# ASX Announcement ASX: ERM ABN: 53 117 086 745

17 May 2017

# High-Grade Gold and Small Mines Update

# Highlights

- Emmerson Resources first small mine at Edna Beryl in Tennant Creek has intersected visible, high-grade gold in the development drives.
- Pre-Development drilling at Black Snake, Emmerson Resources next small mine intersected:
  - 7m at 4.79g/t gold from 18m (drill hole BSRC017) which includes:
    - 3m at 9.51g/t gold from 18m & 1m at 14.9g/t gold from 19m.
  - 7m at 2.85g/t gold from 19m (drill hole BSRC018) which includes:
    - 2m at 7.48g/t gold from 23m.
- Black Snake results reported from previous explorers include:
  - 20m at 7.99g/t gold from 5m (BSRC006) which includes:
    - 1m at 61.4g/t gold from 7m & 3m at 17.8g/t gold from 11m.
  - 14m @ 60.9g/t Au from 15m (BSRB032) which includes:
    - 9m @ 92.8g/t Au from 18m.
  - 11m at 21.1g/t gold from 28m (BSRB027) which includes:
    - 3m at 63.7g/t gold from 29m.
  - 7m@ 21.7g/t gold from 26m (BSRB008) which includes:
    - 4m @ 36.6g/t Au from 29m & 2m @ 63.3g/t Au from 31m.
- NT Government announces transformational programs for Tennant Creek including:
  - Feasibility study into building a common user mill and processing facility, and
  - Additional initiatives to support exploration and mining.

Emmerson Resources Limited ("Emmerson" ASX: ERM) is pleased to announce that great progress continues on our small mine strategy which aims to monetise a pipeline of small high-grade gold projects within Emmerson's Tennant Creek project in the Northern Territory (Figure 1). The first of these is the Edna Beryl Mine that is nearing production, with development drives **intersecting visible gold on two levels**. The Mine Management Plan is awaiting approval from the NT Department of Mines before production can commence.

Note the Edna Beryl small mine relates to a tightly confined envelope around the immediate mine area (Figure 2) and is distinct from the spectacular gold intersections announced last year from the greater Edna Beryl project. The development and production of the Edna Beryl small mine is via a tribute agreement with the specialist small miner, the Edna Berryl Mining Company (ASX: 11 August 2015).

Emmerson's Managing Director, Mr Rob Bills commented: "This tribute agreement and progress on the development at Edna Beryl is a terrific template for our other small mines. It is a major step toward the resumption of mining activities within the Tennant Creek Mineral Field and will benefit all stakeholders. The tribute agreement is structured so that the Edna Beryl Mining Company is self-sufficient and does not distract from our key task of discovering a new generation of gold-copper deposits in partnership with our JV partner, Evolution Mining. Moreover, if successful the tribute mining will supplement our already healthy cash reserves and provide further opportunities to grow these small mines into large mines via underground exploration!"

While the 2017 drilling program for Tennant Creek is nearing finalisation, it will include additional drilling at Edna Beryl to ascertain the size potential of the greater Edna Beryl mineralisation and corresponding economics associated with various development options.

The second project in the small mines category is at Black Snake (Figure 1). Black Snake is considered an Advanced Exploration Target, which based on available data is considered to host around 7,000 – 10,000oz of gold.

A small program of pre-development RC drilling has confirmed the shallow, high-grade nature of the gold mineralisation (Figures 4-6, Table 2 & 4). Samples from this drilling will now be composited and sent for metallurgical, ore and waste characterisation.

The Black Snake mineralisation is interpreted to strike East-North-East within a vertical dipping shear zone, and where gold occurs within hematite shale and veins that have yet to be closed off by drilling (Figures 4-6). The high-grade gold mineralisation at Black Snake is very typical of the Tennant Creek Mineral Field and as similar to Edna Beryl, is hematite dominant and thus gone virtually undetected by previous explorers.

Permitting of the Black Snake Mine ahead of development is well advanced, with the Mining Management Plan and Heritage survey completed. Discussions on commercial terms for the development and mining of the Black Snake project are underway and will likely be similar to the Tribute style agreement at Edna Beryl.

Planning continues on the remaining pipeline of small mines, the largest of which is the Chariot Mine with JORC Resources of 170,000t at 17.4g/t gold (ASX: 28 November 2013).

The recent announcement by the NT Government under the banner of Transforming the Territory, included initiatives to revitalise Tennant Creek and make it the "Mining and Services Centre" of the Northern Territory.

Summarised as follows (by AMEC):

"The Tennant Creek Mining and Mining Services Centre feasibility study, announced before the budget, recognises the long-term benefits of encouraging mining companies to get on the ground and start mining."

"The feasibility study will look into how to get a common user mineral processing facility underway. This investment will help further development of the mining and mineral exploration industry."

"The cyclical nature of the industry means that investing in mineral exploration now is vital to ensuring the discoveries that will become the mines of tomorrow are made".

"The Budget forecasts that royalties are estimated to increase by \$55million in the coming year-good news for the community."

"In her speech, the Treasurer said \$1.6Billion worth of resource projects are being developed in the NT."

"Each new mine brings jobs, revenue and royalties to the NT."

This initiative will greatly assist Emmerson's small mine strategy in providing a clear pathway to production via treatment at the proposed Central Mill. It will have the net benefit of lowering the cost of production and stimulating further exploration, not to mention very positive benefits for the local communities.

### About Emmerson Resources

Emmerson is a leading gold and copper gold explorer with projects in the Northern Territory and New South Wales and is led by a board and management group of experienced Australian mining executives including former MIM and WMC mining executive Andrew McIlwain as non-executive chairman, and former senior BHP Billiton and WMC executive Rob Bills as Managing Director and CEO.

The Northern Territory projects are centred around the Tennant Creek Mineral Field (TCMF), which is one of Australia's highest grade gold and copper fields producing >5.5 Mozs of gold and >470,000 tonnes of copper from a variety of deposits including Gecko, Orlando, Warrego, White Devil, Chariot and Golden Forty, all of which are within Emmerson Resources (ASX: ERM) exploration and joint venture portfolio. These deposits are considered to be highly valuable exploration targets and, utilising modern exploration techniques, Emmerson has been successful in discovering copper and gold mineralisation at Goanna and Monitor in late 2011, the first discoveries in the TCMF for over a decade. To date, Emmerson has only covered 5.5% of the total tenement package (in area) with these innovative exploration techniques and is confident that, with further exploration, more such discoveries will be made.

Emmerson holds 2,500km<sup>2</sup> of ground in the TCMF, owns the only gold mill in the region and holds a substantial geological database plus extensive infrastructure and equipment. Emmerson has consolidated 95% of the highly prospective TCMF where only 8% of the historical drilling has penetrated below 150m.

Pursuant to the Farm-in agreement entered into with Evolution Mining Limited (Evolution) on 11 June 2014, Evolution has committed to sole fund exploration expenditure of \$15 million by 31 December 2017 to earn a 65% interest (Stage 1 Farm-in) in Emmerson's tenement holdings in the TCMF. An option to spend a further \$10 million minimum, sole funded by Evolution over two years following the Stage 1 Farm-in, would enable Evolution to earn an additional 10% (Stage 2 Farm-in) of the tenement holdings. Emmerson is acting as manager during the Stage 1 Farm-in and is receiving a management fee during this period. Exploration expenditure attributable to the Stage 1 Farm-in to date is approximately \$12.3 million.

Emmerson operates 5 exploration projects and is manager and operator of 1 Joint Venture in New South Wales. The 5 exploration projects, Temora, Fifield, Wellington, Parkes and Kiola cover a combined area of 1,526km<sup>2</sup> and the Kadungle Joint Venture covering 43km<sup>2</sup> are located in the Macquarie Arc, which has an endowment of >80Mozs gold and >13Mt copper. Current and historical production and exploration of the Macquarie Arc has been heavily weighted to areas of outcrop with limited exploration of areas of the Arc under cover. Emmerson has used the application of 'Big Data' through proprietary predictive targeting methodologies to identify prospective areas of the Arc hidden by cover and then applied robust geological screening to secure the most highly prospective areas under exploration licences.

#### About Evolution Mining

Evolution Mining is a leading, growth-focussed Australian gold miner. Evolution operates six wholly-owned mines – Cowal in New South Wales; Mt Carlton, Mt Rawdon, and Cracow, in Queensland; and Mungari and Edna May in Western Australia. In addition, Evolution holds an economic interest in the Ernest Henry copper-gold mine that will deliver 100% of future gold and 30% of future copper and silver produced from an agreed life of mine area.

Outside of the life of mine area Evolution will have a 49% interest in future copper, gold and silver production. In FY16 Evolution produced 803,476 ounces of gold at an AISC of A\$1,014 per ounce generating an operating cash flow of A\$628.4 million.

As a result of the acquisition of an economic interest in Ernest Henry in November 2016, Evolution revised its FY17 Group gold production guidance to 800,000 – 860,000 ounces at an AISC of A\$900 – A\$960 per ounce.

#### **Regulatory Information**

The Company does not suggest that economic mineralisation is contained in the untested areas, the information contained relating to historical drilling records have been compiled, reviewed and verified as best as the Company was able. The Company is planning further drilling programs to understand the geology, structure and potential of the untested areas below current mineralisation. The Company cautions investors against using this announcement solely as a basis for investment decisions without regard for this disclaimer.

#### **Competency Statement**

The information in this report which relates to Tennant Creek Exploration Results is based on information compiled by Mr Steve Russell BSc, Applied Geology (Hons), MAIG, MSEG. Mr Russell is a Member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 edition and the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Russell is a full time employee of the Company and consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this report which relates to the Chariot Mineral Resources is based upon information compiled by Mr Ian Glacken, and reported to the ASX: 28 November 2013. Mr Glacken who is a Fellow of the Australasian Institute of Mining and Metallurgy. Ian Glacken is an employee of Optiro Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 and 2012 editions of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ian Glacken consents to the inclusion in this report of a summary based upon his in the form and context in which it appears.



Figure 1: Location of Emmerson Resources Small Mines Projects in the Tennant Creek Mineral Field of the Northern Territory. Note yellow circle denotes potential site for a Common User Milling Facility.



Figure 2: Long section of the greater Edna Beryl Project showing 2016 drilling and the Edna Beryl East "small mine" development and tribute area (yellow dotted outline)



Figure 3: Plan view of the recently completed Black Snake Drilling (BSRC017-BSRC019)



# Section 429588mE Looking WSW ± 2m Window



# BSRC018

1m @ 1.25 g/t Au from 4m 1m @ 1.04 g/t Au from 7m 7m @ 2.85 g/t Au from 19m incl. 2m @ 7.48 g/t Au from 23m

# BSRB008

7m @ 21.7 g/t Au from 26m incl. 4m @ 36.6 g/t Au from 29m Incl. 2m @ 63.4 g/t Au from 31m

BSRC008

3m @ 2.23g/t Au from 24m

Oxidised sand & Siltstone

Mineralised envelope > 1 g/t Au

Hematite Shale (North dipping beds)



Figure 5: Cross Section 429588mE Looking WSW ± 2m Window (BSRC018)



## Table 1: Black Snake 2017 drillhole detail.

Hole ID	East (MGA94_53)	North (MGA94_53)	RL AHD	Dip(deg)	AZI mag (deg)	Depth (metres)	Drill Date	Drill Type	Sample Type	Tenement Number
BSRC017	429574.39	7823517.54	388.50	-90.0	000	49.0	24/03/2017	RC	RC Chips	MLC53
BSRC018	429587.85	7823522.08	389.80	-90.0	000	37.0	24/03/2017	RC	RC Chips	MLC53
BSRC019	429581.92	7823513.22	389.40	-90.0	000	19.0	24/03/2017	RC	RC Chips	MLC53
					TOTAL	105m				

## Table 2: Black Snake 2017 significant drillhole intersections.

Hole ID	East (MGA94_53)	North (MGA94_53)	RL AHD	Dip (deg)	AZI mag (deg)	From (m)	To (m)	Width (m)	Au (g/t)	Drill Type	Sample Type
					000	18	25	7	4.79		
BSRC017	429574.39	7823517.54	388.50	-90.0	Incl.	18	21	3	9.51	DC	1 metre
DSRCUT	429074.39	/025017.04	300.00	-90.0	Incl.	19	20	1	14.9	RC	
						28	29	1	1.08		
						4	5	1	1.25		
BSRC018	429587.85	7823522.08	389.80	-90.0	000	7	8	1	1.04	RC	1 metre
DSRCUIO	427507.05	1023322.00	307.00	-90.0		19	26	7	2.85		
					Incl.	23	25	2	7.78		
					000	2	5	3	2.62	DC	1 metre
BSRC019	429581.92	7823513.22	389.40	-90.0	Incl.	3	4	1	4.23	RC	
						9	17	8	1.16		

Note:

All samples are 1m riffle split RC samples.
 Gold analysis method by 25g fire assay with ICP-OES finish.
 No multi element analysis completed. Gold only analysis completed.
 Intersections are reported as downhole lengths and not true width.
 Minimum cut-off of 1 g/t Au. No maximum cut-off.
 Maximum of 2m internal dilution.

# Table 3: Black Snake drill hole detail (previous explorers).

Hole ID	East (MGA94_53)	North (MGA94_53)	RL AHD	Dip (deg)	AZI mag (deg)	Depth (metres)	Drill Date	Drill Type	Previous Company	Tenement Number
BSRC006	429579.09	7823507.03	389.55	-60.0	331.7	49	16-Jan-2005	RC	Giants Reef Mining	MLC53
BSRB008	429593.22	7823507.81	389.47	-60.0	330.0	51	03-Jun-1995	RAB	PosGold Limited	MLC53
BSRC011	429584.16	7823509.78	389.61	-60.0	328.1	37	17-Jan-2005	RC	Giants Reef Mining	MLC53
BSRC016	429577.79	7823521.65	388.37	-60.0	330.0	34	19-Feb-2005	RC	Giants Reef Mining	MLC53
BSRB027	429581.70	7823502.48	389.30	-58.5	333.0	50	21-Nov-2004	RAB	Giants Reef Mining	MLC53
BSRB032	429569.71	7823517.49	387.91	-59.2	207.2	40	20-Nov-2004	RAB	Giants Reef Mining	MLC53
					TOTAL	261m				

TOTAL

 Table 4: Black Snake significant drillhole intersections (previous explorers).

Hole ID	East (MGA94_53)	North (MGA94_53)	RL AHD	Dip (deg)	AZI mag (deg)	From (m)	To (m)	Width (m)	Au (g/t)	Bi (ppm)	Cu (ppm)	Fe (%)	Sample Type
					331.7	5	25	20	7.99	155	45.0	9.27	
BSRC006	429579.09	7823507.03	389.55	-60.0	Incl.	7	8	1	61.4	618	76.0	9.8	1m RC chips
					Incl.	11	14	3	17.8	85.0	21.0	8.33	criips
BSRB008	429593.22	7823507.81	389.47	-60.0	330.0	26	33	7	21.7	N/A	N/A	N/A	1m RAB
DSIND000	427373.22	7023307.01	307.47	-00.0	Incl.	31	33	2	63.4	N/A	N/A	N/A	chips
					328.1	0	24	24	7.62	144	33.8	9.69	
BSRC011	429584.16	7823509.78	389.61	-60.0	Incl.	7	11	4	17.4	153	39	9.65	1m RC chips
						20	24	4	18.4	258	39.6	9.00	criips
BSRC016	429577.79	7823521.65	388.37	-60.0	330.0	9	18	9	2.40	856	41.6	10.00	1m RC
					333.0	17	25	8	3.67	163	117	N/A	
BSRB027	429581.70	7823502.48	389.30	-58.5	333.0	28	39	11	21.1	74.0	39.9	N/A	1m RAB chips
					Incl.	30	33	3	63.7	185	82.3	N/A	criips
BSRB032	429569.71	7823517.49	387.91	-59.2	207.2	15	29	14	60.9	468	86.3	N/A	1m RAB
DOKDUJZ	429309.71	1023311.49	307.71	-07.2	Incl.	18	27	9	92.8	704	115	N/A	chips

Note: BSRB008. BSRB027 & BSRB032 represent Rotary Air Blast (RAB) samples and results may be influenced by down hole contamination.

Note: N/A represents Not Assayed.

The exploration results contained within the above company release are in accordance with the guidelines of *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012).

SECTIO	N 1 SAMPLING TECHNIQUES AND DATA – BLA	
Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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 downhole 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> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Drill holes (BSRC017-019) were drilled on 24/03/2017 and reported in this current release.</li> <li>Drilling was specifically designed to confirm historical gold intersections and to collect material for use in bulk metallurgical test work.</li> <li>Holes were drilled vertically to optimally test the depth and do not represent the true thickness of mineralisation.</li> <li>The Black Snake Exploration Target has been historically sampled using RAB, Reverse Circulation (RC) and diamond drilling (DD) techniques. 29 RAB holes for 1,627m, 18 RC/Percussion holes for 1,146 and 1 Diamond hole for 75.2m have been completed. The drill hole spacing ranges between 10m and 20m centres.</li> <li>RAB samples consist of 3m composites which may have suffered from down-hole grade contamination. Single 1m samples were also sent to the laboratory.</li> <li>Historical samples generated by Giants Reef Mining were sent to North Australian Laboratories Pty Ltd in Pine Creek, Northern Territory.</li> <li>Samples from BSRC017-019 were sent to Intertek Laboratories in Perth, Western Australia.</li> <li>RAB &amp; RC chips are riffle split on site to obtain 3m composite samples from which 3.0kg was pulverised (at the laboratory) to produce a 50g charge for Fire Assay (Au).</li> <li>RC chips (BSRC017 - 019) were riffle split on site to obtain 1m individual samples which are pulverised to produce a 25g charge for Fire Assay. No multi elemental analysis was conducted.</li> <li>Samples consisted of powdered (dust) and larger chips of red hematite ironstone.</li> <li>No QC assessment of drill hole sampling methods, after cut by the drill rig can be made from available data, hence the author has to assume no significant errors occurred during or post drilling sampling process. QAQC measures are assumed to be as per industry best practice for the time</li> </ul>
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).	<ul> <li>3 RC drill holes for 105m were drilled in this drill program (BSRC017 - 019 – table 1 &amp; 2 in text).</li> <li>RC drilling utilizes a 5 <sup>3/4</sup> inch, face sampling bit.</li> <li>RAB, RC and Diamond drilling accounts for 100% of the current drilling at the Black Snake Exploration Target.</li> <li>RC recoveries are logged and recorded in the database and for this program were considered excellent.</li> </ul>
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> <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>	<ul> <li>RC samples are visually checked for recovery, moisture and contamination. No issues were encountered.</li> <li>If any issues or concerns are raised they are discussed at the time with the drilling contractor and also recorded in our database and drilling diary.</li> <li>Recoveries are considered good to excellent for the reported RC drilling (BSRC017-BSRC019).</li> <li>RC samples are collected via a fixed splitter that is mounted to the drill rig under a 800cfm cyclone.</li> <li>The cyclone and splitter are routinely cleaned with more attention spent during the drilling of damp or wet samples.</li> <li>There were no "wet samples" during this program. All samples were dry.</li> </ul>

# SECTION 1 SAMPLING TECHNIQUES AND DATA – BLACK SNAKE EXPLORATION TARGET

Criteria	JORC Code explanation	Commentary
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and</li> </ul>	
	<ul> <li>metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>computers via Logchief software. Look up codes and real time validations reduce the risk of data entry mistakes.</li> <li>Field computer data (the drill log) are uploaded to Emmerson's relational database whereby the data undergoes a further set of validations checks prior to final upload.</li> <li>Standardised codes are used for lithology, oxidation, alteration, veining and presence of sulphide minerals.</li> <li>Structural logging of the RC drill samples was not possible.</li> <li>Magnetic susceptibility data for all individual 1m RC samples are collected as per ERM procedure.</li> <li>All RC chips are stored in trays in 1m intervals.</li> <li>Historical RAB &amp; RC samples could not be lithologically re logged by Emmerson geologists as no chips were retained.</li> <li>A validation of all historical drilling data was completed in 2016 by a full time Emmerson Resources senior geologist.</li> <li>Historical diamond core, RAB &amp; RC chips could not be located.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Coarse rejects are disposed of by the Laboratory.</li> <li>RC duplicate samples were routinely submitted with duplicate assays returning acceptable comparison results.</li> <li>No comment on the historical sub-sampling techniques can be made.</li> </ul>
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>blanks, duplicates.</li> <li>QAQC protocols consist of the insertion of blanks at a rate of one in every 40 samples, insertion of standards (CRM's) at a rate of approximately one in every 20 samples and duplicate field sample analysis of at a rate of approximately one in every 20 samples.</li> <li>A selection of CRM's is available to the geologists and insertion points are predetermined prior to drilling.</li> <li>The geologist has the ability to override this predetermined insertion based on visual and geological characteristics of the</li> </ul>

Criteria	JORC Code explanation	Commentary
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>	<ul> <li>and below the mineralised zone.</li> <li>Individual 1m field duplicates RC samples are collected using a riffle splitter.</li> <li>Laboratory checks include CRM's and in-house controls, blanks, splits, and replicates that are analysed with each batch of samples submitted. These QC results are reported along with sample values in the final analytical report. Barren quartz washes are also routinely used in zones of mineralisation.</li> <li>QAQC data is uploaded with the sample values into ERM's database through an external database administrator (contractor).</li> <li>A QAQC database is created as a separate table in the database and includes all field and internal laboratory QC samples.</li> <li>QC data is reported through a series of control charts for analysis and interpretation by the Exploration Manager or his/her delegate.</li> <li>The sample sizes are considered to be appropriate to correctly represent the gold mineralisation at the Black Snake Exploration Target based on the style of mineralisation (iron oxide copper gold), the thickness and mineral consistency of the intersection(s).</li> <li>Emmerson's Exploration Manager (Competent Person) has discussed in detail the drill and sample collection procedures with the driller and is satisfied that best practice has been followed.</li> <li>Emmerson's Exploration Manager (Competent Person) has discussed sample preparation and analyses with Genalysis Intertek sample Prep and Lab Manager to confirm the integrity of the sample assay process.</li> <li>Due to the high grade nature of the samples several repeats have been carried out and the repeatability is considered to be reasonable.</li> <li>Screen fire assays have not been submitted to assist in correct reporting and particle size analysis.</li> <li>Original data sheets and files are retained to validate the contents of the database against the original logging.</li> <li>No twin drill holes have been completed at the Black Snake</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Exploration Target.</li> <li>Sample locations are shown in Figure 3 and the various tables within the main text.</li> <li>All reported drill hole collars were surveyed (set out and picked up) using a differential GPS and by a suitably qualified company employee.</li> <li>Collar survey accuracy is +/- 30 mm for easting, northing and elevation coordinates.</li> <li>Co-ordinate system GDA_94, Zone 53.</li> <li>Topographic measurements are collected from the final survey drill hole pick up.</li> <li>Downhole survey measurements were collected routinely every 12m down hole using an REFLEX EZ-Shot® electronic single shot camera.</li> <li>Historical RAB holes do not have downhole survey data.</li> <li>Historical RC holes have downhole surveys collected every metre using a 3 component down hole magnetometer.</li> <li>There were no down hole survey issues during this drill program and all collar positions have been validated by the Exploration Manager.</li> </ul>
Data spacing	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is</li> </ul>	Drill holes are spaced 10-15 metres apart in dip and strike. This close spacing is necessary due to the style and

Criteria	JORC Code explanation	Commentary
and distribution	sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	<ul> <li>morphology of the shear zone being drill tested.</li> <li>The spacing of historic drill hole collars is erratic.</li> <li>Identified mineralisation within the Black Snake Exploration Target has been defined by drill holes on a section spacing of 5m to 10m with an average on-section spacing of 10m.</li> <li>Emmerson considers the Black Snake mineralisation to be an Advanced Exploration Target.</li> <li>It is uncertain that further evaluation and/or further exploration work will enable the Black Snake Exploration Target to be reported as a Mineral Resources or Ore Reserves in accordance with the requirements in Appendix 5A (JORC Code).</li> </ul>
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> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Exploration drilling is vertical (BSRC017-019) or at a high angle to the mineralized bodies and/or shear zone (historical drilling).</li> <li>Drilling is perpendicular to mineralized bodies or shear zone.</li> <li>No orientation based sampling bias has been identified in the data at this point.</li> <li>It is considered that the recent RC drilling is representative and that no sample bias has been introduced.</li> <li>Results at this stage suggest that the geological target being tested have been drilled at the correct orientation.</li> <li>It is considered that the vertical drilling is representative and that no sample bias has been introduced.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>RC samples from this round of drilling were selected, bagged and labelled by site geologist and field assistants.</li> <li>They are placed in sealed polyweave bags and then larger bulka bags for transport to the assay laboratory.</li> <li>Sampling intervals are determined by lithological changes.</li> <li>The assay laboratory confirms that all samples have been received and that no damage has occurred during transport.</li> <li>Tracking is available through the internet and designed by the Laboratory for ERM to track the progress of batches of samples.</li> <li>Sample receipt is logged into ERM's sample ledger.</li> <li>While samples are being prepared in the Lab they are considered to be secure.</li> <li>While samples are being analysed in the Lab they are considered to be secure.</li> </ul>
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	<ul> <li><u>No formal audit has been completed on the historical samples.</u></li> <li>An internal review of the sampling techniques, QAQC protocols and data collection <u>has not been conducted by Emmerson.</u></li> </ul>

### SECTION 2 REPORTING OF EXPLORATION RESULTS – BLACK SNAKE EXPLORATION TARGET

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 licence to operate in the area.</li> </ul>	<ul> <li>The Black Snake Exploration Target lies wholly within Mineral Lease C53 (ML C53).</li> <li>The Black Snake Exploration Target is located 15kms east south-east of the Tennant Creek Township and 15.5kms east of the Stuart Highway.</li> <li>Black Snake is situated on map sheet SE53-14 Tennant Creek 1:250,000 and sheet 5758 Tennant Creek 1:100,000 at GDA coordinate 429550mE 7823490mN.</li> <li>ML C53 is located within Aboriginal Freehold Land held by the Warumungu Aboriginal Land Trust (NT portion 3735). The tenement is 100% held by Emmerson Resources Limited.</li> <li>The Exploration Target is on Aboriginal Freehold Land. An agreement under the Aboriginal Land Rights (Northern</li> </ul>

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Territory) Act 1976 has been entered into between Emmerson Resources and the Central Land Council on behalf of the Aboriginal landowners. The agreement provides for the protection of sites, the payment of compensation and allows the landowners unfettered access to the lease area (other than the immediate mine site where there are restrictions).</li> <li>Emmerson Resources are in Joint Venture with Evolution Mining.</li> <li>Exclusion Zones are identified close to MLC 53 however does not impact on the Black Snake Exploration Target area.</li> <li>Approval to drill the program was received from Traditional Owners prior to drilling commencement.</li> <li>MLC 53 is in good standing and no known impediments exist.</li> <li>Black Snake was discovered in 1937 and mined until 1947 by excavation of vertical shafts and horizontal drives to a maximum depth of about 30 metres. There is no recorded production.</li> <li>Giants Reef Mining conducted all known "modern" exploration in and around the Black Snake Exploration Target Area.</li> <li>Giants Reef has carried out exploration on the Black Snake area from 2003 to 2005 and during this time identified</li> </ul>
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	significant gold mineralisation below the outcropping ironstone.
Drillhole	• A summary of all information material to the	<ul> <li>Warramunga Formation; a metamorphosed (greenschist facies)</li> <li>Greywacke-siltstone-shale sedimentary sequence that usually displays a pronounced east-west cleavage. Ore occurs adjacent to steeply dipping, lenticular or pipe-like magnetite/haematite/chlorite/quartz bodies ('ironstone') that are found along east-west trending structures. It is generally thought that the magnetite / haematite was hydrothermally formed in dilation zones along the controlling structures, and that the deposition of gold, sulphides and associated alteration minerals was a later event with mineralisation possibly being derived from a different source but following the same structurally controlled path.</li> <li>In plan view, the ironstone bodies tend to be narrowest in the north-south direction and elongated east west, reflecting the regional cleavage and shearing. Black Snake clearly follows this pattern. Their vertical dimensions may run to hundreds of metres, beyond the reach of surface drilling.</li> <li>Ore grades may occur over substantial vertical intervals of an ironstone pipe or lens, but are not expected to occur over the entire length.</li> <li>The mineralisation style is considered to be Iron Oxide Copper Gold.</li> <li>Supergene enrichment is very evident.</li> </ul>
Drilinole 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 drillholes:         <ul> <li>easting and northing of the drillhole collar</li> <li>elevation or RL of the drillhole collar</li> <li>dip and azimuth of the hole</li> <li>downhole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	• A list of the drift holes, collar detail and intersections is provided in the body of this text Table 1, 2, 3, 4, and on figures 3 - 5.
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually	<ul> <li>Mineralized RC intersections are reported as down hole intervals and not weighted averages.</li> <li>The results discussed are exploration results only and no allowance is made for recovery losses that may occur should mining eventually result, nor metallurgical flow sheet</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>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>	considerations.
Relationship between mineralization 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 drillhole angle is known, its nature should be reported.</li> <li>If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (eg 'downhole length, true width not known').</li> </ul>	<ul> <li>BSRC017-BSRC019 were drilled within the Black Snake Exploration Target area vertical to the east-west striking mineralised zone. The holes were designed and drilled vertical to the steep dipping mineralised zone making the intercepts not true width.</li> <li>The vertical orientation of the drill holes was designed to produce a suitable amount of ore material for bulk metallurgical testing.</li> </ul>
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 drillhole collar locations and appropriate sectional views.</li> </ul>	Refer to Figures in body of text.
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.	<ul> <li>Due to the age the Resource Estimation for the Black Snake resource, Emmerson are cautious and do not believe the historical Resource Estimate can be reported in accordance with the current 2012 JORC Code. Emmerson considers the Black Snake mineralisation to be an Advanced Exploration Target.</li> <li>It is uncertain that following evaluation and/or further exploration work that the historical estimate will be able to be reported as Mineral Resources or Ore Reserves in accordance with the requirements in Appendix 5A (JORC Code).</li> </ul>
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>	<ul> <li>Density measurements were routinely collected by Giants Reef geologists and are recorded in Emmerson's database.</li> <li>No metallurgical testing has been completed on material sourced from the Black Snake Exploration Target.</li> <li>Giants Reef mining conducted a down hole magnetic survey on selected RC drill holes within the target area. Results indicated that there is limited to no magnetic material at depth.</li> <li>No groundwater has been intersected in any of the drilling to date.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg 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>	<ul> <li>Mining Management Plan (MMP) was submitted to the Norther Territory government on the 30/03/2017.</li> <li>On grant of the MMP mining underground development of the Black Snake Exploration Target may commence.</li> <li>Emmerson plan to submit a 100kg bulk sample for metallurgical test and assessment work in the next quarter.</li> <li>Emmerson plan to use the samples collected from the recent drilling program to submit for ore and waste characterisation analysis.</li> <li>Current drill hole spacing is still considered too wide to enable an accurate Mineral Resource Estimate.</li> <li>Petrological study of selected core and drill chips is underway.</li> <li>Once all data is received it will be interpreted (Quarter 3 2017).</li> </ul>