

19 May 2016

## High Grade Gold intersected at Edna Beryl West Major drill program to commence immediately

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- Outstanding shallow drill results from the first drill campaign include:
  - **5m at 27g/t gold, including;**
    - **2m at 51g/t gold from 103m**
  - **13m at 8.7g/t gold, including;**
    - **7m at 15g/t gold from 133m**
- New interpretation suggests that the Edna Beryl West mineralisation may extend to the extremely high grade Edna Beryl mine, representing a much larger, shallow high grade gold deposit.
- This new interpretation also highlights potential for repeated deeper hematite associated ironstone gold mineralisation beneath the Edna Beryl mine, as evidenced from historic drill holes:
  - GRED27 of 6.6m at 4g/t gold including 1m at 19g/t and 1m at 5.4g/t gold
- The Edna Beryl East mine is the subject of the “small mines tribute agreement” where development is currently underway and recent underground drilling (ASX: 16 March 2016) produced bonanza grades of:
  - 1.8m at 140g/t gold (drill hole A)
  - 1.8m at 309g/t gold (drill hole B)
  - 1.8m at 93.4g/t gold (drill hole C)
- First production from the Edna Beryl mine is anticipated later this year.
- The next 3,500m drill campaign in the Edna Beryl district will commence shortly and is fully funded through the earn-in and JV with Evolution Mining.
- Planning and permitting is underway to bring forward development of additional small mines, plus potential development of the high grade Chariot Gold Mine.

Emmerson Resources Limited (“Emmerson”, ASX:ERM) and partner, Evolution Mining Limited (“Evolution”, EVN) are pleased to announce highly encouraging assay results from the recent drill program at Edna Beryl West, within Emmerson’s 100% owned project at Tennant Creek in the Northern Territory (figure 1).

The significance of these results are not only reflected in extensions to previous shallow high grade mineralisation, but more importantly provide the basis of a much expanded resource within the Edna Beryl district. This new interpretation suggests multiple, sub parallel “panels or ore shoots” that are structurally controlled both up and down plunge and also strike. The four “ore shoots” identified to date connect the high grade gold mineralisation at Edna Beryl with the recent and historic drill holes at Edna Beryl West (figure 2). Of significance is the paucity of drilling at depth, which by historic standards is still shallow and within 200m of the surface.


The next round of drilling will consist of 3,500m starting later this month and focussed on testing this new interpretation of high grade gold within multiple ore shoots, and where historic drilling is almost non-existent (figure 3).

In parallel, development of the first of the “small mines” at Edna Beryl continues to make progress and will provide further opportunities for underground drilling around the immediate Edna Beryl mine (figure 2). Note the Edna Beryl mine is the subject of a tribute agreement (ASX: 11 August 2015) which constrains the mining to a 3D envelope centred on the Edna Beryl mine. This standalone Tribute Agreement provides Emmerson with a number of advantages:

- A risk-free, near term income stream from non-core assets via a royalty agreement (until EVN completes its earn-in, ERM receives 100% of its share flowing from this agreement)
- Future access to refurbished underground workings for near mine exploration,
- The opportunity to monetise a pipeline of other non-core assets within Emmerson’s extensive tenement holdings,

The refurbishment of the production shaft to 54m and the ventilation shaft to 26m at Edna Beryl East and establishment of camp, office and associated facilities is now complete. This refurbishment has included re-establishment of an east-west drive that was developed in April 2004 by Edna Beryl Mining Company (formally Craig’s Mining Services). The drive successfully intersected the upper gold pod (in 2004) and provided a 209 tonne, bulk sample for the previous owner, Giants Reef Mining Limited. The bulk sample was treated through the Warrego CIP mill and returned **an exceptional head grade of 58.4 grams per tonne gold**. Development of Edna Beryl was halted in 2005 as the contractor was redirected onto other projects.

It is now believed that the bulk sample collected in 2004 represented mineralisation within the alteration envelope at the very top of the gold pod. Recent bonanza gold mineralisation in development drilling (ASX: 16 March 2016) indicates that these drill holes are the first samples of the



main supergene zone within the hematite ironstone. When commissioned, Edna Beryl will to the company's knowledge become the highest grade gold mine in Australia.

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## **About Tennant Creek and Emmerson Resources**

The Tennant Creek Mineral Field (TCMF) is one of Australia's highest grade gold and copper fields producing over 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.

Emmerson 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.

Pursuant to the Farm-in agreement entered into with Evolution Mining Limited (Evolution) on 11 June 2014, Evolution is continuing to sole fund exploration expenditure of \$15 million over three years 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. Evolution must spend a minimum of \$7.5 million on exploration, before it can terminate the farm-in. 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 \$8 million.

## **About Evolution Mining**

Evolution Mining is a leading, growth-focussed Australian gold miner. Evolution operates seven wholly owned mines – Cowal in New South Wales, Cracow, Mt Carlton, Mt Rawdon and Pajingo in Queensland, and Edna May and Mungari in Western Australia.

Group production for FY15 from Evolution's five existing operating assets (prior to completion of the Cowal and Mungari acquisitions) totalled 437,570 ounces gold equivalent at an All-In Sustaining Cost of A\$1,036 per ounce. Evolution has guided FY16 attributable gold production from all seven operating assets of 770,000 – 820,000 ounces at an AISC of A\$970 – A\$1,020 per ounce.

## **About Edna Beryl Mineralisation**

Edna Beryl was discovered by prospectors in 1935 and mined underground in the 1940s and 1950s to a maximum depth of approximately 50 metres. Production up until 1952 was reportedly 2,700t of ore at an exceptional grade of 53g/t gold.

More recent exploration in the Edna Beryl area between 1996 and 2000 by Giants Reef Mining GRM outlined additional high-grade gold mineralisation below the historic workings and resulted in an estimate being reported in 1998 by independent consultants in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC:1998). While this estimate does not meet the minimum reporting requirements for a Mineral Resource under the current 2012 JORC Code, Emmerson considers the Edna Beryl mineralisation to constitute an Exploration Target of 5,000t to 10,000t at 20 to 30 g/t gold, however cautions that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

### ***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.*

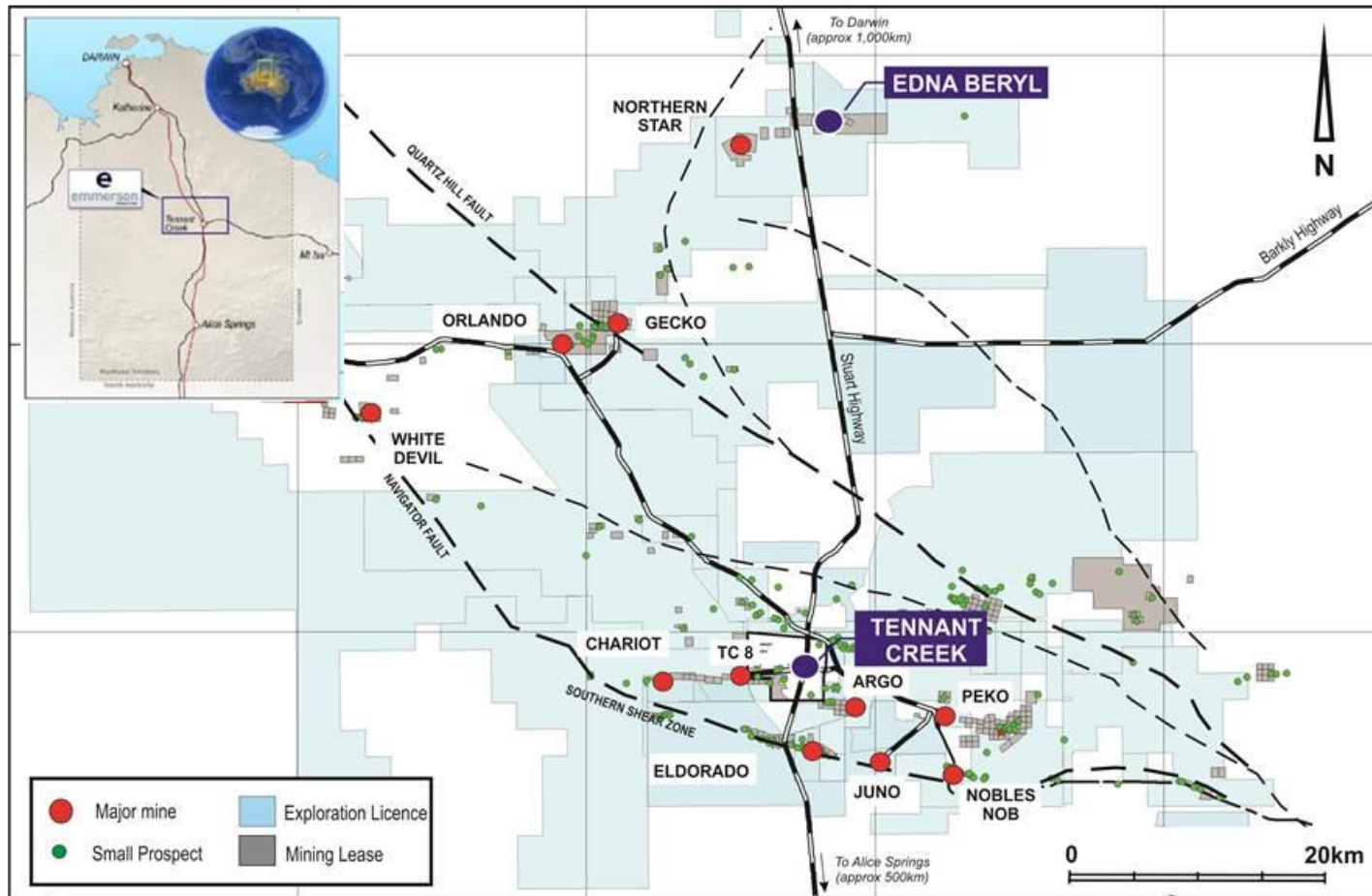


Figure 1 – Location of Emmerson’s Tennant Creek Project and Edna Beryl - the first small mine at Edna Beryl (the subject of a Tribute Agreement)



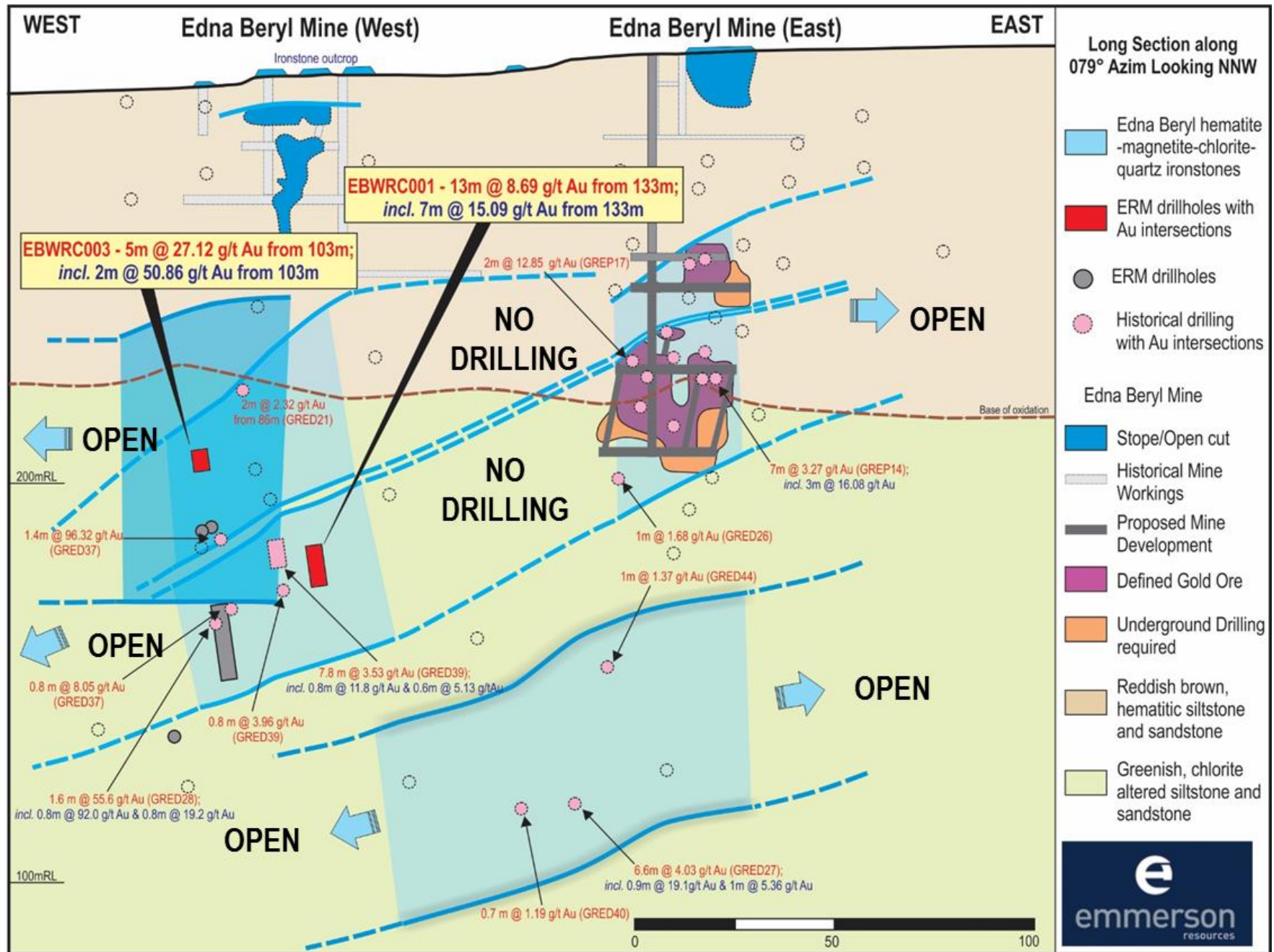


Figure 2 – Long Section with the new interpretation that links Edna Beryl West with the Edna Beryl East “small mine” development. Recent drill results (yellow call out boxes)

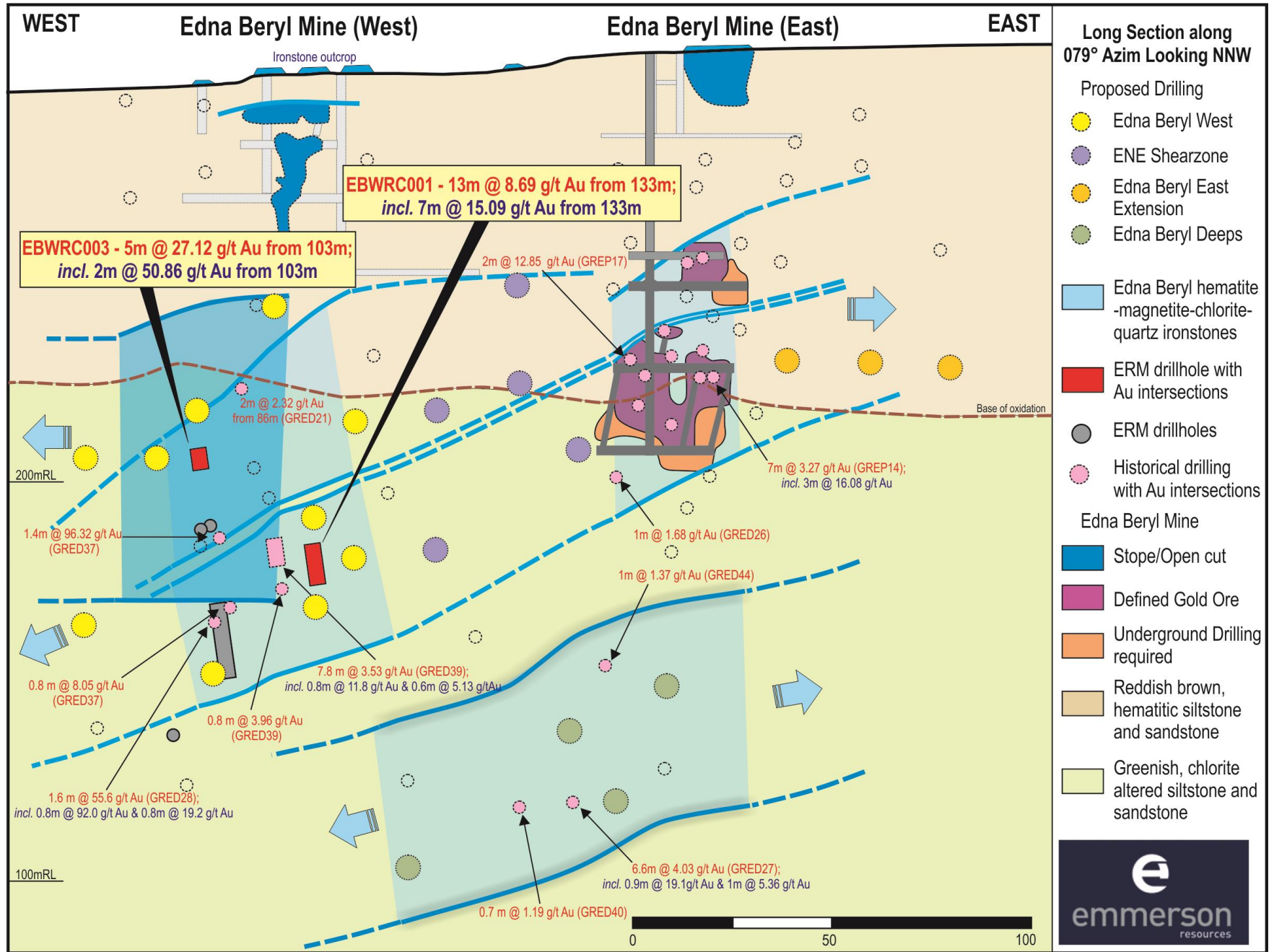


Figure 3 – Long Section of the Edna Beryl district and planned drilling in each of the four ore shoots or panels (pierce points as colour coded dots)



**Table 1:** Edna Beryl West drill hole details

Hole ID	East (MGA94_53)	North (MGA94_53)	RL AHD	Dip (deg)	AZI mag (deg)	Depth	Drill Date	Drill Type	Tenement	Sample Type
EBWRC001	416573.10	7864800.14	298.8	-67	349.5	161.0	12/04/2016	RC	MLC705	RC Chips
EBWRC002	416547.76	7864805.43	298.39	-67	348.5	168.0	13/04/2016	RC	MLC705	RC Chips
EBWRC003	416547.40	7864807.41	298.41	-66	348.5	167.0	13/04/2016	RC	MLC705	RC Chips
EBWRC004	416537.54	7864790.42	298.53	-67	348.5	192.0	14/04/2016	RC	MLC705	RC Chips

**Table 2:** Edna Beryl West significant drill hole 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)	Ag (ppm)	Bi (ppm)	Cu (ppm)	Fe (%)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Sb (ppm)	Sample Type
EBWRC001	416573.10	7864800.14	298.8	-67	349.5	133	146	13	<b>8.69</b>	1.47	69	573	25	29	54	71	10.5	1 metre
					<i>Inc.</i>	<b>133</b>	<b>140</b>	<b>7</b>	<b>15.1</b>	1.26	64	390	25	22	83	12	12.5	1 metre
						135	137	2	<b>24.7</b>	1.76	79	218	22	35	70	10	5.81	1 metre
EBWRC003	416547.40	7864807.41	298.41	-66	348.5	103	108	5	<b>27.1</b>	4.43	391	67	17	40	97	10	0.69	1 metre
					<i>Inc.</i>	<b>103</b>	<b>105</b>	<b>2</b>	<b>50.9</b>	8.66	659	99	19	68	139	8	0.81	1 metre

**Note:**

- (1) All samples are 1m riffle split samples.
- (2) Gold analysis method by 25g fire assay with ICP-OES finish.
- (3) Multi element analysis method by 4 acid digest & ICP-OES, ICP-MS finish.
- (4) Intersections are reported as downhole lengths and not true width.
- (5) Minimum cut-off of 0.5 g/t Au. No maximum cut-off.
- (6) Minimum cut-off of 0.05% Cu. No maximum cut-off.
- (7) No internal dilution.

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).

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

Criteria	JORC Code explanation	Commentary
<p><i>Sampling techniques</i></p>	<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>• Drill holes (EBWRC001-004) targeted ironstone to the west of the known Edna Beryl mineralisation. These were single hole tests.</li> <li>• Holes were been angled to optimally test the interpreted shear zone). Typically, most drill holes have been drilled at an angle between 60 – 70 degrees).</li> <li>• The Edna Beryl Exploration Target has been historically sampled using RAB, Reverse Circulation (RC) and diamond drilling (DD) techniques. 24 RAB holes for 1,140m, 29 RC/Percussion holes for 2,534m and 26 Diamond holes for 4,678.2m have been completed. The drill hole spacing is nominal 10m x 10m grid spacing. In areas of mineralisation spacing has been reduced to 5m x 5m. Holes have been angled to optimally test the host shear zone. Typically, most drill holes have been drilled towards the North at angles (dip) between 45 to 70 degrees from surface.</li> <li>• RAB samples consist of 4m composites which may have suffered from down-hole contamination and were not used in any resource estimation. Only RC and Diamond data was used for resource estimations which included 55 holes and 2,373 samples.</li> <li>• EBWRC001-004 RC chips are riffle split on site to obtain 3m composite samples from which 2.5 – 3.0kg 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, U, Se, Sb).</li> <li>• Individual 1m (re-split) samples are retained on the drill site and 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, Se, Sb, U) &amp; Fire Assay/AAS (Au) finish.</li> <li>• RC samples were collected via a fixed cone splitter that is mounted to the drill rig under a 1200cfm cyclone.</li> <li>• The fixed cone splitter has three sample chutes for comparative sampling, 2 chutes are synchronised for comparative samples and 1 Chute is independently set for the geologists field samples. Diamond core was used to obtain high quality samples that were logged for lithological, structural, geotechnical, density and other attributes.</li> <li>• No assessment of the QC of the historical drill hole sampling methods, 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> <li>• Diamond core was typically NQ2 size, however some larger diameter core was also collected (HQ). Core was</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>sampled on geological intervals (0.5 m to 1.5 m), cut into half core using a standard brick saw. Sample weights of approximately 3.0kg were crushed, dried and pulverised (Lab) to produce a 50g sub sample for analysis by multi acid digest with an AAS (Cu,Fe,Bi) finish &amp; Fire Assay (Au) finish.</p> <ul style="list-style-type: none"> <li>• Air Leg samples (ASX:16 Mar 2016) were collected from the floor of the refurbished cross cut drive at Edna Beryl to a final depth of 1.83m or 6 foot.</li> <li>• Samples were collected from approximately 53m below surface level.</li> <li>• Samples consisted of powdered (dust) and larger chips of red hematite ironstone.</li> </ul>
<p><i>Drilling techniques</i></p>	<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>• Four RC drill holes were drilled (this ASX release) in this initial program (EBWRC001-004 – see table in text).</li> <li>• Total metres drilled are 688m. The shallowest hole was 161m and deepest was 192m).</li> <li>• RC drilling utilizes a 4.5 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>• NQ2 core diameter is 50.6mm.</li> <li>• HQ core diameter is 63.5mm.</li> <li>• Drill hole depths range from 17m to 508m.</li> <li>• Sections of diamond drill core has been oriented to obtain structural measurements however orientation tool type and frequency could not be established with any degree of certainty.</li> <li>• Diamond core and RC recoveries are logged and recorded in the database.</li> <li>• Standard inner tube has been used.</li> <li>• Diamond core from the Edna Beryl exploration target was reconstructed into continuous runs on a 6m long angle-iron cradle for orientation marking.</li> <li>• Depths are checked against the depth given on the core blocks for accuracy.</li> <li>• Three vertical air leg holes were spaced at 1m x 1m and drilled to a final depth of 1.83m (ASX:16 Mar 2016).</li> <li>• The diameter of the air leg drill steel outside diameter is 30mm.</li> <li>• Two samples were collected from each drill hole.</li> <li>• The first sample was collected from the surface of the drive floor to a distance of 1.22m or 4 foot.</li> <li>• The 1.22m hole was then blown out and cleaned via the air leg to ensure minimal contamination.</li> <li>• The second sample was then collected from 1.22 to a final depth of 1.83m or 6 foot.</li> <li>• All three holes were drilled this way.</li> </ul>
<p><i>Drill sample recovery</i></p>	<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 samples.</i></li> <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>• RC samples are visually checked for recovery, moisture and contamination.</li> <li>• Any issues or concerns are discussed at the time with the drilling contractor and also recorded in our database.</li> <li>• Recoveries are considered good for the reported RC drilling.</li> <li>• 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</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>attention spent during the drilling of damp or wet samples.</p> <ul style="list-style-type: none"> <li>• It was rare to experience more than 2 sequential “wet samples” during this program.</li> <li>• Emmerson consider that there is evidence for sample bias that may have occurred due to preferential loss/gain of fine/coarse material. Visible (course) gold is identified in sections of diamond core so caution is required.</li> <li>• Air leg drill sample was collected as dust and chips were returned to the surface of the cross cut drive.</li> <li>• All samples were dry.</li> <li>• Sample recovery considered good and representative.</li> </ul>
<p><i>Logging</i></p>	<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 RC samples.</li> <li>• All RC samples are lithologically logged in one metre intervals.</li> <li>• Drill hole logging data is directly entered into field tough book 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>• Representative RC chips and diamond core is available to all geologists (a physical reference set) to ensure consistency of logging.</li> <li>• Standard operating procedures were employed by Giants Reef for logging RAB, RC and Diamond core samples.</li> <li>• All historical drill core and RAB &amp; RC samples was lithologically logged.</li> <li>• Drill hole logging data was transcribed into Giants Reef’s database post drilling.</li> <li>• A detailed validation of all historical drilling data was completed in 1999 by a full time Giants Reef geologist.</li> <li>• Standardised codes were used for lithology, oxidation, alteration and presence of sulphide minerals.</li> <li>• Structural logging of selected diamond drill core records orientation of veins, fractures and lithological contacts.</li> <li>• Information on structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness and fill material is stored in the structure table of the database.</li> <li>• RQD logging records core lengths, recovery, hardness and weathering however this data was not routinely collected.</li> <li>• Magnetic susceptibility data for all individual 1m RC samples was collected.</li> <li>• Magnetic susceptibility data for selected diamond core was collected as per Giants Reef procedures.</li> <li>• All drill core was reported to be photographed, however Emmerson geologists could not locate digital or hard copy data.</li> <li>• Diamond core is stored in Tennant Creek however several</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>holes (or sections of holes are missing or incomplete. RC chips could not be located.</p> <ul style="list-style-type: none"> <li>No geological logging was completed on the 3 air leg drill holes.</li> <li>Sample is described as brick red, heavy ironstone.</li> </ul>
<p><i>Sub-sampling techniques and sample preparation</i></p>	<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 ERM during the Edna Beryl West drilling.</li> <li>The sample preparation of RC 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>Pulverised material not required by the laboratory (pulp) including duplicate samples are 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> <li>RC samples were collected on the rig using cone (from the drill rig) and then riffle split by the field assistants if dry to obtain a 3 kg sample.</li> <li>If samples are wet, they are left to dry before being riffle split.</li> <li>Standard operating procedures are used by Giants Reef Mining at the Edna Beryl Exploration Target) for sampling RC and diamond core samples.</li> <li>Core for the Edna Beryl Exploration Target was cut in half (NQ2 &amp; HQ) at Giants Reef's Tennant Creek exploration office, using a hand operated brick saw.</li> <li>All samples were collected from the same side of the core and were half core samples.</li> <li>Half core samples are submitted for analysis, unless a field duplicate was required, in which case quarter core samples were submitted.</li> <li>The sample preparation of diamond core for followed industry best practice (at that time) in sample preparation involving oven drying, coarse crushing of the half core followed by pulverisation of the entire sample (total prep) using grinding. The sample preparation for RC samples is identical, without the coarse crush stage.</li> <li>Pulverised material not required by the laboratory (pulp) including duplicate samples were returned to Giants Reef however have subsequently been lost.</li> <li>Coarse rejects are disposed of by the Laboratory.</li> <li>RC samples were collected on the rig using cone (from the drill rig) and then riffle split by the field assistants if dry to obtain a 3 kg sample.</li> <li>If samples are wet, they are left to dry before being riffle split.</li> <li>Entire air leg sample was hand delivered to the laboratory.</li> <li>14 samples in total of which 6 samples are reported.</li> <li>Samples consisted of dust and chips and were all dry.</li> <li>Samples were not riffle spit.</li> <li>No duplicate samples were submitted.</li> </ul>
<p><i>Quality of assay data and laboratory</i></p>	<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</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> </ul>



Criteria	JORC Code explanation	Commentary
tests	<p><i>partial or total.</i></p> <ul style="list-style-type: none"> <li>• <i>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.</i></li> <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>	<ul style="list-style-type: none"> <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 current drill hole.</li> <li>• Insertion of assay blanks is increased when visual mineralisation is encountered and consists of insertion above and below the mineralised zone.</li> <li>• Samples typically weigh less than 3kg to ensure total preparation at the pulverisation stage.</li> <li>• RC field duplicates are collected on the 3m composites samples, using a riffle splitter.</li> <li>• Individual 1m RC sample duplicates (re-splits) are also collected using the same technique.</li> <li>• Laboratory checks include CRM's and/or 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 sulphide mineralisation at the Edna Beryl West project 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>
Verification of sampling and assaying	<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 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 both NAL's Lab Manager and also the owner to confirm the integrity of the sample assay process.</li> <li>• Do to the high grade nature of the samples several repeats have been carried out at and the repeatability is considered to be reasonable.</li> <li>• Quart flushes (x2) between sample prep was completed to reduce potential contamination.</li> <li>• The Exploration Manager of Emmerson has visually verified significant historical intersections in Diamond core however not in the RAB or RC as not samples could be</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>found.</p> <ul style="list-style-type: none"> <li>Assay Corp and North Australian Laboratories located in Pine Creek, Northern Territory conducted all analytical analysis.</li> <li>The geochemical data was managed by Giants Reef in house <u>and not</u> an external database administrator.</li> <li>The digital data was not secured through a relational database and was kept in Micromine.</li> <li>Digital laboratory data was and uploaded directly to Giants Reef Micromine database by a project geologist.</li> <li>Original data sheets and files (when located) have been retained and were used to validate the contents of the database against the original logging.</li> <li>No twin drill holes have been completed at the Edna Beryl Exploration Target.</li> </ul>
<p><i>Location of data points</i></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 &amp; 3 of the main text (long sections).</li> <li>EBWRC001-004 Drill hole collars were surveyed (set out and pick 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 at a minimum of every 18m using an REFLEX EZ-Shot® electronic single shot camera for RC.</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>If the measurement is considered to be affected by magnetic material (ironstone) then an average from the last non affected and the next non affected measurement is used.</li> <li>There were no down hole survey issues during this drill program.</li> <li>The Edna Beryl underground mine workings were surveyed in 2005 so cross cut drive position is considered to be accurate.</li> </ul>
<p><i>Data spacing and distribution</i></p>	<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>EBWRC001 to EBWRC004 were spaced 10 metres apart in dip and strike. This close spacing is necessary due to the style and morphology of the shear zone being drill tested.</li> <li>The spacing of historic drill hole collars is erratic, possibly to allow for the high degree of drilling deviation encountered in the Tennant Creek Mineral Field.</li> <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>Due to the age of this Resource estimation, 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</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>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).</p> <ul style="list-style-type: none"> <li>• RC sampling is on 1 m intervals that may have originally consisted of 3m composites.</li> <li>• Core sampling is generally defined by geological characteristics and controlled by alteration and lithological boundaries.</li> <li>• The air leg holes were space 1m apart.</li> <li>• The cross cut drive is 2m x 1.1m.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<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>• 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 in the correct orientation.</li> <li>• The 3 air leg holes were drilled vertically into the floor of the cross cut drive.</li> <li>• Samples ended in ironstone material.</li> <li>• It is considered that the vertical drilling is representative and that no sample bias has been introduced.</li> </ul>
<i>Sample security</i>	<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>• Samples from EBWRC001 – 004 were selected, bagged and labelled by site geologist.</li> <li>• They 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 processed in the Lab they are considered to be secure.</li> <li>• While samples are being processed in the Lab they are considered to be secure.</li> <li>• Historical drill results was faxed to the Exploration Manager of Giants Reef and also emailed to the Project geologist.</li> </ul>
<i>Audits or reviews</i>	<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 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> <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> <li>• In 2003 – 2004 a 52m shaft was sunk at the Edna Beryl explorations target where mineralisation was intersected as per the data.</li> </ul>

SECTION 2 REPORTING OF EXPLORATION RESULTS – EDNA BERYL EXPLORATION TARGET

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<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 (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 mine 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 no impact on the Edna Beryl Exploration Target area.</li> <li>MLC 705 is in good standing and no known impediments exist.</li> </ul>
<i>Exploration done by other parties</i>	<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>
<i>Geology</i>	<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) greywacke-siltstone-shale sedimentary sequence, that usually displays a pronounced east-west cleavage. Ore occurs adjacent to steeply dipping, lenticular or pipe-like</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>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. 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. Edna Beryl clearly follows this pattern. Their vertical dimensions may run to hundreds of metres, beyond the reach of surface drilling. Ore grades may occur over substantial vertical intervals of an ironstone pipe or lens, but are not expected to occur over the entire length.</p> <ul style="list-style-type: none"> <li>• The mineralisation style is considered to be Iron Oxide Copper Gold.</li> <li>• Supergene enrichment is very evident.</li> </ul>
<i>Drillhole information</i>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drillhole collar</i></li> <li>○ <i>elevation or RL of the drillhole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>downhole length and interception depth</i></li> <li>○ <i>hole length.</i></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 on figures.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Mineralized RC and Diamond 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 considerations.</li> </ul>
<i>Relationship between mineralization widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</i></li> <li>• <i>If it is not known and only the downhole lengths are reported, there should be a</i></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> </ul>



Criteria	JORC Code explanation	Commentary
	<i>clear statement to this effect (eg 'downhole length, true width not known').</i>	
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Refer to Figures in body of text.</li> </ul>
<i>Balanced reporting</i>	<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 of this Resource estimation, 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 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>
<i>Other substantive exploration data</i>	<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 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 collected by Giants Reef 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>
<i>Further work</i>	<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>• Once the underground development has been established, Emmerson plan to conduct a small underground diamond drilling program searching for lateral and down dip continuance of the known mineralisation.</li> <li>• A follow up program of RC drilling is planned to commence in the next month to assist in confirming the geological interpretation as discussed in the text.</li> <li>• No diamond drilling is planned at this stage.</li> </ul>