, which is a 60,000km2 crustal block in southern Argentine Patagonia that host numerous low-sulphidation, epithermal precious metal deposits that are spatially and genetically related to Jurassic volcanic rocks.</li> </ul>
Drill Hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul> <li>Easting and northing of the drill hole collar</li> <li>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>Dip and azimuth of the hole</li> <li>Down hole length and interception depth</li> <li>Hole length</li> </ul> </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>	NA

Criteria	JORC Code Explanation	Commentary
Data Aggregation Methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	NA
Relationship Between Mineralisation Widths and intercept lengths.	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg "down hole length, true width not known").</li> </ul>	NA
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	
Balanced Reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	For simplicity gold and silver values are reported on a gold equivalent basis. Gold equivalent values are calculated as AuEq = Au + Ag / 70
Other Substantive Exploration Data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	
Further Work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	