



ASX RELEASE
19 NOVEMBER 2015

SECOND HOLE INDICATES POTENTIAL LARGE-SCALE GRAPHITE DEPOSIT AT ESMERALDA

Highlights

- Second drill hole completed at Esmeralda
- Intersects 49 metres of visible graphite mineralisation
- Follows 120 metre visible graphite mineralisation intersection in first drill hole
- Indicates potential lateral continuity of more than 1.2 kilometres
- Preliminary assay results expected late in November

Metallica Minerals Limited ("Metallica") ([ASX:MLM](#)) is pleased to advise that the second graphite-focused core drill hole on the company's unique 750 km² Esmeralda Graphite Project, 70 kilometres south of Croydon in north Queensland, has been completed.

The second drill hole, WD002, located 1.2 kilometres to the west of WD001, was designed to test the western edge of a coincident large electromagnetic (EM) and magnetic anomaly identified by Metallica in 2005.

Based on visual observations of the core, WD002 intersected 49 metres of significant graphite mineralisation from a downhole depth of 72 metres. The mineralisation intersected by WD002 is visually consistent with and believed to be the same graphitic granite breccia unit intersected by WD001, which yielded a 120 metre intersection at a depth of 68 metres¹.

Historical drilling by others, located up to 6.2 kilometres west of WD001, also reported significant graphitic granite intersections at depths of less than 100 metres. When considered with the recent drilling results, the historical data suggests the targeted graphitic granite breccia might extend much further to the west and is also open to the east.

Preliminary assay results for the two holes are expected towards the end of November.

¹ ASX release 5 November 2015 "120 metre Graphite Intersection at Esmeralda "

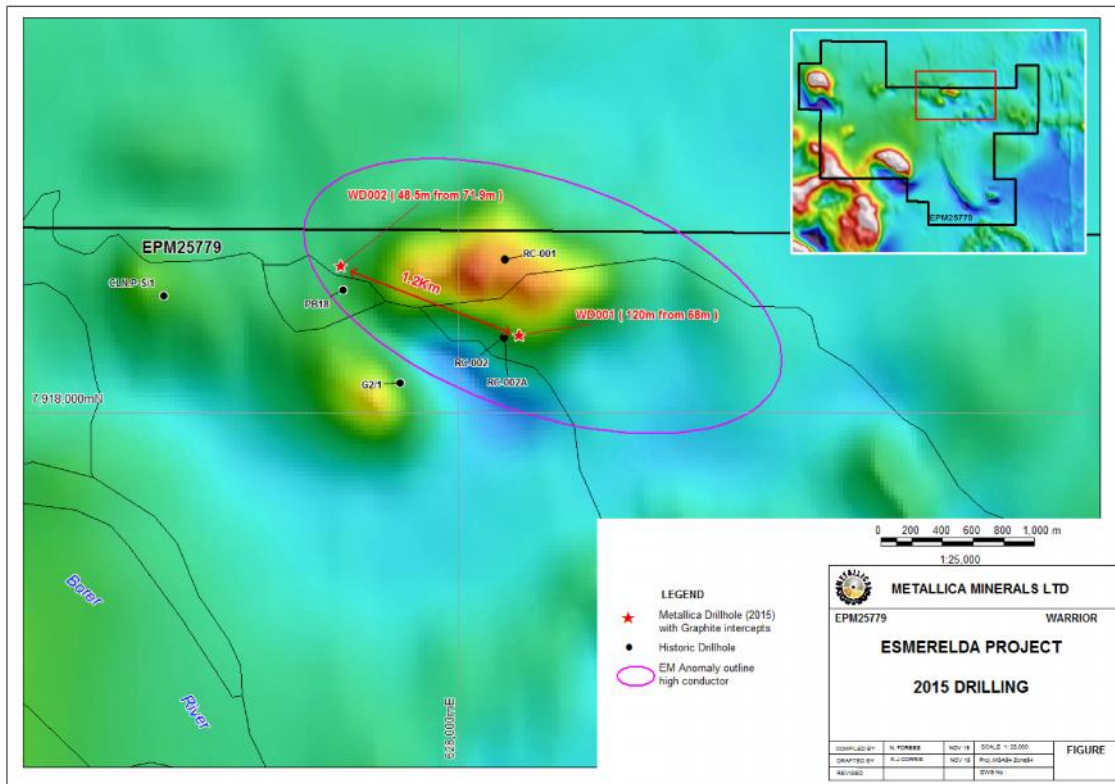


Figure 1: Location of WD001 and WD002

Metallica’s CEO, Mr Simon Slesarewich:

“We are extremely encouraged by these early results from Esmeralda. They clearly point to the project hosting a potentially large-scale and unique high-grade graphite deposit.”

“The potential for a large-scale deposit is supported by both recent work by Metallica and historical data. When you combine the results of this core drilling program with our geological and EM modelling and the historical drilling records, it is difficult not to conclude that the potential extents of the Esmeralda deposit are very large. It certainly compares favourably with the world-class graphite discoveries in east Africa and Canada.

“We are also cautiously optimistic about the grade. We know that the visual graphite intersections in WD001 and WD002 are uniform and indicative of a good graphite grade. We also know that graphite deposits of similar hydrothermal origin typically contain high-purity graphite. But we’ll have to wait for the assay results to come back later this month followed by preliminary metallurgical test work before we can issue a more definitive statement.”



Figure 2: The darker spots or blebs above illustrate the frequency, density and consistent distribution of the graphite or predominantly graphite mineralisation through the core of WD002

Drill Hole	Easting ² (MGA)	Northing ² (MGA)	Total Depth (m)	Dip	Interpreted Mineralised Zone		
					From (m)	To (m)	Interval (m)
WD001	628,395	7,918,508	189.4	-90°	68	189.4	120
WD002	627,238	7,918,957	120.4	-90°	71.9	120.4	48.5
Total			309.8				168.5

Table 1: Drill hole details

² Preliminary survey as determined by a handheld GPS

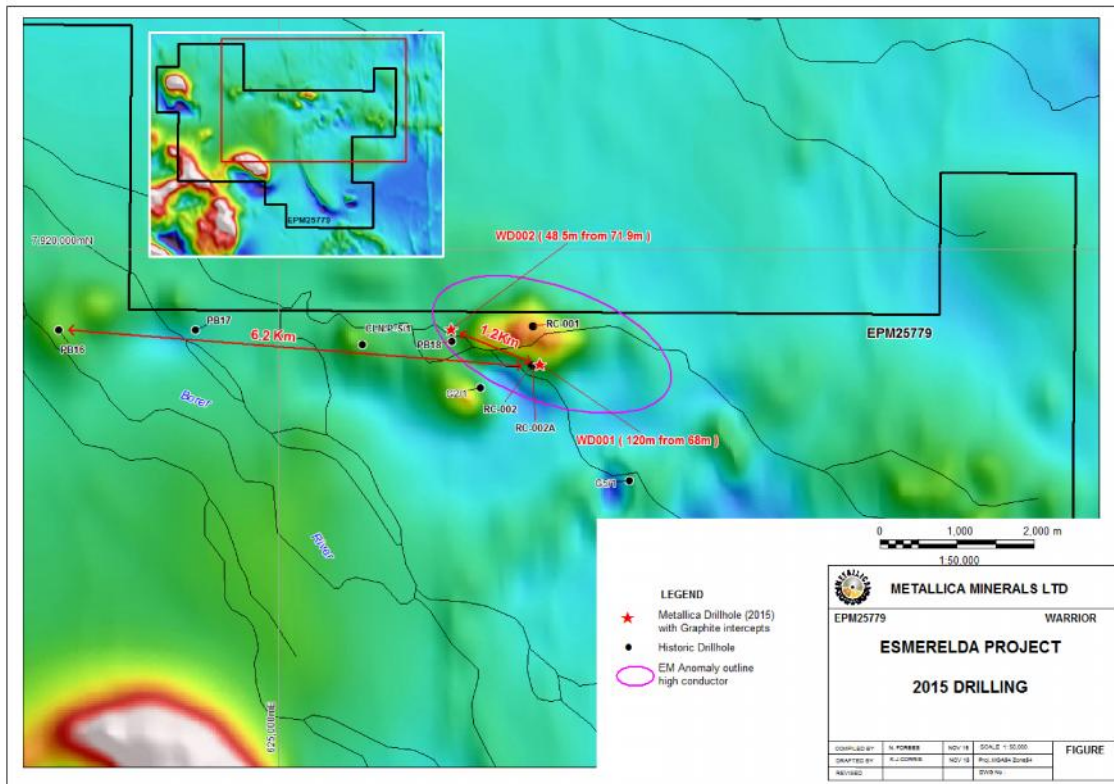


Figure 3: 2015 drill holes with historic holes with graphite intersections reported

The EM anomaly being tested in the current drilling program is one of several identified in the 750 km² Esmeralda project area. Several of these other EM anomalies in the project area have recorded graphite occurrences but are yet to be tested by the company. The results from this maiden two-hole drilling program will assist in the reinterpretation of these other prospective areas.

It should be noted that the drilling program is a reconnaissance exploration program.

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Competent Person's Statement

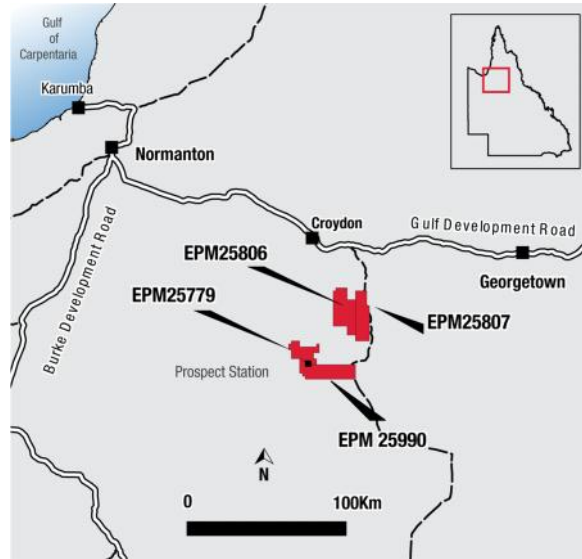
The Technical information contained in this report has been compiled and/or supervised by Mr Andrew Gillies B.Sci (Geology) M.AusIMM (Director of Metallica Minerals Ltd) who is a Competent Person and a Member of the Australasian Institute of Mining and Metallurgy (M.AusIMM). Mr Gillies has relevant experience in the exploration for this style of mineralisation and exploration results, being reported on to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Gillies consents to the inclusion of this information in the form and context in which it appears in this release.

Caution regarding Forward Looking Statements

Certain statements made in this announcement contain or comprise certain forward-looking statements. Although Metallica believes that the visual interpretation and other estimates and expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements in this release.

Background on the Esmeralda Graphite Project

In July 2015, Metallica Minerals Ltd (“Metallica”) was granted Exploration Permits for Minerals (EPMs) 25779, 25806 and 25807, which make up the Esmeralda Graphite Project. The project, located near Croydon in north Queensland, covers a combined area of over 750 km² and is held 100% by Metallica’s wholly owned subsidiary Touchstone Resources Pty Ltd.



Metallica has identified significant graphite occurrences within the Esmeralda Granites in the project area. These occurrences were first identified in 2006 by Metallica during a drilling program that targeted well-defined airborne and ground-defined intense electromagnetic (EM) anomalies. At the time, the drilling focused on base metal and gold-bearing massive sulphide mineralisation. Instead of sulphides, Metallica discovered significant graphite mineralisation. The discovery was unexpected because graphite is rarely associated with igneous rocks, such as granite.

Subsequently, a review of graphite occurrences in the Esmeralda Granites and Croydon Volcanics indicated large suites of potentially graphite-bearing igneous rocks. Metallica has identified targets where it is interpreted that hydrothermal processes and/or magmatic differentiation or structural controls could concentrate graphite into significantly higher percentages. Previous percussion drilling, including the 2006 Metallica program, has recorded significant zones of observable graphite mineralisation (>10% graphite visually) while exploring for metals and other types of mineralisation.

Igneous or hydrothermal-style graphite deposits, such as Esmeralda, are rare. The more common metamorphic-style graphite deposits make up about 95% of the world’s known graphite deposits. Hydrothermal-style graphite deposits are typically of high purity graphite in either flake or crystalline form. Examples of this style of mineralisation include the high-grade, narrow-vein Sri Lankan deposits and the granite hosted Albany graphite deposit in Canada. The carbon source is non-organic and the carbon is thought to be from deep carbon dioxide (CO₂) or methane (CH₄) gaseous injection into the magma chamber, which later crystallises out as pure or near-pure carbon (graphite) crystals.

Metallica has developed a hydrothermal mineralisation model for the Esmeralda granite based on work completed by the Bureau of Mineral Resources (BMR) in 1988 and the recent (2013) discovery of the Albany graphite deposit.

The graphitic granite breccia at Esmeralda is initially interpreted to be part of the Proterozoic Esmeralda Supersuite. Within EPM 25779, the target granite unit is covered by Jurassic or younger sediments of the Carpentaria Basin which are not considered prospective for graphite mineralisation.

JORC CODE, 2012 EDITION – TABLE 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> • <i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i> • <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> • <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> • <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> 	<ul style="list-style-type: none"> • Drill core cutting and sampling is yet to be completed on the current drilling program. • Visual inspection and logging of the drill core has been completed and a preliminary estimate of graphite percentage has been completed by a competent geologist.
<i>Drilling techniques</i>	<ul style="list-style-type: none"> • <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> 	<ul style="list-style-type: none"> • Drilling has been completed using a core drilling rig producing core at HQ3 size (61.1mm). Drill holes have been collared at surface and the un-mineralised Mesozoic cover sequence has been cased with HWT casing to maintain hole integrity and prevent hole contamination.

Criteria	JORC Code explanation	Commentary
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> • <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i> • <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i> • <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> 	<ul style="list-style-type: none"> • Drilling was completed with HQ3 and all core samples were recovered from the core barrel by pumping out of the splits. • The mineralized zone had variable rock quality and core recoveries were acceptable. • All core was carefully placed in HQ sized core trays and transported a short distance to a core processing area where core recovery, depth mark-up and photography could be completed.
<i>Logging</i>	<ul style="list-style-type: none"> • <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> • <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> • <i>The total length and percentage of the relevant intersections logged.</i> 	<ul style="list-style-type: none"> • The core has been logged and sampling intervals have yet to be determined. The level of detail required for this assessment was considered more than adequate for this reconnaissance exploration drilling program. • Logging included preliminary visual estimates of graphite mineralisation. • Areas representative of mineralisation will have preliminary petrological and geochemical analysis completed to help define the genesis of the mineralisation and the assay schedule respectively.
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> • <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> • <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples.</i> • <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> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<ul style="list-style-type: none"> • The drill core cutting has commenced and sampling has yet to be completed. • The sampling will be carried out by a geologist and Competent Person.

Criteria	JORC Code explanation	Commentary
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <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> <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> 	<ul style="list-style-type: none"> No sampling or analysis is yet completed.
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> No sampling or analysis is yet completed
<i>Location of data points</i>	<ul style="list-style-type: none"> <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> The drill collars were located by hand held GPS considered to have an accuracy of ± 4 m. The system used was GDA94 Zone 53L. The base topographic control is the local 1:100,000 topographic map (Prospect) which is adequate to identify overall and specific locations.
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <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> <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> The drill holes were designed to twin historic percussion holes so there is no nominal spacing at this preliminary stage. The aim of the program was to determine the presence or not of what appears to be significant graphitic mineralisation. The spacing was adequate for this purpose. The sampling schedule is still to be developed, but preliminary analysis on 1m intervals will be used initially to generate data from which to review. At this stage, no sample compositing is planned.

Criteria	JORC Code explanation	Commentary
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> • <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> • <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> 	<ul style="list-style-type: none"> • Historical aerial and ground electromagnetic (EM) surveys completed in 2005-2006, interpreted a large flat lying highly conductive anomaly. This was tested with a RC percussion hole and surveyed with down hole EM confirming this interpretation. • The EM data was used to orientate the drilling with vertical holes which are orthogonal to the conductive/mineralised system • Preliminary review of drill core indicate drill hole orientation (drilled vertically) is close to orthogonal to the ground EM anomaly.
<i>Sample security</i>	<ul style="list-style-type: none"> • <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> • Drill core recovery was regularly observed by a competent geologist who supervised core being placed in core trays. • Core processing and core recovery confirmed acceptable recovery. • Samples were stored on site in remote location and then transported to Terrasearch in Townsville for additional core processing and storage. • Terrasearch have procedures and controls in place to ensure security of sample.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> • A detailed review of the sample protocols has not been carried out as this is a reconnaissance exploration program not leading to resource estimation.