

**ASX RELEASE** 

#### 29 January 2016

#### **DECEMBER 2015 QUARTERLY ACTIVITIES REPORT**

ASX Symbol: ENT

ACN 123 567 073

Suite 2, 91 Hay St PO Box 8308 SUBIACO EAST 6008 Western Australia

Ph: +61 8 9381 2808 Fx: +61 8 9381 5545

#### **BOARD OF DIRECTORS**

Dr Jingbin Wang Chairman

Mr Dermot Ryan Managing Director

Dr Allan Trench Non-Executive Director

### COMPANY SECRETARY

Mrs Susan Hunter

## CHIEF FINANCIAL OFFICER

**Mr Arron Canicais** 

#### **PROJECTS**

Copper/Zinc/Gold Doolgunna

#### Nickel/Copper

Fraser Range

#### Gold/Copper/Zinc

Darlot Yalgoo

#### **PROJECT HIGHLIGHTS**

#### Doolgunna Cu-Zn (Au) (ENT 100%)

- High-powered MLEM survey completed in November for 93.4 line km, with Vulcan West identified as moderate to strong late time conductor.
- ➢ RC hole VWRC001 (EoH 321m) tested Vulcan West EM target. At 192m, a 64m thick zone of alteration was intersected: consisting of interbedded green-grey shale, fine-grained dolerite and red jasper. Minor pyrite (~0.1-1%) and trace chalcopyrite (~0.1%) associated with red jasper. Dolerite showed weak-medium-strong chlorite-epidote alteration.
- ➤ At 256m, a 40m thick zone of finely laminated sulphide rich (~5% 20%) black shale and minor dolerite was intersected.
- ➤ At the contact between altered mafic zone and sulphidic sediments, one 4m composite sample assayed 1,510ppm Cu (from 252m). This contact zone is possibly the interface between Narracoota Fm and Karalundi Fm, which is potential host for massive sulphide ore. 1m sample assay results awaited. Down hole EM planned.
- > Assays from 1m RC samples at Borg Sedex target returned zinc values up to 1,700ppm associated with strongly pyritic zones in shales.
- > Enterprise awarded up to \$200,000 under WA Government Co-funded drilling program for deep RC/DC test of Bono EM/gravity target.
- Review of Ruby Prospect and analysis of 1m assay results from 2011 RC drill program highlights potential for Monty style mineralisation. Ground EM survey being planned.

#### Fraser Range Ni-Cu (ENT 30%, AON 70%)

Apollo Minerals Ltd completed ground EM surveys at Plato and Oceanus prospects. Modelling and interpretation in progress.

#### Darlot Cu-Zn (Au) - (IGO earning 51%)

Due to IGO budget cutbacks, IGO flagged imminent withdrawal.



#### SUMMARY OF EXPLORATION ACTIVITIES

#### **DOOLGUNNA PROJECT**

#### **Vulcan - Goodins Prospect: EM Surveying and RC Drilling**

Between 17<sup>th</sup> September and 9<sup>th</sup> November 2015, geophysical contractor Vortex Pty Ltd acquired MLEM data at 965 stations (a total of 93.4 line kilometres) over the Vulcan-Goodins area north of Doolgunna Homestead. The survey covered approximately 13 strike kilometres of the volcano-sedimentary stratigraphy of the Narracoota and Karalundi Formations, which hosts Sandfire Resources NL's DeGrussa and Monty massive sulphide deposits.

This MLEM survey located a moderate to strong late time MLEM conductor on Line 17,200E, and following surveys on 200m spaced infill EM lines, a similar anomaly was located on Line 17,400E. (ENT: ASX releases 22 October & 10 November 2015).

Data processing and modelling by the Company's geophysical consultants Terra Resources Pty Ltd showed the Vulcan West EM conductor to be prominent in late time Channels. Decay curve analysis suggested that this moderate to strong anomaly had a well-defined exponential decay fit in late channel data (+150msec range), with a time constant (tau) estimate of +48msec.

The location of the survey and the Vulcan West conductor is shown in Figure 1 below.

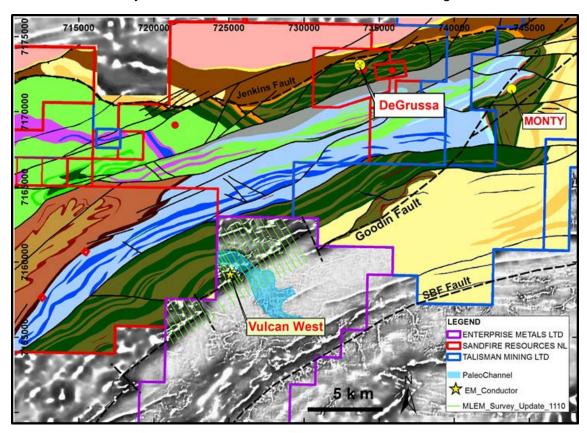


Figure 1. Location & Geology Plan showing Vulcan-West EM Target

Note: Geology for non-Enterprise tenements sourced from Sandfire Resources NL and Talisman Mining Ltd public reports.

The strike length of the modelled rotated plate (32°) was approximately 340m, and the plate dipped 64° towards northwest (327°), with a dip extent of approximately 300m. The depth to top of the shallowest point of the plate was approximately 135m, and the plate conductance was approximately 3030 S.

A weak conductive EM trend extending across 6 lines (20,000E – 22,000E) was also identified in profiles south east of the Vulcan surface geochemical anomaly. (Red dots in Figure 2) Infill EM over the Vulcan trend (and other very weak conductive responses) is not contemplated at this time as the conductivity response is poorly defined and weak (best tau response being 8.19 msec).

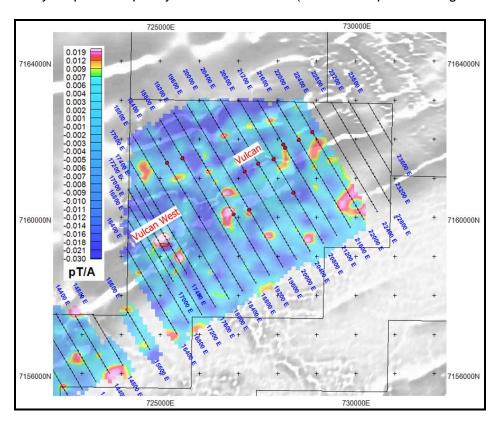


Figure 2. Late time Channel 32 (101.4 msec) Image gridded at 100m grid cell size, overlain on 1<sup>st</sup> VD Magnetic Image. Red dots are weak conductive responses.

In late November, Enterprise planned two RC drill holes to intersect the conductive plate at 210m and 280m respectively, and in early December the drill sites were cleared by the representatives of the Yugunga-Nya Native Title Group.

RC drill hole VWRC001 was then collared to test the Vulcan West EM anomaly at approximately 280m downhole. (Collar location: 725047E, 7159404N with a -60 dip on azimuth 150 degrees magnetic). After passing through 12 metres of alluvial cover, the hole penetrated a deep zone of oxidation to 81m downhole, then medium grained dolerite, with weak-medium pervasive chlorite-epidote alteration, along with weak-moderate silicification to ~192m.

The hole then intersected a 64m thick (downhole) zone of alteration consisting of interbedded green-grey coloured shale and **fine-grained dolerite**, **with red jasper** occurring in or at the boundary with shale. Locally minor pyrite (~0.1-1%) and trace chalcopyrite (~0.1%) were associated with the red jasper. The dolerite showed weak-medium-strong chlorite-epidote alteration.

The hole then entered a 40m thick zone of finely laminated sulphide-rich (~5% - 20%) black shale and minor dolerite. The sulphides were dominantly pyrite and pyrrhotite.

At the contact between the altered mafic zone and the sulphidic sediments, one 4m composite sample assayed **1,510ppm Cu** (from 252 metres). The average assays for these two zones are shown below in Table 1 below. (*For the complete assay list, refer ENT: ASX release 29<sup>th</sup> January 2016*)

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Table 1. Average Assay Data for 4 Metre Composite Samples, Alteration & Sulphide Zones

From	Int	Ag	As	Ва	Bi	Cd	Cu	Pb	Zn	Fe	S	Mn	Comments
(m)	(m)	ppm	%	%	ppm	Zone							
192	64	0.7	2	524	5	4	230	17	109	9.8	0.15	4,304	Altered mafic volcanics
													~~~~~~
256	40	0.7	20	222	8	2	84	9	59	11.0	2.01	2322	Sulphidic sediments

The interbedded sulphide-rich shale unit with minor dolerite from 256 to 296m is the likely source of the modelled Vulcan West MLEM anomaly. However, the zone from 192 to 256m which displayed red jasper alteration with associated sulphides (including trace chalcopyrite) is considered to be a potential ore horizon. Assays for one metre samples from 220m to 296m are still awaited. Enterprise considers that the mineralised altered mafic volcanic zone overlying the sulphidic sediments may represent the contact between the Narracoota Fm and the underlying Karalundi Fm.

PVC casing was inserted into hole VWRC001 provide access for downhole electromagnetic (DHEM) surveying in early 2016. The DHEM survey will be used to confirm that the surface MLEM target with a modelled strike length of 380m has been intersected, and will also search for the most conductive zone which potentially contains economic massive sulphides.

#### **Borg Prospect: RC Drilling**

In October 2015, the Company completed a scout nine hole RC drill program to test a coincident geochemical/EM target at Borg south of Doolgunna homestead, which may represent a large and significant accumulation of sediment hosted base metal sulphides.

Pervasive hematite alteration and/or fine to dominant "stockwork" quartz-carbonate veiningalteration was seen in many holes. And a number of the drill holes intersected long intervals of massive and semi-massive sulphides in carbonaceous shales, interpreted to be Johnson Cairn Formation. While the sulphides were predominantly pyritic in nature, traces of sphalerite were also encountered, and subsequently confirmed by assays for the 4 metre composite samples and the 1m primary samples.

The maximum zinc assays in 4 metre composite samples are shown in Table 2 below. Note the high iron content in samples is consistent with the large volumes of pyrite encountered.

Hole No.	From (m)	To (m)	Interval (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Fe %	Mn ppm
BNRC005	60	64	4	195	31	1,210	<0.5	42	18.05	1,767
BNRC006	144	148	4	122	106	1,734	5.5	75	17.3	>10000
BNRC008	132	136	4	100	20	1,198	2.6	16	14.52	>10000
BNRC008	180	184	4	264	35	1,452	2.2	83	25.97	>10000
BNRC009	164	168	4	148	128	1,300	3.7	104	16.13	>10000

Table 2. Borg RC Drill Holes, 4m Composite Samples, Maximum Zn Assays

Table 3 below illustrates the broad intervals of elevated Zn (+200ppm) associated with the massive pyrite zones within the carbonaceous shale unit. (*Full details of assay techniques and elements analysed are in JORC Table 1 in ENT: ASX release 30 October 2015*).

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Fax: (+61 8) 9381 5545

Hole ID	From (m)	To (m)	Interval (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Fe %
BNRC001	96	132	36	137	52	388	2	48	11.8
BNRC002	100	116	16	136	36	371	1	37	8.0
BNRC003	108	124	16	164	32	419	1	27	10.9
BNRC004	44	68	24	107	17	323	0	27	5.5
BNRC004	104	120	16	103	16	337	0	29	4.7
BNRC005	44	72	28	145	20	689	0	27	11.3
BNRC006	136	152	16	154	68	908	4	76	14.1
BNRC006	168	184	16	136	79	445	2	141	10.1
BNRC008	120	140	20	117	19	710	2	36	13.2
BNRC008	172	190	18	206	34	676	1	118	18.3
BNRC009	160	180	20	192	86	653	2	109	11.1

Table 3. Borg RC Drill Holes, 4m Composite Samples, Continuous Intervals of +200ppm Zn

The highest zinc values from 1m assayed samples were recorded in holes BNRC005, BNRC006 and BNRC008. (eg. 1m at 1,929ppm Zn & 113ppm Mo from 182m in BNRC008) and the highest copper values were in holes BNRC001 and BNRC008. (eg. 5,808ppm Cu from 81m in BNRC001)

Minimum, mean and maximum assay values for 22 elements (of 61 elements assayed) of the 124 one metre samples assayed by 4 acid digest and ICP-OES/MS are shown in Table 4 below.

	Ag	As	Bi	Cd	Со	Cu	Pb	Zn
Range	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm	(ppm)
*Detection	0.01	0.5	0.01	0.01	0.1	1	0.2	2
Min	0.01	2	0.05	0.05	6	35	5.8	19
Mean	0.28	72	0.41	1.18	54	291	40.6	560
Max	3.0	333	1.13	15.0	324	5,808	226	2,730

Range	Mo (ppm)	Sb (ppm)	Sc (ppm)	Sn (ppm)	Te (ppm)	Fe (%)	Mn (%)	s (%)
*Detection	0.05	0.05	0.1	0.2	0.01	0.01	0.02	0.01
Min	0.6	0.49	3.9	0.6	0.07	1.5	0.005	0.01
Mean	4.8	6.92	13.8	2.1	0.55	11.3	1.03	1.84
Max	113	44.1	29.5	9.2	1.53	28.8	6.73	15.19

Table 4. Minimum, Maximum & Mean Assay Values for Selected Elements from One Metre Samples
\*Including Detection limit

(Base metal assays from all assayed one metre samples at Borg are shown in Appendix 1, and drill collar information is tabulated in Appendix 2 of ENT: ASX release 24 December 2015)

Selected pyrite samples have been be sent to the Centre for Excellence in Ore Deposits (CODES, University of Tasmania) for Laser Ablation and ICP-MS analysis for the content of base metal pathfinder elements. This work may help vector future exploration drilling towards massive zinc sulphides. The Company believes that the abundant sulphides found in the Johnson Cairn Formation may provide the evidence for a large sediment hosted sulphide system at depth.

#### **Bono Prospect: EM Surveying and Modelling**

The Bono conductor lies immediately to the south of Borg, and is significantly more conductive than Borg. Bono is also interpreted to lie within the Johnson Cairn Formation, but has no surface geochemical expression due to transported overburden.

Following the completion of the Vulcan-Goodins MLEM survey, several lines of EM were completed over the Borg-Bono prospects. Decay curve analysis of the Bono EM data suggests this anomaly has a well-defined exponential decay fit in late channel data (+880 msec), with a time constant (tau) estimate of 669 msec. Modelling suggests the depth to the top of the conductor is approximately 130m with a strike of 737m. The conductance is estimated to be +8350S which is extremely high.

Modelling of the Borg and Bono EM conductors, together with detailed ground gravity data, shows that both the Borg and Bono conductive plates are spatially associated with, but separate from, the elongate gravity anomalies which are interpreted to be mafic intrusive bodies. Refer Figure 3 below.

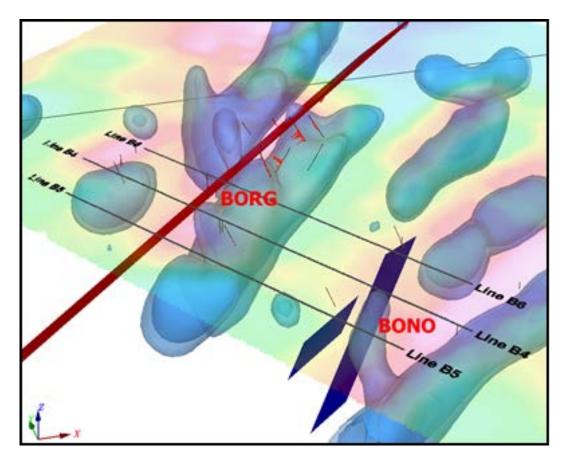


Figure 3. Borg EM Conductive Plate (red) projected into target area to the NE & Bono EM Conductive Plates (blue) over 3-D Gravity Model

The Bono conductor is not closed off to the northeast and a further line of MLEM is proposed for 2016. In light of the drilling results from Borg, a deep drill test of the Bono conductor is warranted.

The Company was also advised during the Quarter that it has been awarded up to \$200,000 for a deep drill test of the Bono SEDEX EM target under the WA Government's Co-funded Drilling program. These funds will be available until 31<sup>st</sup> December 2016.

#### Ruby Prospect: Review and Analysis of 1m RC samples

The Ruby Prospect on southern margin of Bryah Basin has been re-rated by Enterprise following a review of the 16km² low level silver-arsenic-bismuth-tellurium-molybdenum soil anomaly detected in 2011 over the weathered volcano-sedimentary sequence of the Narracoota / Karalundi Formations. (Refer Figure 4)

Assays from 4m composite RC samples (2011) returned elevated copper values. (eg. 8m at 0.11% Cu) from narrow intervals of sulphide mineralisation. Subsequent multi-element assays of twenty 1 metre samples have returned the following significant copper results: (Refer Figure 5 overleaf and ENT: ASX release 29<sup>th</sup> January 2016)

Hole RWRC013: 5m at 933ppm Cu from 185m, Hole RWRC015: 2m at 697ppm Cu from 68m, and Hole RWRC016: 5m at 0.15% Cu from 169m.

Post the discovery of the Monty deposit by Sandfire Resources NL, these Cu drill intersections in a favourable volcano-sedimentary sequence now assume greater importance. In particular, the Ruby Well area which flanks historic gold workings such as Curleys and historic copper workings such as Ruby Anna contains evidence of base metal sulphide mineralisation which has not been followed up.

Due to deep weathering and transported overburden, explorers in the Bryah Basin have come to realise that high powered moving loop electromagnetic (MLEM) surveys are the most cost effective tool in defining (conductive) massive sulphide targets for drill testing, followed by downhole EM surveys to focus further drilling and search for "blind" off hole conductors.

A ground electromagnetic survey is being planned for the Ruby Prospect.

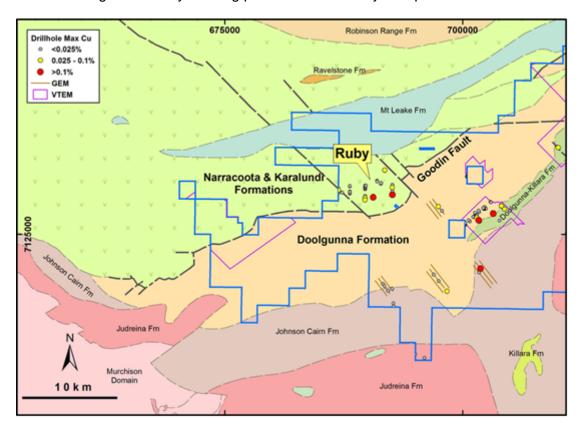


Figure 4. Ruby Prospect, Regional Geological Plan, with Max Cu Drill Hole Results

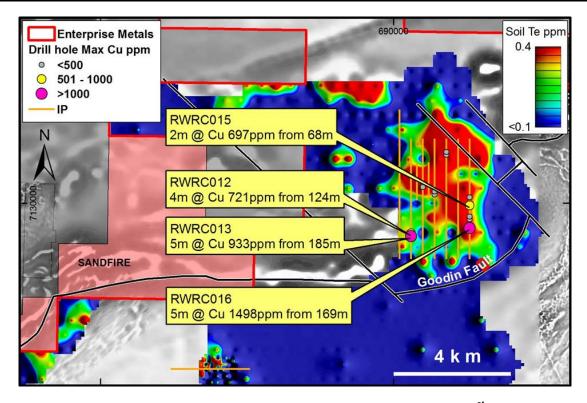


Figure 5: Ruby Prospect, IP lines and Drillholes over Tellurium Anomalism & 1<sup>st</sup> VD Magnetic Image

#### FRASER RANGE PROJECT

The Fraser Range Project covers 797km<sup>2</sup> and is located approximately 100km east of Norseman, within the Albany-Fraser Orogen. The Project is considered prospective for copper/nickel and gold mineralisation and covers the core of the Fraser Range gravity feature, which defines the prospective nickel-copper belt containing Sirius' Nova deposit.

#### Orpheus Base Metals JV (AON 70%, ENT 30% free carried to completion of BFS)

Fraser Range Exploration Pty Ltd ("FRE") a wholly owned subsidiary of Apollo Minerals Ltd, holds a 70% beneficial interest in Enterprise's granted Exploration Licences 63/1281, 63/1282 and 28/2403, and Exploration Licence application 63/1695.

Apollo is sole funding and managing all exploration to completion of Bankable Feasibility Study (BFS) on any discovery. Upon completion of a BFS and delineation of a mining area, the JV parties will contribute proportionally to the development of the Project towards mining.

During the Quarter, Apollo completed high powered EM surveys at Plato and Oceanus. Results of modelling and interpretation are awaited.

#### **DARLOT PROJECT**

The Company has an agreement with Independence Group NL (ASX:IGO) whereby IGO has the right to earn a 70% - 80% interest in Enterprise's Darlot Project covering some 740km² of tenure approximately 60km north from IGO's Jaguar Project. The project covers volcanic stratigraphy similar to IGO's Jaguar-Bentley mine.

However, IGO have advised Enterprise of their intention to withdraw from the farm-in and JV agreement. The terms of IGO's withdrawal are currently under negotiation.

#### **ISSUED CAPITAL AT 31 DECEMBER 2015**

Ordinary Shares	294,745,104	
Unlisted Options	Exercise Price	Expiry Date
2,000,000	\$0.05	10/08/2017
16,662,500	\$0.08	30/11/2016
12,000,000	\$0.10	15/6/2016

#### **CASH POSITION**

Cash position at 3<sup>1st</sup> December 2015: \$0.256million.

Other liquid assets at 31st December 2015:

13.5 million shares in ASX listed Enterprise Uranium Limited: \$270,000 2.0 million shares in ASX listed Apollo Minerals Limited: \$54,000

#### **CORPORATE**

Mr Piers Lewis resigned as Chief Financial Officer (CFO) of the Company on 1<sup>st</sup> November 2015, and Mr Arron Canicais was subsequently appointed CFO on the same date.

Dermot Ryan Managing Director

Contact: Telephone: 08 9381 2808 Facsimile: 08 9381 5545 Email: admin@enterprisemetals.com.au

#### **Competent Persons statements**

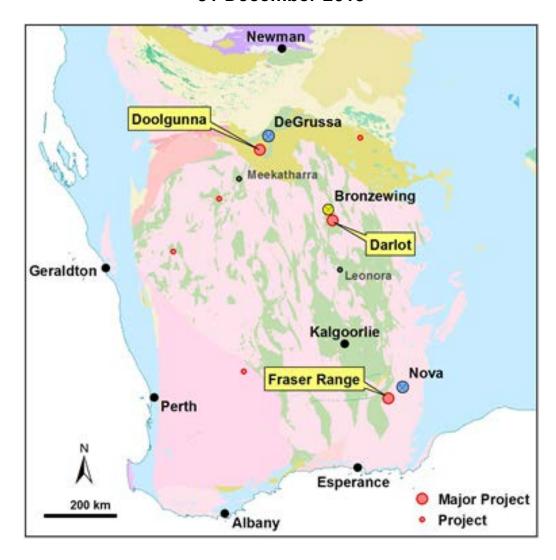
The information in this report that relates to 2015 Geophysical Exploration Results is based on information compiled by Mr Barry Bourne, who is employed as a Consultant to the Company through geophysical consultancy Terra Resources Pty Ltd. Mr Bourne is a fellow of the Australian Institute of Geoscientists 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.

The information in this report that relates to non-geophysical Exploration Results is based on information 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.

Tel: (+61 8) 9381 2808

Fax: (+61 8) 9381 5545

# PROJECT LOCATIONS WESTERN AUSTRALIA 31 December 2015



Tel: (+61 8) 9381 2808

Fax: (+61 8) 9381 5545

# TENEMENT SCHEDULES ENTERPRISE METALS LTD AND ITS 100% OWNED SUBSIDIARIES, ON A CONSOLIDATED BASIS

APPENDIX 1: ENT 100% Owned Tenements at 31 December 2015

Project	Lease	ENT Interest	State	Status
Doolgunna	E51/1079	100%	WA	Granted
Doolgunna	E51/1168	100%	WA	Granted
Doolgunna	E51/1301	100%	WA	Granted
Doolgunna	E51/1303	100%	WA	Granted
Doolgunna	E51/1304	100%	WA	Granted
Doolgunna	E51/1539	100%	WA	Granted
Doolgunna	E52/2049	100%	WA	Granted
Doolgunna	E51/1683	100%	WA	Application
Doolgunna	E52/3347	100%	WA	Application
Fraser Range	E63/1282	100%	WA	Granted
Fraser Range	E63/1283	100%	WA	Granted
Darlot	E37/1112	100%	WA	Granted
Darlot	E37/1185	100%	WA	Granted
Darlot	E37/1105	100%	WA	Granted
Darlot	E36/778	100%	WA	Granted
Yalgoo	E59/2076	100%	WA	Application
Yalgoo	E59/2091	100%	WA	Application

APPENDIX 2: Darlot IGO-Farm-In Tenements at 31 December 2015

		ENT	Rudd-Gianni		
Project	Lease	Interest	Interest	State	Status
Darlot	E36/706	80%*	20%	WA	Granted
Darlot	E36/768	100%**		WA	Granted
Darlot	E37/1031	100%*		WA	Granted
Darlot	E37/859	80%*	20%	WA	Granted
Darlot	E37/927	100%**		WA	Granted
Darlot	E37/947	100%**		WA	Granted

<sup>\*</sup> Enterprise Metals Ltd (ENT) registered holder of 80% interest, with Allan Rudd & Peter Gianni holding 20% interest.

Independence Group NL earning a 51% interest in the tenements by total Farm-In expenditure of \$1.7M.

**APPENDIX 3: Fraser Range Joint Ventured Tenements at 31 December 2015** 

		FAIT	AON		
Project	Lease	ENT Interest*	AON Interest	State	Status
Fraser Range	E63/1281	30%	70%	WA	Granted
Fraser Range	E63/1695	30%	70%	WA	Application
Fraser Range	E28/2403	30%	70%	WA	Granted

<sup>\*</sup>ENT registered holder of 100% interest, but awaiting Transfer of 70% interest to Apollo Minerals Ltd, with ENT 30% free carried to completion of any Bankable Feasibility Study.

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<sup>\*\*</sup> IGO earning a 70% interest.