

23 June 2017

# Production Commences at the Edna Beryl Gold Mine

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## Highlights

- Final approvals granted by the NT Government for the commencement of production at the Edna Beryl Gold Mine
- First 600t of development ore averages ~ 40g/t gold
- First new mine in the NT for over a decade and potential to be one of the highest grade gold mines in Australia
- Drilling continues to expand the Edna Beryl mineralisation
- Further high grade gold projects within Emmerson's extensive tenement holdings currently undergoing permitting and approval

Emmerson Resources Limited ("Emmerson" ASX: ERM) and partner Evolution Mining Limited ("Evolution" ASX:EVN) are pleased to announce that final approvals have been received from the Northern Territory Government for production to commence at the Edna Beryl Gold Mine (Figure 1). This will be the first new gold mine in the NT for over a decade and is testament to the Government's recent announcements on revitalising Tennant Creek as a major mining centre. The Government is also conducting a feasibility study into establishing a Central Milling Facility at Tennant Creek – which is expected to stimulate additional mine development and exploration in the region.

Mining at Edna Beryl East is being undertaken by an operator specialising in small mines (the Edna Beryl Mining Company) under a tribute agreement. The agreement relates to a 3D envelope around the shallow mineralisation (Figure 2). Drilling last year extended the mineralisation beyond this 3D envelope, opening up the possibility of either expanding the current mining area or, if the next round of drilling is successful, contemplating a larger scale of development.

The tribute agreement with the Edna Beryl Mining Company provides Emmerson with a number of advantages:

- A risk-free income stream from its non-core assets via a royalty agreement that is proportional to the final amount of extracted gold and Emmerson's equity in the Tennant Creek Mineral Field JV (which is currently 100%);
- Future access to refurbished underground workings for near mine exploration; and

- The opportunity to monetise other non-core assets within its extensive tenement holding, subject to formal agreements being executed.

Assay results from underground sampling of the 90m level development drive at Edna Beryl East correlate well with the bulk sampling of development ore on the ROM pad (Figures 3 & 4). Options to treat the ore are well advanced and include toll treatment or sale to third party mills. Longer term it is envisaged that the Central Milling Facility and/or refurbishment of the Emmerson Warrego plant will provide greater benefits to all stakeholders.

Edna Beryl represents the third discovery by Emmerson (and partners) of high grade, hematite-chlorite hosted gold and copper-gold mineralisation. It validates our science based approach to exploration through ushering in a new generation of deposits that have remained largely undetected by previous explorers.

**Emmerson's Managing Director, Mr Rob Bills commented:** *"The commencement of production at Edna Beryl is a pivotal step since Emmerson began exploration in the Tennant Creek Mineral Field in 2008. It not only provides a revenue stream but establishes a template for unlocking value in many of our other projects contained within our extensive, 3,000km<sup>2</sup> tenement package. We believe this "tribute style of agreement" maximises value and mitigates risk whilst providing great insights for our near mine and regional exploration programs. As we know, small mines can often grow into big mines!"*

*On behalf of the Emmerson Board and our partner Evolution Mining Limited, we congratulate the Edna Beryl Mining Company for its expertise in developing this new generation of high value, small footprint style operations. We acknowledge the hard work and continued support by the Traditional Owners of the Land on which the Edna Beryl mine is situated. We also congratulate the NT Government for their ongoing support and vision under the banner of Transforming the Territory. In particular their initiatives to revitalise Tennant Creek which will undoubtedly provide benefits to all stakeholders."*

**The Minister for Primary Industry and Resources, the Hon Ken Vowles MLA commented:**  
*"Congratulations to all on what we hope is the first mine of many in the Tennant Creek Region."*

*We are focussed on developing the Tennant Creek region as the mining services hub of the Territory*

*We recently announced a feasibility study into a common user mineral processing facility. This investment will help further development of the mining and mineral exploration industry in the Tennant Creek region.*

*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.*

*We are working hard to facilitate and attract investment to the region to help grow our industries and create jobs for Territorians."*

## **About Tennant Creek and 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 (non-executive chairman), and former senior BHP Billiton and WMC executive Rob Bills (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. Emmerson's track record of discovery includes copper and gold mineralisation at Goanna, Monitor, Mauretania and more recently, the discovery of very high-grade gold at Edna Beryl - the first discoveries in the TCMF for over a decade.

Emmerson holds 3,000 km<sup>2</sup> of ground in the TCMF, owns the only gold mill in the region and is in the process of monetising a pipeline of small high-grade exploration targets via a Tribute Agreement with a specialised small mines company. The first of these small mines will be at Edna Beryl, with production to commence in 2017.

Exploration in the TCMF is funded via a Farm-in agreement with Evolution Mining Limited (ASX:EVN), where Evolution is sole funding exploration expenditure of \$15 million by 31 December 2017 to earn a 65% interest (Stage 1 Farm-in). Evolution can then sole fund a further \$10 million over two years to earn an additional 10% (Stage 2 Farm-in). Emmerson is the operator and manager during the Stage 1 Farm-in.

Emmerson has recently commenced exploration on new gold-copper projects in NSW, identified (with our strategic alliance partner Kenex Limited) from the application of "big multiple independent datasets" – aimed at increasing the probability of discovery through enhanced predictive capability (particularly important in covered terrains). The highly prospective Macquarie Arc hosts >80Mozs gold and >13Mt copper but with these resources heavily weighted to areas of outcrop or limited cover. Emmerson's five exploration projects cover some 1,500 km<sup>2</sup> of Macquarie Arc rocks and contain many attributes of the known deposits but remain under explored due to historical impediments, including overlying cover (plus farm lands) and a lack of exploration focus. Kadungle is an option (and potential JV) with Aurelia Metals covering 43km<sup>2</sup> adjacent to Emmerson's Fifield project.

### ***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 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.*

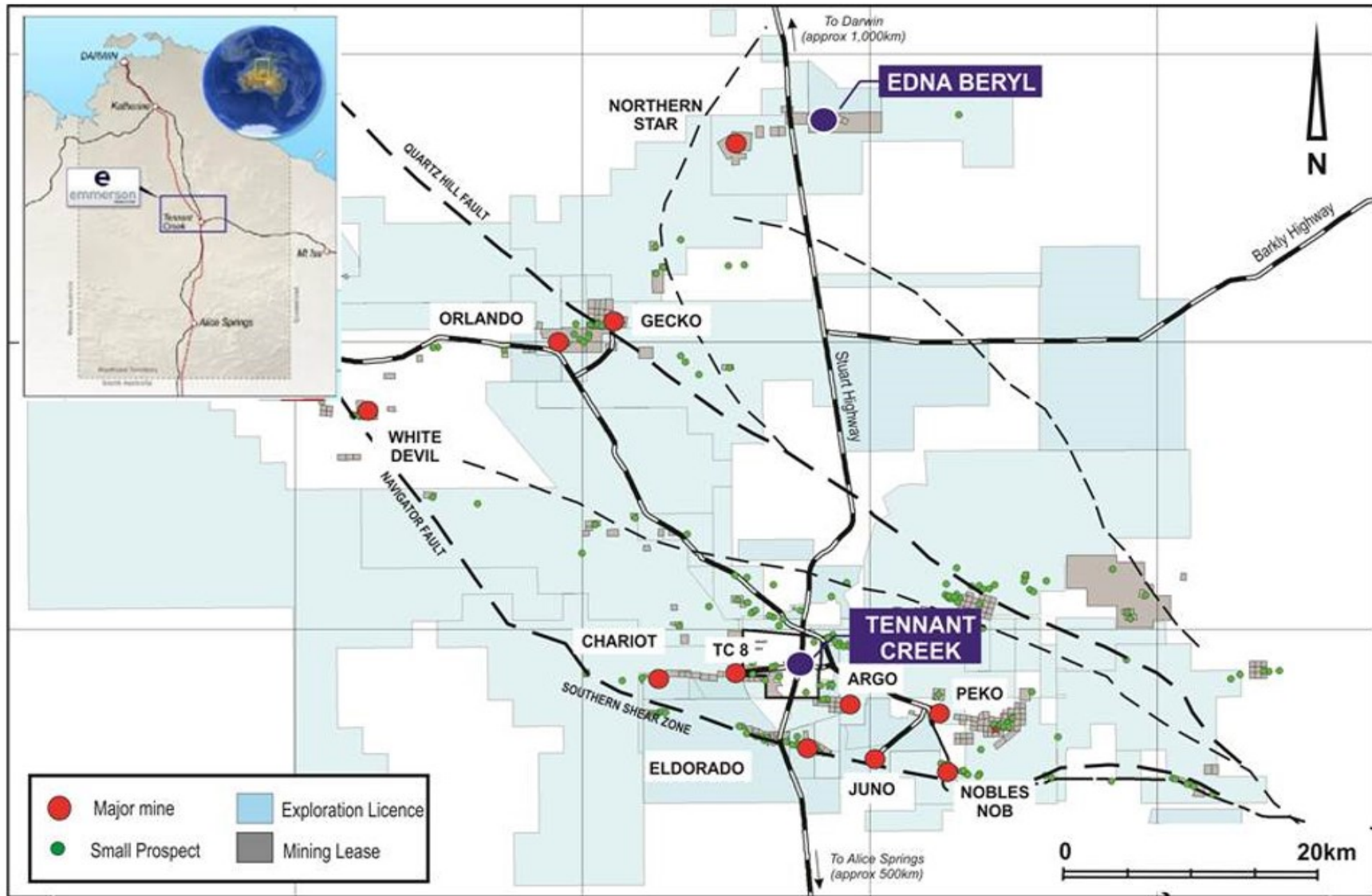


Figure 1: Location of Emmerson's tenement package (light blue) and the Edna Beryl Project Area

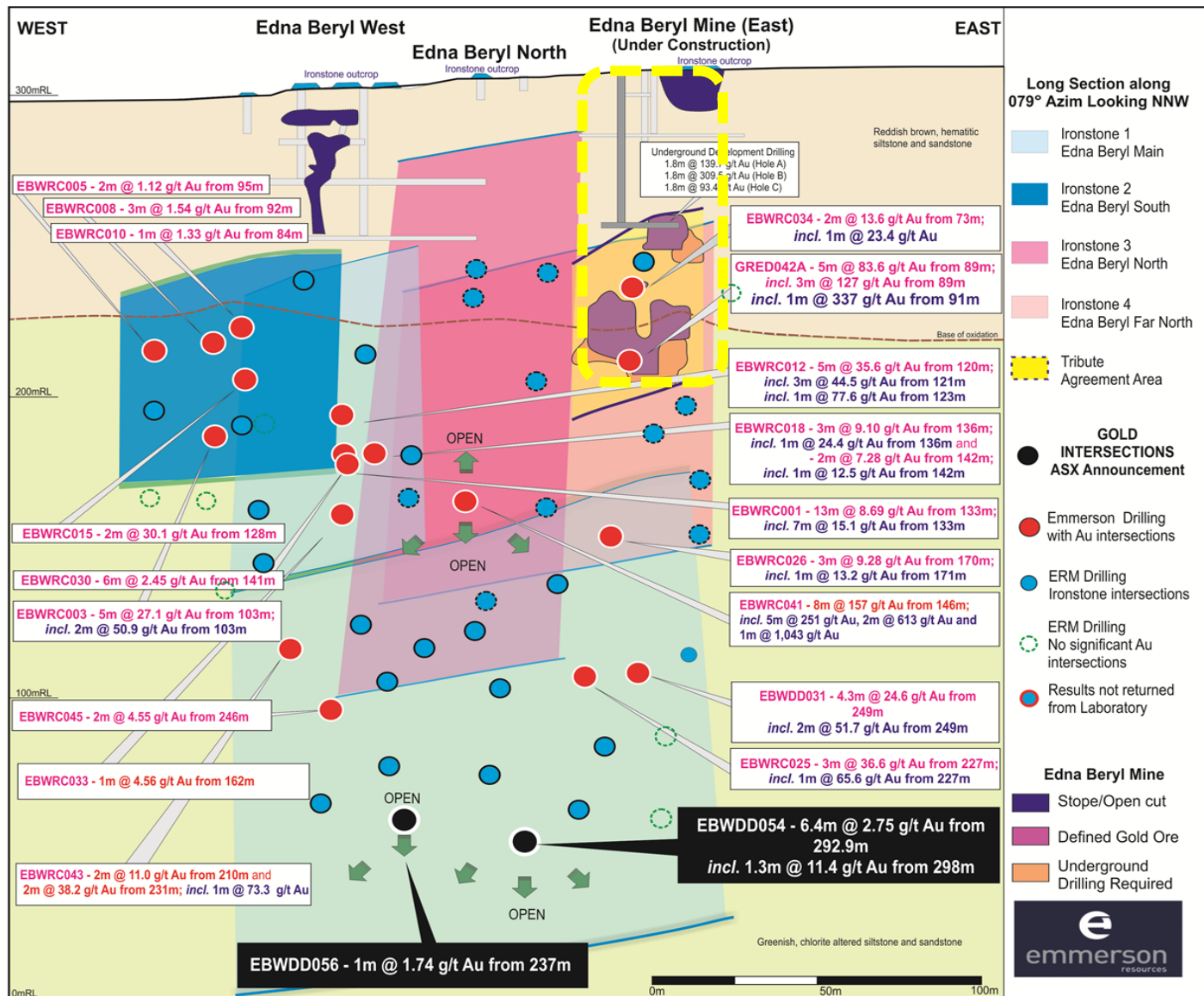


Figure 2: Long section of the Edna Beryl Project - showing 2016 drilling and the Edna Beryl East "small mine" development and tribute area (yellow dotted outline)



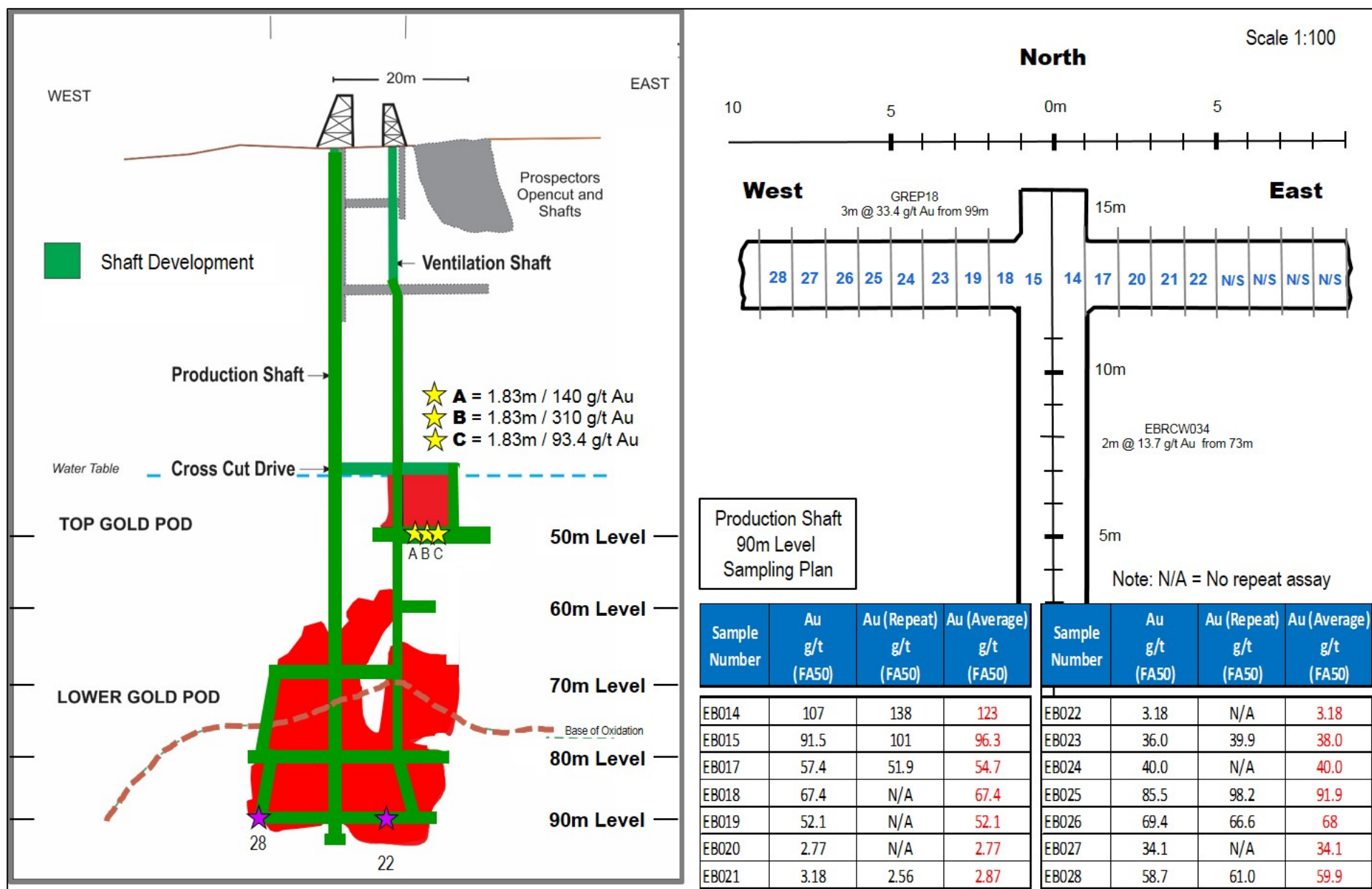


Figure 3: Section of the Edna Beryl Underground Development. Also development drive and assay results from the 90m Level.



Figure 4: Development Ore on the ROM Pad at the Edna Beryl Mine. Note the gold assay results from the bulk samples

**Table 1:** Assay results from breakthrough holes on the Edna Beryl 90 metre Level (refer to figure 2).

Hole ID	East (MGA94_53)	North (MGA94_53)	RL AHD	Dip (deg)	Azi (deg)	From (m)	To (m)	Width (m)	Au (g/t)	Ag (ppm)	Bi (ppm)	Cu (ppm)	Fe (%)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Sb (ppm)
EBWRC034	416656.12	7864921.06	307.9	-69	169.8	73.0	75.0	2.0	13.6	2.10	340	102	16.1	117	160	13.7	6.31
						78.0	79.0	1.0	1.12	1.30	131	80	10.3	28.1	255	3.6	0.79
GREP18	416648.30	7864834.96	305.5	-65	352.0	99	102	3.0	33.4	N/A	541	281	17.3	N/A	N/A	N/A	N/A
						107	108	1.0	2.11	N/A	4.0	13.0	5.41	N/A	N/A	N/A	N/A

**Note:**

- (1) EBWRC034 + GREP018 results are riffle split RC samples.
- (2) Intersections are reported as downhole lengths and not true width.
- (3) Gold analysis method by 25g fire assay with ICP-OES finish.
- (4) Multi element analysis method by 4 acid digest & ICP-OES, ICP-MS finish.
- (5) Minimum cut-off of 1 g/t Au. No maximum cut-off.
- (6) Minimum cut-off of 1% Cu. No maximum cut-off.
- (7) Maximum of 2m internal dilution.
- (8) N/A indicates that the element was not assayed.

**Table 2:** Assay results from Edna Beryl 90 metre Level underground grab samples (refer to figure 2, 3). Note that N/A indicates not assayed.

Sample ID	Au_1 (g/t)	Au_Repeat (g/t)	Au_Average (g/t)
EB014	107	138	123
EB015	91.5	101	96.3
EB017	57.4	51.9	54.7
EB018	67.4	N/A	67.4
EB019	52.1	N/A	52.1
EB020	2.77	N/A	2.77
EB021	3.18	2.56	2.87
EB022	3.18	N/A	3.18
EB023	36.0	39.9	38.0
EB024	40.0	N/A	40.0
EB025	85.5	98.2	91.9
EB026	69.4	66.6	68.0
EB027	34.1	N/A	34.1



## SECTION 1 SAMPLING TECHNIQUES AND DATA—EDNA BERYL EXPLORATION TARGET

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>Underground grab sample assay results reported in this ASX announcement were collected as underground grab samples.</li> <li>Samples were collected by the tribute miners during the development of the 90 metre level. The samples were collected to confirm and map the gold grade distribution within the 90m Level mineralised ironstone.</li> <li>Development advanced on the 90m Level in an east – west direction following the strike of the mineralised ironstone.</li> <li>During this advancement samples were collected at 1 metre advancements along the development drives and taken to the surface (please refer to figures).</li> <li>Reverse circulation drill hole EBWRC034 was drilled by Emmerson Resources (reported ASX: 31/10/2016).</li> <li>Reverse circulation drill hole GREP018 was drilled by Giants Reef Mining in 13/02/1996.</li> <li>Holes were angled to optimally test the interpreted Edna Beryl shear zone.</li> <li>Drill holes have been drilled at an angle between 65– 70 degrees and both holes were drilled towards the south.</li> <li>Underground grab samples were assayed by North Australian Laboratories, Pine Creek, Northern Territory.</li> <li>The grab samples weighed approximated 10kg.</li> <li>Grab samples were assayed for gold only by 50 gram charge fire assay.</li> <li>Repeats were conducted on 57% of submitted grab samples by North Australian Laboratories.</li> <li>Due to the high grade nature of the samples a quartz flush was requested after each sample was pulverised.</li> <li>RC chips from EBWRC034 were riffle split on site to obtain 3m composite samples from which 2.5–3.0kg sample was pulverised (at Genalysis in Alice Springs) to produce a 25g charge for analysis by Aqua Regia digestion / ICP-MS/OES (Au, Ag, Bi, Cu, Fe, Pb, Zn, Mo, Se, Sb).</li> <li>Individual 1m (re-split) samples are retained on the drill site. Anomalous zones were individually assayed (re-splits) once 3m composite results are returned.</li> <li>Individual 1m samples are pulverised to produce a 25g charge for analysis by four acid digest with an ICP/OES (Cu, Fe, Pb, Zn) ICP/MS (Ag, Bi, Mo, Sb,) &amp; Fire Assay/AAS (Au) finish.</li> <li>Drill hole samples from GREP018 were riffle split on site to obtain 3m composite samples from which 2.0–2.5kg sample was pulverised (at Australian Laboratory Services (ALS) in Perth, Western Australia to produce a 50g charge for analysis by Fire Assay / ICPMS. GREP018 samples were only assayed for Au, Cu, Bi and Fe.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li><i>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).</i></li> </ul>	<ul style="list-style-type: none"> <li>GREP018 and EBWRC034 were both drilled by Reverse Circulation by Gaden Drilling and Bullion Drilling respectively.</li> <li>GREP018 and EBWRC034 drill holes utilized 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 Edna Beryl Exploration Target.</li> <li>RC recoveries were logged for both holes and recorded as very good.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li><i>Measures taken to maximise sample recovery and ensure representative nature of the</i></li> </ul>	<ul style="list-style-type: none"> <li>Samples from EBWRC034 were 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>RC recoveries were logged for both holes and recorded as very good.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>samples.</i></p> <ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• EBRC034 RC samples are collected via a fixed cone splitter that is mounted to the drill rig under a 1200cfm 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” recorded in either hole.</li> <li>• Emmerson consider that there is strong evidence for sample bias that may have occurred during the grab sampling protocol. This is due to preferential loss/gain of fine/coarse material. Visible (course) gold was commonly identified within the underground samples and caution is required when interpreting the underground grab sample results.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Standard operating procedures are employed by Emmerson for logging of the EBWRC034 RC drill hole.</li> <li>• Giants Reef senior geologist logged the GREP018 drill hole on a paper template which was later translated to Micromine.</li> <li>• Both RC holes were lithologically logged in one metre intervals.</li> <li>• No geological logging was completed on the underground grab samples however; the samples are described as grey-black, heavy ironstone.</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 EBWRC034 RC samples. No magnetic information available for GREP018 or the grab samples.</li> <li>• All RC chips are stored in trays in 1m intervals.</li> <li>• Drill hole logging and underground sampling is considered as qualitative data.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Standard sampling operating procedures have used by Emmerson during the drilling of EBWRC034.</li> <li>• The sample preparation of EBRC034 samples for follows industry best practice in sample preparation involving oven drying, coarse crushing of the sample down to ~10mm followed by pulverisation of the entire sample (total prep) using LM5 grinding mills to a grind size of 85% passing 75 micron.</li> <li>• The grab samples weighed approximated 10kg.</li> <li>• The sample preparation for the underground grab samples involved coarse crushing of the sample down to ~10mm followed by pulverisation of the entire sample (total prep) using LM5 grinding mill to a grind size of 80% passing 75 micron.</li> <li>• Grab samples were assayed for gold only by 50 gram charge fire assay.</li> <li>• Repeats were conducted on 57% of submitted grab samples by North Australian Laboratories.</li> <li>• RC duplicate samples were routinely submitted with duplicate assays returning acceptable comparison results.</li> <li>• Due to the high grade nature of the samples a quartz flush was requested after each sample was pulverised.</li> <li>• Pulverised material not required by the laboratory (pulp) including duplicate samples were returned to ERM, logged into a database and stored undercover at the Tennant Creek office.</li> <li>• Coarse rejects are disposed of by the Laboratory.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis</i></li> </ul>	<ul style="list-style-type: none"> <li>• Field QC procedures involve the use of certified reference material (CRM's) as assay standards, and ERM include 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</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></p> <ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<p>based on visual and geological characteristics of the current drill hole.</p> <ul style="list-style-type: none"> <li>Insertion of assay blanks is increased when visual mineralisation is encountered and consists of insertion above and below the mineralised zone.</li> <li>Individual 1m field duplicates RC samples are collected using a riffle splitter.</li> <li>Laboratory checks for EBWRC034 included 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>No QAQC data could be located for GREP018.</li> <li>No standards were included in the underground grab sample submission.</li> <li>Repeats were conducted on 57% of submitted grab samples by North Australian Laboratories.</li> <li>QAQC data is uploaded with the sample values into ERM's database through an external database administrator (contractor).</li> <li>Emmerson's 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 Edna Beryl 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 sampling methodology (SOP) is available at any time for peer review.</li> </ul>
<p><b>Verification of sampling and assaying</b></p>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Emmerson's Exploration Manager (Competent Person) has discussed in detail the drill and underground sample collection procedures with the driller and tribute miner and is satisfied that best practice sampling protocols have been followed.</li> <li>Emmerson's Exploration Manager (Competent Person) has discussed sample preparation and analyses with the Genalysis Intertek and North Australian Laboratory Lab Managers and confirms the integrity of the sample assay process.</li> <li>Do to the high grade nature of the samples several repeats have been carried out and the repeatability is considered to be reasonable.</li> <li>No twin drill holes have been completed at the Edna Beryl Exploration Target.</li> </ul>
<p><b>Location of data points</b></p>	<ul style="list-style-type: none"> <li><i>Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>Sample locations are shown in Figure 2 and Table 2 within the main text.</li> <li>The collar of EBWRC034 was surveyed (set out and picked up) using a differential GPS and by a suitably qualified company employee.</li> <li>The collar of GREP018 was surveyed (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>Underground survey control has been established by a suitably qualified company employee.</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 6m down hole using an REFLEX EZ-Shot® electronic single shot camera for EBWRC034.</li> <li>This survey camera equipment is quoted by the manufacturer to have an accuracy of <ul style="list-style-type: none"> <li>Azimuth <math>0-360^{\circ} \pm 0.5^{\circ}</math></li> <li>Dip <math>\pm 90^{\circ} \pm 0.2^{\circ}</math></li> </ul> </li> <li>There were no down hole survey issues during the drilling of EBWRC034. All collar positions have been validated by the</li> </ul>

Criteria	JORC Code explanation	Commentary
		Exploration Manager.
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Identified mineralisation within the Edna Beryl Exploration Target has been defined by drill holes on a section spacing of 10 m to 20 m with an average on-section spacing of 10 m.</li> <li>• Emmerson considers the Edna Beryl mineralisation to be an Advanced Exploration Target and that 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> <li>• The grab sample spacing and distribution confirms geological and grade contribution however is NOT considered appropriate for the Mineral Resource and Ore Reserve estimation procedures to allow a Resource Classification to be declared.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Underground grab samples were collected in an east-west orientation and are parallel (along strike) to the ore zone (ironstone).</li> <li>• Exploration drilling is at a high angle to the mineralized bodies and/or shear zone.</li> <li>• Exploration 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>• Results at this stage suggest that the geological targets being tested have been drilled at the correct orientation.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• RC samples were selected, bagged and labelled by site geologist and field assistants.</li> <li>• Samples are placed in sealed polyweave bags and then larger bulka bags for transport to the assay laboratory.</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> <li>• Underground grab samples were driven to Pine Creek from Tennant Creek and delivered to the North Australian Laboratory's Lab Manager.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <u>No formal audit has been completed on historical samples.</u></li> <li>• An internal review of the historical sampling techniques, QAQC protocols and data collection <u>has not been conducted by Emmerson.</u></li> <li>• Digital Rock Services Pty Ltd (1998) and Rocksearch Australia validated historical data on two separate occasions. Minor issues were identified and remedied at the time.</li> </ul>



## SECTION2 REPORTING OF EXPLORATION RESULTS – EDNA BERYL EXPLORATION TARGET

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Edna Beryl Exploration Target lies wholly within Mineral Lease C705 (ML C705).</li> <li>• The Edna Beryl Exploration Target is located 37kms north of Tennant Creek Township and 3kms east of the Stuart Highway.</li> <li>• Edna Beryl is situated on map sheet SE53-14 Tennant Creek 1:250,000 and sheet 5759 Flynn 1:100,000 at GDA coordinate 416500mE 7864700mN.</li> <li>• ML C705 is located within Aboriginal Freehold Land held by the Warumungu Aboriginal Land Trust (NT portion 1754). 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 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 within MLC 705 however does not impact on the Edna Beryl Exploration Target area.</li> <li>• Approval to drill the third phase of drilling was received from Traditional Owners prior to drilling commencement.</li> <li>• MLC 705 is in good standing and no known impediments exist.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Edna Beryl was discovered in 1935 and mined in the 1940s and 1950s by excavation of vertical shafts and horizontal drives to a maximum depth of about 50 metres. Production up until 1952 was reportedly 2,700 tonnes of ore at an average grade of 53 grams gold per tonne.</li> <li>• Giants Reef Mining conducted all known “modern” exploration in and around the Edna Beryl Exploration Target Area.</li> <li>• Giants Reef has carried out exploration on the Edna Beryl area from 1990 to 2005 and during this time identified significant gold mineralisation below the original workings.</li> <li>• An existing shaft sunk during the earlier mining was refurbished in 1996.</li> <li>• In 2004 – 2005 mining was conducted by the Edna Beryl Mining Company (formally known as Craig’s Mining Services) in a Tribute arrangement with Giants Reef Mining. Approximately 410 ounces was produced during this period from the upper mineralised pod from an exploration shaft and drive to current depth of 52m.</li> <li>• Influx of underground water plus declining gold price ceased the operation in July 2005.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Gold and copper-gold deposits discovered in the Tennant Creek gold field to date, are hosted in the Lower Proterozoic 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</li> </ul>

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		<p>north-south direction and elongated east west, reflecting the regional cleavage and shearing. Edna Beryl clearly follows this pattern. Their vertical dimensions may run to hundreds of metres, beyond the reach of surface drilling.</p> <ul style="list-style-type: none"> <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>
<b>Drillhole information</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>A list of the drill holes, collar detail and intersections is provided in the body of this text and in Table 1 &amp; 2 and on figure 2.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</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>	<ul style="list-style-type: none"> <li>Mineralized RC intersections are reported as down hole intervals and not weighted averages.</li> <li>The underground grab samples are not aggregated.</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 considerations.</li> </ul>
<b>Relationship between mineralization widths and intercept lengths</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The holes drilled within the Edna Beryl Exploration Target area are perpendicular the east-west striking mineralised zone. The holes were designed and drilled perpendicular to the steep dipping mineralised zone making the intercepts approximate to true width.</li> <li>Underground grab samples were collected in an east-west orientation and are parallel (along strike) to the ore zone (ironstone).</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Figures in body of text.</li> </ul>

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	<p><i>reported. These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.</i></p>	
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Due to the age the Resource Estimation for the Edna Beryl 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 Edna Beryl 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>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Geotechnical logging was carried out on all historical and current diamond drill holes for recovery, RQD and number of defects (per interval). Information on structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness and fill material was stored in the structure table of the Micromine database.</li> <li>• Density measurements were routinely collected by Giants Reef and Emmerson geologists.</li> <li>• Metallurgical testing of selected mineralised Edna Beryl samples was conducted by Metcon Laboratories Pty Ltd in 1996.</li> <li>• Metallurgical testing concluded that 70% could be gravity recovered with the remaining gold cyanide soluble so that total gold extraction of &gt;98% could be obtained. Screen Fire Assay of selected samples was conducted by Giants Reef Mining.</li> <li>• Geophysical magnetic susceptibility logging is completed at 1m intervals on site (RC drilling) and in the core shed for selected sections of diamond core.</li> <li>• Thin section samples were collected by Giants Reef Mining to assist in the refinement of the geological model.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• RC and diamond drilling (Phase 4) is currently underway to further assist in confirming the geological and grade continuity of gold mineralisation already intersected.</li> <li>• Completion of drilling is expected until mid – July, 2017.</li> <li>• Gyro survey of completed holes.</li> <li>• Optical / Acoustic televiewer survey in during drilling of Phase 4.</li> <li>• Current drill hole spacing is still considered too wide to enable an accurate Mineral Resource Estimate.</li> <li>• Twin hole drill program to be designed.</li> <li>• Petrological study of selected core and drill chips is underway.</li> <li>• Once all data is received it will be interpreted.</li> <li>• Geological interpretation as discussed in the text.</li> </ul>