

**CORPORATE**

ASX Symbol: ENT  
ACN 123 567 073

At 13 June 2017  
Shares on issue: 315,133,979  
Options\* on issue: 2,000,000  
\*5 cent exercise price,  
expiry 10 August 2017.

Market Cap: ~\$10.4 million

**BOARD OF DIRECTORS**

Dr Allan Trench  
Non-Executive Chairman

Mr Dermot Ryan  
Managing Director

Dr Zhijun He  
Non-Executive Director

Mr Sam Middlemas  
Company  
Secretary/CFO

**PROJECTS**

Copper/Zinc/Gold  
Doolgunna

Nickel/Copper  
Fraser Range

Gold/Copper/Zinc  
Darlot  
Yalgoo  
Murchison

## Off-hole Electromagnetic Conductor Identified at Homestead Prospect Doolgunna by Sandfire

**Follow up drilling to commence immediately**

### Highlights

- Sandfire Resources NL (ASX: SFR) has advised that it has identified a highly conductive off-hole, discrete late-time Down Hole Electromagnetic (DHEM) anomaly in recently completed diamond drill hole DGDD415 (610m).
- Hole DGDD415 at the Homestead Prospect was collared within Sandfire's 100% owned tenement and terminated within Enterprise's 100% owned tenement E52/2049, which is subject to a farm-in and joint venture agreement with Sandfire.
- The modelled off-hole DHEM conductor is centred at a down-hole depth of ~310 metres, and lies within Enterprise's tenement E52/2049.
- Sandfire has also advised that it intends to immediately commence a diamond drill hole to test the conductor.
- DGDD415 was drilled to test a subtle, but discrete, late-time EM target, at a depth of 400 metres, which was identified on the boundary between Sandfire and Enterprise high-powered surface fixed loop electromagnetic surveys.
- Logging of DGDD415 by Sandfire identified a zone of chloritic and haematitic sediments with carbonate veining, and minor chalcopyrite, pyrite and magnetite below 443m, which also contained lenses of altered dolerite.

Commenting on the information from Sandfire, Enterprise's Managing Director Dermot Ryan said:

***"We are highly encouraged by this strong off-hole conductor located in a volcano-sedimentary sequence not dissimilar to the DeGrussa/Monty host sequences. We look forward to the results of Sandfire's next drill hole."***

## OVERVIEW

Enterprise Metals Limited (ASX: ENT – “Enterprise” or “the Company”) is pleased to announce that Sandfire Resources NL, its exploration farm-in joint venture partner at Doolgunna in Western Australia, has advised that it has identified a highly conductive, discrete late-time DHEM anomaly in recently completed diamond drill hole DGDD415 (610.8m).

Hole DGDD415 at the Homestead Prospect was collared within Sandfire’s 100% owned Exploration Licence 52/1715 and terminated within Enterprise’s 100% owned Exploration Licence 52/2049, which is subject to a farm-in and joint venture agreement with Sandfire.

Refer Figure 1 below and Enterprise’s ASX 12<sup>th</sup> October 2016 announcement for commercial joint venture details.

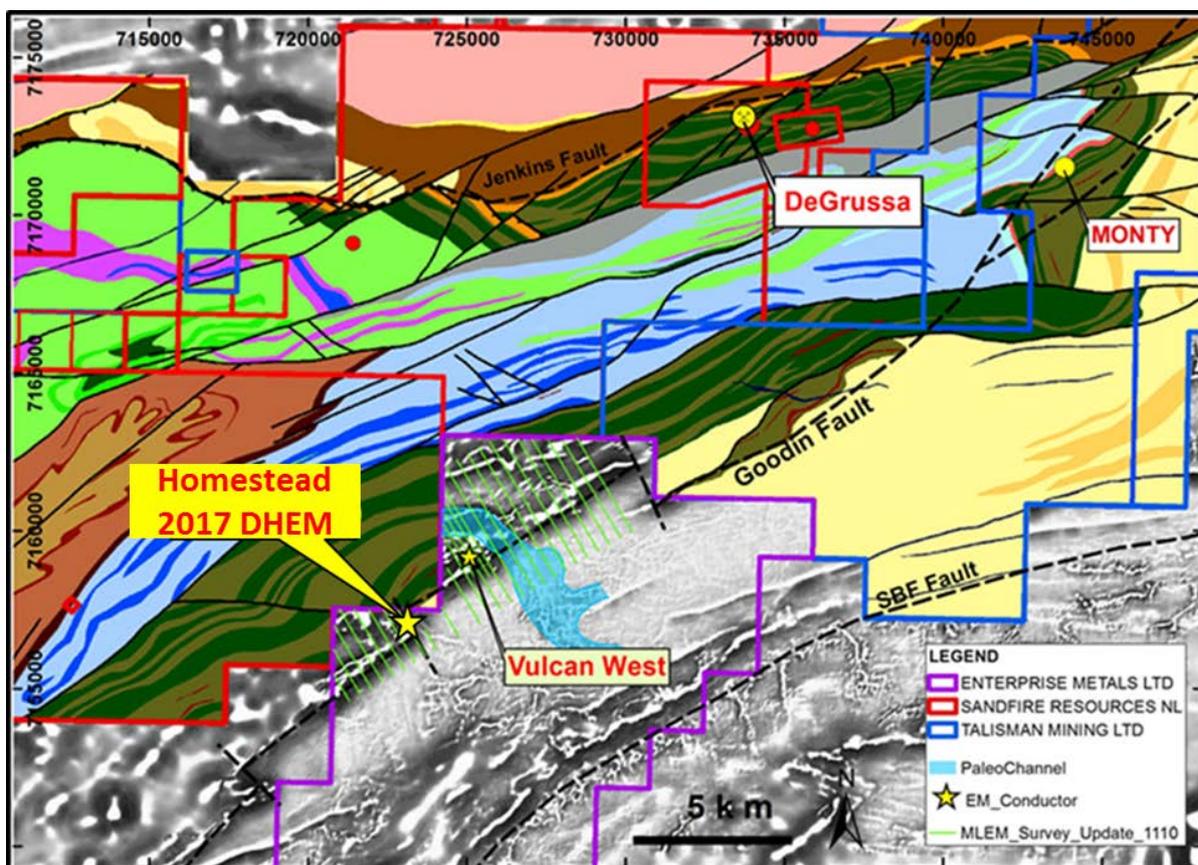
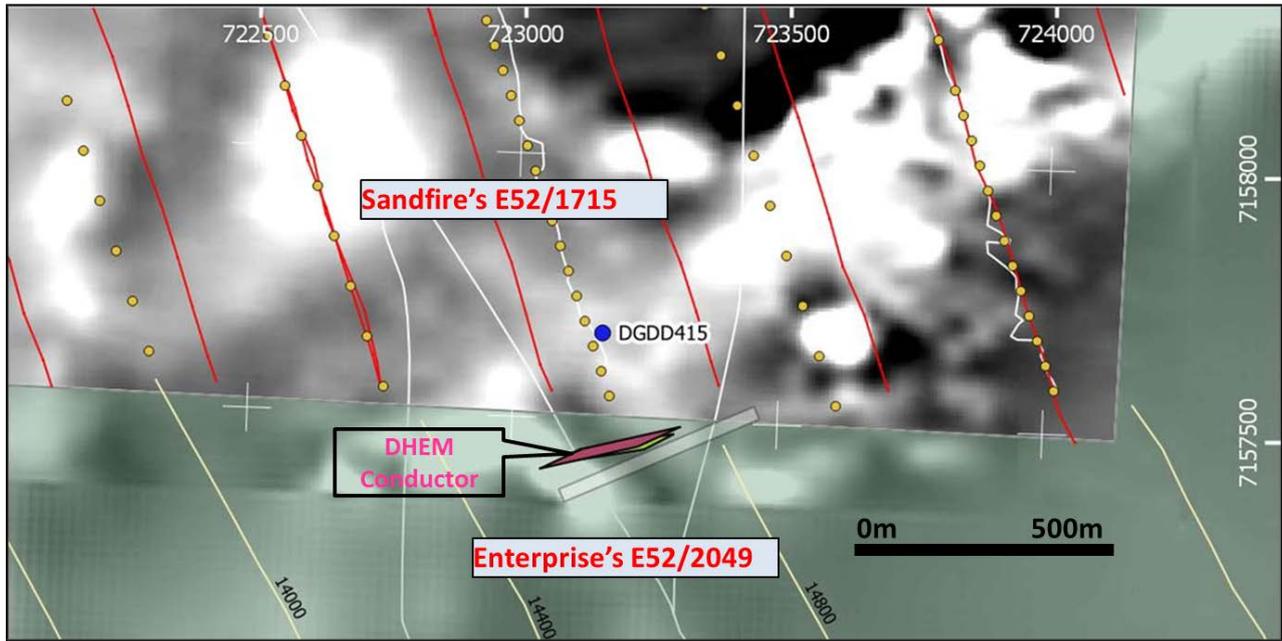


Figure 1. Plan showing off- hole DHEM conductor location and interpreted geology

## HOMESTEAD PROSPECT

Hole DGDD415 was targeted on an anomalous EM response partially identified in a surface Fixed Loop EM (FLEM) survey conducted in 2015 by Vortex Geophysics on Sandfire’s E52/1715 and partially identified within Enterprise’s Slingram Moving Loop EM (MLEM) survey also conducted in 2015.

Re-interpretation of the two adjacent surface EM surveys by Sandfire’s consultants Newexco confirmed the anomalous response, and produced the “target plate” for hole DGDD415 as shown in Figure 2



**Figure 2. Doolgunna, Homestead DHEM survey status overlaid on reduced to pole, first vertical derivative magnetic image. Hole DGDD415 DHEM model in pink. Sandfire FLEM survey lines in red. Enterprise Slingram MLEM survey lines in yellow. Combined original ground EM target model in translucent white. SFR aircore drilling in yellow.**

DHEM in DGDD415 and modelling by Newexco revealed an exceptional off-hole, discrete response, indicating a source above and right of the hole. Decay curve analysis indicates a time-constant of 50 ms.

Modelling was undertaken at late and mid times (Table 1) corresponding to the pink and translucent plates in Figure 2. The observed and subsequent model response indicate a tabular geometry. Note, the difference in size and conductance of the two models which typically reflects changes in thickness of the source. The modelled off-hole DHEM conductor is centred at a down-hole depth of ~310 metres.

**Table 1: Homestead DHEM Plate Parameters**

Plate	X	Y	Z	Depth	Dip	Dip Direction	R	Strike Extent	Depth Extent	Conductance
(ref: centre top)										
415_310m_late_r	723279	7157461	340	193	81	343	54	106m	222m	3780
415_310m_mid2_r	723278	7157470	376	213	84	339	46	128m	263m	1680

Both mid-time and late-time EM plate models for DGDD415 are shown below in Figure 3, and DHEM System Specifications and Configuration, DHEM Transmit Loops and Collars for existing hole DGDD415 and proposed hole DGDD416 are shown in Appendix 1.

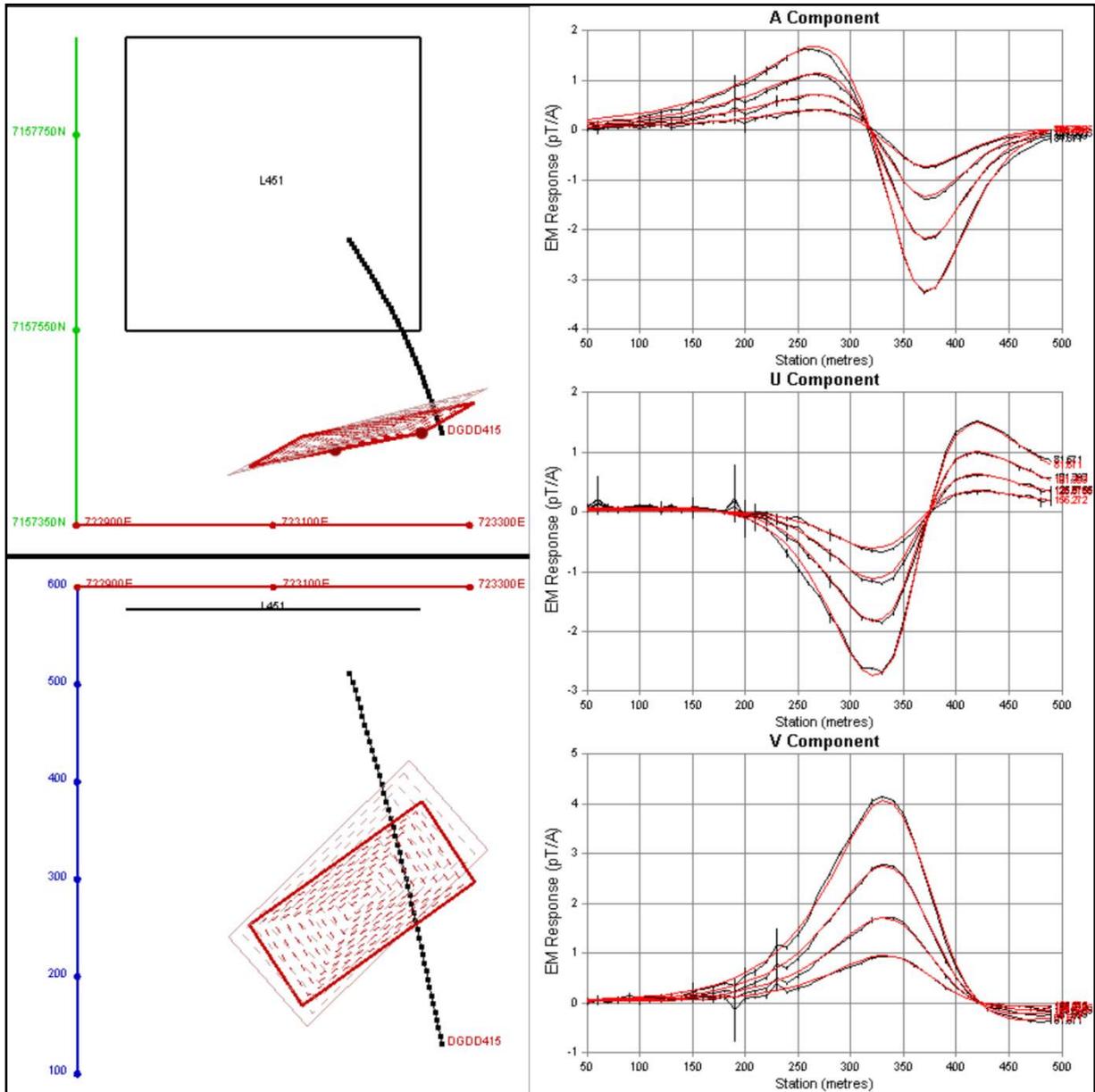
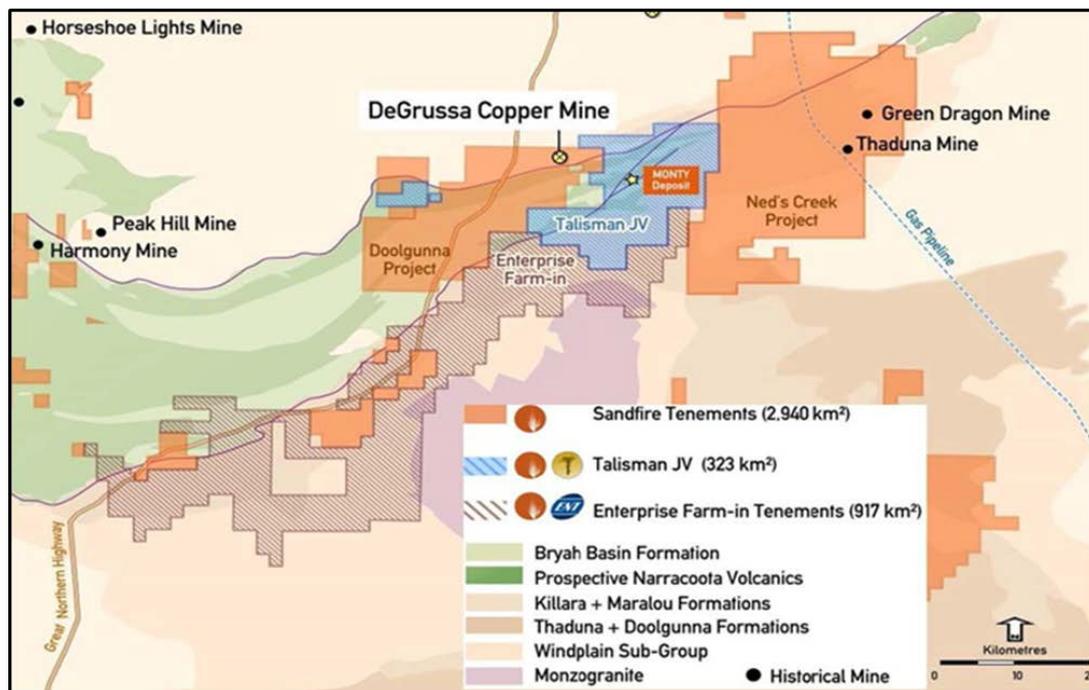


Figure 3. DGDD415 modelling of channels 32 to 35 (80–156 ms). Translucent background plate corresponds to modelling of channels 20 to 24 (6 – 14.5 ms). Black and red profiles represent field and modelled response respectively.

## ABOUT THE DOOLGUNNA PROJECT

Enterprise's 100% owned Doolgunna Project is centred approximately 120km northeast of Meekatharra in Western Australia, and covers over 60km of strike of the southern boundary of the Bryah Basin and the northern part of the Yerrida Basin. The southern Bryah Basin contains the Narracoota/Karalundi Formations which host the high grade DeGrussa and Monty copper/gold deposits. Enterprise considers the Doolgunna project to be prospective for both volcanic hosted massive sulphide (VHMS) deposits and sediment hosted (SEDEX) base metals deposits.



**Figure 4. Enterprise's Doolgunna Project Area incorporated into Sandfire's Doolgunna Project**

In late 2015 Enterprise completed an extensive high-powered ground moving loop electromagnetic (MLEM) survey over the Vulcan Prospect. The EM survey identified a moderate to strong late time conductor at **Vulcan West** which was tested by Enterprise with one 230m RC hole, VWRC001.

A 40m thick zone of sulphide rich (~5% - 20%) sediment and minor dolerite was intersected in this hole and a 5 metre zone from 251 to 256 metres averaged 0.17% Cu, 2.2ppm Mo and 0.87ppm Te, with a 1 metre result from 254 to 255 metres of 0.5% Cu, 8.4ppm Mo and 2.7ppm Te. Although these values were not economic, the element association is typical of the DeGrussa and Monty VHMS style deposits and Enterprise considered this zone to be prospective for massive sulphide. The strike and down dip extent of this conductor remains untested by drilling.

## SANDFIRE FARM-IN AGREEMENT

On 12<sup>th</sup> October 2016, Sandfire Resources NL and Enterprise entered into a farm-in agreement over Enterprise's entire Doolgunna Project. Sandfire is initially required to spend a minimum of \$1.5M over 2 years. After \$1.5M has been spent, Sandfire has the option to sole fund exploration and earn a 75% interest in the project by discovering and defining Mineral Resources of at least 50,000 tonnes Cu metal or equivalent. Following this discovery, Enterprise and Sandfire would form a joint venture and fund their respective interests.

**ABOUT ENTERPRISE METALS LTD**

Enterprise Metals Limited (ASX: ENT) was incorporated in January 2007 as a public company and was admitted to the ASX on 20<sup>th</sup> June 2007. Enterprise has 315,133,979 million Shares on issue, and 2 million (5 cent) Options with an expiry date of 10<sup>th</sup> August 2017, and the present market capitalisation is approximately \$10.4 million.

The Company has four main gold/ base metal projects in Western Australia, two of which are funded by partners. The Doolgunna Project is managed and operated by Sandfire Resources NL under a farm-in agreement dated 12<sup>th</sup> October 2016. The Fraser Range Project, in which Enterprise holds a 30% interest free carried to bankable feasibility stage, is managed and operated by Apollo Minerals Limited (ASX: AON), which holds a 70% interest. The Darlot and Yalgoo Projects have gold and base metal targets that require drill testing.

Enterprise also holds a 7.9% interest (12 million shares) in **Alto Metals Limited** (ASX: AME, or “Alto”). On 23<sup>rd</sup> June 2016 Alto announced that it had acquired a 100% interest in Sandstone Exploration Pty Ltd, the holder of tenements covering the 723km<sup>2</sup> and the majority of the Archaean Sandstone Greenstone Belt in Western Australia, which has produced over 1.3 million ounces of gold. Enterprise’s 12 million Alto shares have a current fair market value of \$0.9M based on the AME share price of 7.5 cents/share at market close on 9<sup>th</sup> June 2017.

**Further Information**

**Dermot Ryan**

**Managing Director**

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**Competent Persons statement**

*The information in this report that relates to Exploration Results is based on information supplied by Sandfire Resources NL and compiled by Mr Dermot Ryan, who is an employee of Xserv Pty Ltd and a Director and security holder of the Company. Mr Ryan is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities 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 Ryan consents to the inclusion in this report of the matters based on information in the form and context in which it appears.*

*The information in this report that relates to Geophysical Exploration Results is based on information supplied by Sandfire Resources NL and compiled by Mr Barry Bourne, who is employed as a Consultant to the Company through geophysical consultancy Terra Resources Pty Ltd. Mr Bourne is a fellow of the Australian Institute of Geoscientists and a member of the Australian Society of Exploration Geophysicists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and activities 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 Bourne consents to the inclusion in the report of matters based on information in the form and context in which it appears.*

## APPENDIX 1

Table 1: DHEM System Specifications and Configuration

<b>DOOLGUNNA HOMESTEAD</b>	
<b>DHEM Specifications and Configuration</b>	
<b>SIGNAL</b>	
Base Frequency (Hz)	1 Hz
Current (A)	150 A
Stacks	Minimum 64
Readings	Minimum 3
Turn On (ms)	0.0
Turn Off (ms)	1.6 ms
Atlantis Probe (preamp) Gain	10
Window Timing	Smartem Standard
<b>GEOMETRY</b>	
Station Spacing (m)	10 m
Loop Dimensions (m)	300 x 300 m
Loop Turns	1
Coordinate System(s)	GDA94, MGA Zone 50
<b>SYSTEM</b>	
Transmitter	Merlin Geophysical Solutions MT-200
Receiver / Probe	EMIT DigiAtlantis
Sensor	Bartington Fluxgate

Table 2: DHEM Transmit Loops

Loop	LVX1	LVY1	LVX2	LVY2	LVX3	LVY3	LVX4	LVY4	RL
L415	722950	7157850	723250	7157850	723250	7157550	722950	7157550	555

Table 3: Drill Hole Collars for DHEM

Hole Number	Easting*	Northing*	RL	Dip	Azimuth	Length (m)	From - To	Loop #
DGDD415	723165	7157663	555.02	-62	147.7	610.8	EOH – 50	L415
DGDD416	723166.9	7157586	555	-62	157.7	450*	TBC	TBC

## JORC Code, 2012 Edition – Table 1 report

13 June 2017 – Doolgunna Project

### Section 1 Sampling Techniques and Data

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

Criteria	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Sampling methods employed by Sandfire include half-core sampling of NQ2 core from diamond drilling (DD).</li> <li>Sampling is guided by Sandfire DeGrussa protocols and QAQC procedures as per industry standard.</li> <li>DD sample size reduction is completed through a Jaques jaw crusher to -10mm and all samples Boyd crushed to -4mm and pulverised via LM2 to nominal 90% passing -75µm. Pulp size checks are completed.</li> <li>Samples are assayed using Mixed 4 Acid Digest (MAD) 0.3g charge and MAD Hotbox 0.15g charge methods with ICPOES or ICPMS.</li> <li>Fire Assay is completed by firing 40g portion of the sample with ICPMS finish.</li> <li>Sandfire core samples are routinely sampled for SG determination.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Sandfire diamond drilling is completed by DD rig with a core size of NQ2.</li> <li>All surface drill collars are surveyed using RTK GPS.</li> <li>Holes are inclined at varying angles for optimal ore zone intersection from the drilling position.</li> <li>Downhole surveying is undertaken using a gyroscopic survey instrument.</li> <li>All core where possible is oriented using a Reflex ACT II RD orientation tool with stated accuracy of +/-1% in the range 0 to 88°.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Sandfire core is metre marked and orientated to check against the driller's blocks, ensuring that all core loss is taken into account.</li> <li>Diamond core recovery is logged and captured into the database with weighted average core recoveries of approximately 99%. Sample quality is routinely captured in the database.</li> <li>Samples are routinely weighed and captured into a central secured database.</li> <li>No sample recovery issues have impacted on potential sample bias.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Sandfire geological logging is completed for all holes. The lithology, alteration, and structural characteristics of drill samples are logged directly to a digital format following standard procedures and using Sandfire DeGrussa geological codes. Data is imported into the central database after validation in LogChief™.</li> <li>Logging is both qualitative and quantitative depending on field being logged.</li> <li>All diamond drill core is digitally photographed and stored.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>Sandfire diamond core orientation is completed where possible and all core is marked prior to sampling. Half core samples are produced using an Almonte Core Saw. Samples are weighed and recorded.</li> <li>Sandfire sample preparation at UltraTrace in Perth involves the original samples being dried at 80° for up to 24 hours and weighed. DD Samples are then crushed through Jaques crusher to nominal -10mm. Second stage crushing uses Boyd crusher to nominal -4mm. Pulverising is completed using LM5 mill to 90% passing 75µm.</li> <li>Sampling is carried out in accordance with Sandfire protocols as per industry best practice.</li> </ul>

## Section 1 Sampling Techniques and Data (cont'd)

Criteria	Commentary
Sub-sampling techniques and sample preparation (continued)	<ul style="list-style-type: none"> <li>• Sandfire has protocols that cover auditing of sample preparation at the laboratories and the collection and assessment of data to ensure accurate steps in producing representative samples for the analytical process. Key performance indices include contamination index of 90% (that is 90% blanks pass); Crush Size index of P95-10mm; Grind Size index of P90-75µm and Check Samples returning at worst 20% precision at 95% confidence interval and bias of 5% or better.</li> <li>• Duplicate analysis is routinely completed.</li> <li>• The sample size is appropriate for the VHMS and Gold mineralisation styles.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>• No assay results have yet been returned from the laboratory.</li> <li>• Sandfire samples submitted to Ultra Trace in Perth are assayed using Mixed 4 Acid Digest (MAD) 0.3g charge and MAD Hotbox 0.15g charge methods with ICPOES or ICPMS. The samples are digested and refluxed with a mixture of acids including Hydrofluoric, Nitric, Hydrochloric and Perchloric acids and conducted for multi elements including Cu, Pb, Zn, Ag, As, Fe, S, Sb, Bi, Mo, Re, Mn, Co, Cd, Cr, Ni, Se, Te, Ti, Zr, V, Sn, W and Ba. The MAD Hotbox method is an extended digest method that approaches a total digest for many elements however some refractory minerals are not completely attacked. The elements S, Cu, Zn, Co, Fe, Ca, Mg, Mn, Ni, Cr, Ti, K, Na, V are determined by ICPOES, and Ag, Pb, As, Sb, Bi, Cd, Se, Te, Mo, Re, Zr, Ba, Sn, W are determined by ICPMS. Samples are analysed for Au, Pd and Pt by firing a 40g of sample with ICP AES/MS finish. Lower sample weights are employed where samples have very high S contents. This is a classical FA process and results in total separation of Au, Pt and Pd in the samples.</li> <li>• Sandfire QAQC protocol is considered industry standard with standard reference material (SRM) submitted on regular basis with routine samples.</li> <li>• Sandfire insert SRMs and blanks at a minimum of 5% frequency rate. A minimum of 2% of assays are routinely re-submitted as Check Assays and Check Samples through blind submittals to external and primary laboratories respectively. Adhoc umpire checks are completed annually.</li> <li>• Surface Fixed Loop Electromagnetic (FLEM) geophysical surveys have been conducted by Sandfire at the Homestead Prospect. Survey parameters include: <ul style="list-style-type: none"> <li>○ Vortex VTX – 100 transmitter, SMART fluxgate sensor and SMARTem receiver</li> <li>○ 1000m x 1200m single turn loop</li> </ul> </li> <li>• Surface Moving Loop Electromagnetic (MLEM) geophysical surveys have been conducted by Enterprise at the Vulcan Prospect. Survey parameters include: <ul style="list-style-type: none"> <li>○ Vortex VTX – 100 transmitter, SMART fluxgate sensor and SMARTem receiver</li> <li>○ 200m x 200m twin- turn loop</li> </ul> </li> <li>• Downhole Electromagnetic (DHEM) Geophysical Surveys have been completed by Sandfire. Geophysical survey parameters include: <ul style="list-style-type: none"> <li>○ Merlin Geophysical Solutions MT-200 transmitter, DigiAtlantis probe and receiver</li> <li>○ 300m x 300m single turn loop</li> </ul> </li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>• No new drilling intersections are included in this report.</li> <li>• No twinned holes are being drilled as part of this program.</li> <li>• Primary data is captured on field tough book laptops using Logchief™ Software. The software has validation routines and data is then imported into a secure central database.</li> <li>• The primary data is always kept and is never replaced by adjusted or interpreted data.</li> </ul>

## Section 1 Sampling Techniques and Data (cont'd)

Criteria	Commentary
Location of data points	<ul style="list-style-type: none"> <li>• Sandfire Survey team undertakes survey works under the guidelines of best industry practice.</li> <li>• All drill collars are accurately surveyed using RTK GPS system within +/-50mm of accuracy (X,Y,Z).</li> <li>• Downhole survey completed using electronic multishot systems or gyroscopic downhole methods at regular intervals.</li> <li>• MGA94 Zone 50 grid coordinate system is used.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>• This program represents reconnaissance exploration drilling and down hole EM surveying.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>• Sandfire exploration holes are oriented to achieve high angles of intersection. Diamond drilling is used as required to determine structural orientations in regional programs.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>• All samples are prepared onsite under the supervision of Sandfire Geological staff.</li> <li>• Sandfire samples are transported to the Perth Ultra Trace laboratory by Toll IPEC or Nexus transport companies in sealed bulka bags, or to the onsite laboratory by company personnel.</li> <li>• The laboratories receipt received samples against the sample dispatch documents and issues a reconciliation report for every sample batch.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• The Sandfire sampling techniques and data collection processes are of industry standard and have been subjected to multiple internal and external reviews.</li> </ul>

**JORC Code, 2012 Edition – Table 1 report****13 June 2017 – Doolgunna Project****Section 2 Reporting of Exploration Results**

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

Criteria	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>• Diamond drilling by Farm-in Partner Sandfire Resources NL at the Homestead Prospect referred to in this report is on tenement E52/2049, granted to Murchison Exploration Pty Ltd (MEPL) on 27<sup>th</sup> October 2008. MEPL is a wholly owned subsidiary of Enterprise Metals Ltd.</li> <li>• This tenement is part of Enterprise's Doolgunna Project, and Sandfire is managing and funding all exploration. (Refer to terms of Farm-In and Joint Venture Agreement in main body of this report)</li> <li>• The Project is centred ~120km north-east of Meekatharra, in Western Australia. These tenements fall within the Doolgunna pastoral lease managed by the WA Department of Parks &amp; Wildlife.</li> <li>• All Doolgunna Project tenements are current and in good standing.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>• Exploration work on E52/2049 at the Homestead Prospect by Enterprise included a detailed fixed wing airborne magnetic survey in 2007, re-assaying of pulps from a 1km x 1km spaced Maglag geochemical survey in 2009, a heli borne VTEM survey in 2009, 100m x 100m soil sampling and multielement geochemical analysis, and a 400m line spaced Slingram Moving Loop EM (MLEM) survey conducted in 2015.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>• Enterprise's Doolgunna Project lies within the Proterozoic-aged Bryah rift basin enclosed between the Archaean Marymia Inlier to the north and the Proterozoic Yerrida basin to the south.</li> <li>• The principal exploration targets at the Doolgunna Project are Volcanogenic Massive Sulphide (VMS) deposits located with the Proterozoic Bryah Basin of Western Australia.</li> </ul>
Drill-hole Information	<ul style="list-style-type: none"> <li>• Refer to Appendix 1 in main body of Report: Drill-hole information summary Homestead Prospect</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>• No new drilling intersections reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>• No new drilling intersections reported.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>• Appropriate maps with scale are included within the body of the accompanying document.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>• The accompanying document is considered to represent a balanced report.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>• Down Hole Electromagnetic (DHEM) geophysical survey results are discussed in the body of the document.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>• Sandfire has indicated to Enterprise that a follow-up drill hole will be completed to target the off-hole anomaly identified from DHEM survey in drill-hole DGDD415.</li> <li>• DHEM will be performed on the new hole.</li> <li>• Proposed new drill-hole details are included in Appendix 1, Table 3 – Drill-hole Collars for DHEM.</li> </ul>