METALLICA MINERALS LIMITED
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ASX Code: MLM

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DRILL ASSAYS STRONGLY SUPPORT POTENTIAL FOR LARGE-SCALE GRAPHITE DEPOSIT AT ESMERALDA

Highlights

- Assay results confirm thick graphite (Cg) mineralised intervals in the first two exploration holes:

  WD001 – 95 m @ 6.5%[1] Cg from 71m

  WD002 – 29.1 m @ 7.8%[1]Cg from 71.9m, including 7.1 m @ 12.9% Cg

- Petrology confirms the same mineralisation style hosted within hydrothermally altered granite is present in both holes which are 1.2km apart
- Results indicate mineralisation is open in all directions and strongly indicates potential to define a very large graphite deposit that may support bulk mining operation
- Metallurgical test work to commence immediately

Metallica Minerals Limited ("Metallica") (ASX:MLM) is pleased to advise that it has received assay results from the two recent core drill holes on the company's unique Esmeralda graphite project in north Queensland. The core was assayed for graphite content and total carbon. An independent petrology study has also been completed on six representative samples from the mineralised zones.

Details of the assay results and the petrology study are provided with this announcement. In summary, both drill holes (in a vertical two-hole drilling program) intersected significant broad graphite mineralisation with continuous intercepts of:

WD001 – 54.0 m @ 7.4% Cg from 95 m
WD002 – 7.1 m @ 12.9% Cg from 72 m
WD002 – 12.0 m @ 7.6% Cg from 81 m

The petrology study identified the same distinctive alteration and mineralization style present in both holes which is associated with consistent grades indicating that the graphite mineralisation may be continuous for 1.2 km or more.

These results add strong support to the company's belief that the Esmeralda deposit is very large and would be uniquely amenable to large-scale bulk mining. WD001 ended in significant graphite mineralisation (4.1% Cg), with mineralisation open in all directions.

Preliminary metallurgical test work will now be conducted to investigate the suitability of the mineralisation for graphite concentrate production and recovery of potentially high purity graphite.

[1] Using a cut off grade of 3% Cg

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Metallica's CEO, Mr Simon Slesarewich:

"This can only be described as very exciting news for Metallica and its shareholders.

The grades and the unique mineralogical signature confirm that both holes, drilled 1.2 km apart, intercepted the same mineralised altered granite.

When you combine the results from this drilling program with our geological, magnetics and EM modelling and the historical drilling records (which recorded significant graphite up to 6.2 km away), it is difficult not to conclude that the potential extents of the Esmeralda deposit are very large.

Considering that these results come from two holes in a two-hole drilling program, there is a high likelihood that, with further exploration and resource definition drilling, even more impressive graphite intercepts will be revealed within Esmeralda's large 750 km^2 tenement holding. We now look forward to receiving the results from the metallurgical testwork"

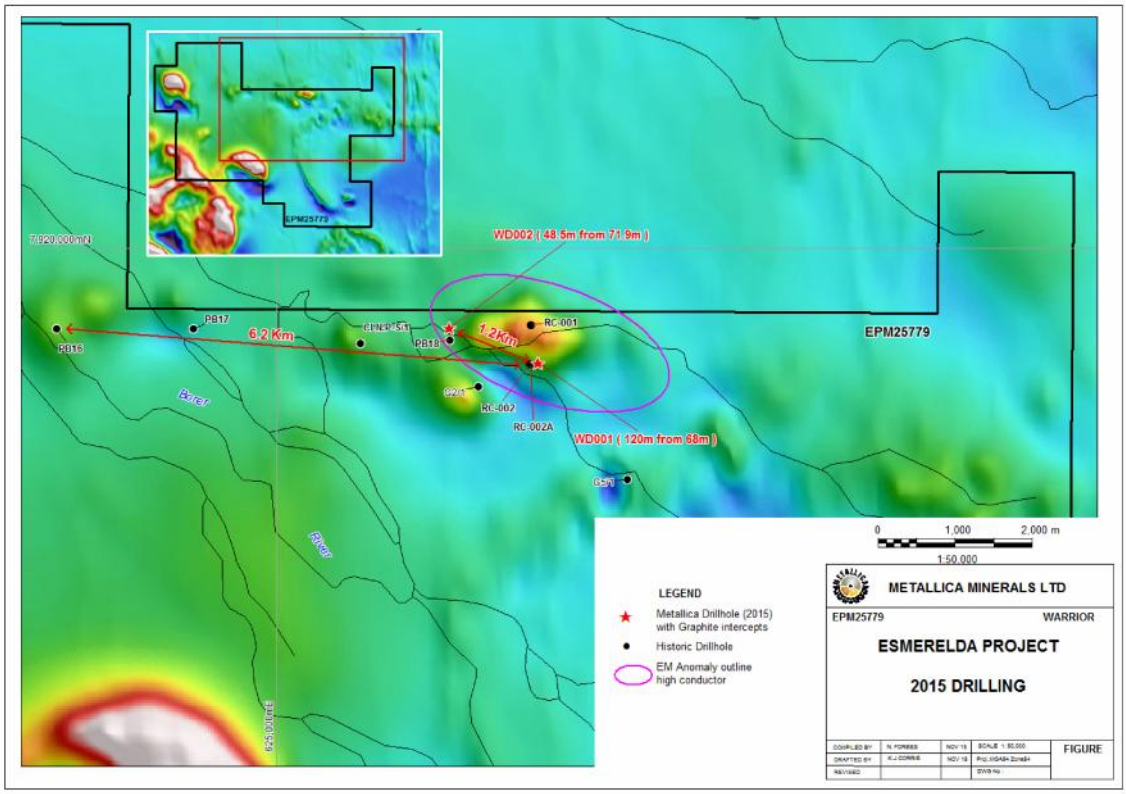

Figure 1: 2015 drill holes with historic holes up to 6.2 km away with graphite intersections reported

It should be noted that the successful 2015 drilling campaign was a reconnaissance exploration program seeking large-scale graphite mineralisation with potential to host high purity graphite.

Geological Interpretation

The host rock of the graphite mineralisation is predominantly hydrothermally altered light grey, fine to medium grained porphyritic biotite granite which contains darker partly rounded altered blebs (having the appearance of xenoliths) along with clots or blebs up to 2cm of predominantly reactivated and/or remobilised graphite from a pervasive hydrothermal alteration.

The major alteration mineral assemblage is graphite and sericite which is accompanied with weak to moderate biotite-chlorite-epidote-magnetite +/- cordierite minerals.

With respect to the origin of the graphite within the altered granite host rock, there appears to be at least two modes of generation of the graphite mineralisation:

1. Assimilated xenoliths of carbonaceous meta-sediments; and
2. Hydrothermal-structural impacts to produce secondary or reactivated enrichment of the graphite including hydrothermal veining.

The altered granite hosted graphite mineralisation is consistent in grade in both holes (details in Table 2 and 3) and indicates continuity between WD001 and WD002 spaced approximately 1.2km apart.

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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 (MAusIMM). 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.

Assay results

Table 1: Drill hole details

Drill Hole	Easting[2] (MGA)	Northing[2] (MGA)	Total Depth (m)	Dip	From (m)	To (m)	Interval (m)	Cg[3] %
WD001	628,395	7,918,508	189.4	-90°	71	166	95	6.58
					177	178	1	3.37
					180	181	1	3.54
					184	189.4	5.4	4.13
WD002	627,238	7,918,957	120.4	-90°	71.9	101	29.1	7.83
		Total	**309.8**					

Table 2: WD001 Total Carbon (TC) and Graphitic Carbon (Cg) analysis

From	To	Interval	Cg %	TC %	From	To	Interval	Cg %	TC %
59	59.6	0.6	<0.1	1.01	125	126	1	8.44	8.82
59.6	60.3	0.7	0.16	3.44	126	127	1	8.32	8.32
61	62	1	0.08	4.14	127	128	1	7.31	7.90
62	63	1	0.09	1.81	128	129	1	7.73	8.15
63	64	1	0.12	1.56	129	130	1	7.87	7.92
64	65.1	1.1	0.48	2.21	130	131	1	7.92	8.10
65.1	66	0.9	1.12	2.22	131	132	1	9.05	9.84
66	67	1	0.99	3.40	132	133	1	4.88	5.34
67	68	1	1.48	1.72	133	134	1	5.32	5.59
68	69	1	2.06	2.23	134	135	1	6.08	6.45
69	70	1	2.47	4.29	135	136	1	7.67	7.94
70	71	1	2.83	3.86	136	137	1	7.68	7.94
71	72	1	4.58	6.31	137	138	1	7.79	8.40
72	73	1	5.96	7.91	138	139	1	7.54	7.90
73	73.8	0.8	5.77	7.57	139	140	1	7.60	7.99
73.8	75	1.2	7.89	8.85	140	141	1	7.08	7.35
75	76	1	7.84	8.62	141	142	1	6.53	6.77
76	77	1	6.71	6.78	142	143	1	8.13	8.39
77	78	1	5.28	5.31	143	144	1	8.04	8.33
78	79	1	6.11	6.16	144	145	1	8.21	8.47
79	80	1	6.35	6.44	145	146	1	8.68	8.90
80	81	1	5.97	6.12	146	147	1	8.48	8.80
81	82	1	5.46	5.55	147	148	1	7.88	8.03
82	83	1	4.84	5.06	148	149	1	6.17	6.32

[2] Preliminary survey as determined by a handheld GPS
[3] Cut-off grade 3.0% Cg

From	To	Interval	Cg %	TC %
83	84	1	3.20	3.50
84	85	1	5.10	5.43
85	86	1	8.15	8.50
86	87	1	8.41	8.94
87	88	1	8.60	10.10
88	89	1	7.02	7.92
89	90	1	5.48	6.43
90	91	1	5.56	5.90
91	92	1	4.95	5.31
92	93	1	5.20	5.70
93	94	1	4.87	5.09
94	95	1	5.94	6.50
95	96	1	6.89	7.44
96	97	1	7.49	7.87
97	98	1	6.33	6.77
98	99	1	6.34	6.67
99	100	1	6.57	6.80
100	101	1	7.90	8.15
101	102	1	7.58	7.93
102	103	1	8.14	8.35
103	104	1	5.26	5.68
104	105	1	5.33	5.83
105	106	1	6.36	6.83
106	107	1	7.15	7.63
107	108	1	6.39	7.87
108	109	1	8.65	8.96
109	110	1	7.81	8.08
110	111	1.2	**11.50**	11.90
111	112	0.55	4.13	4.26
112	113	1.25	8.26	8.24
113	114	1	7.72	7.69
114	115	1	9.39	9.39
115	116	0.8	7.71	7.67
116	117	1.2	2.80	2.75
117	118	1	7.14	6.89
118	119	1	7.26	7.18
119	120	1	7.66	7.98
120	121	1	7.50	7.71
121	122	1	8.34	8.20
122	123	1	7.97	8.30

From	To	Interval	Cg %	TC %
149	150	1	3.92	3.87
150	151	1	4.77	4.92
151	152	1	3.30	3.53
152	153	1	3.93	4.01
153	154	1	3.73	3.75
154	155	1	3.70	3.71
155	156	1	3.85	3.98
156	157	1	6.60	6.61
157	158	1	7.18	7.08
158	159	1	5.53	5.49
159	160	1	5.60	5.90
160	161	1	5.44	5.64
161	162	1	5.48	5.67
162	163	1	5.90	6.45
163	164	1	5.05	5.41
164	165	1	4.46	4.84
165	166	1	3.57	3.77
166	167	1	2.97	3.70
167	168	1	2.82	3.27
168	169	1	2.19	2.51
169	170	1	1.95	2.08
170	171	1	1.34	1.40
171	172	1	1.51	1.74
172	173	1	1.47	2.06
173	174	1	1.58	1.63
174	175	1	1.30	1.41
175	176	1	2.16	2.22
176	177	1	2.21	2.17
177	178	1	3.37	3.42
178	179	1	2.09	2.14
179	180	1	2.42	2.88
180	181	1	3.54	3.77
181	182	1	2.97	3.10
182	183	1	2.58	2.79
183	184	1	2.47	2.70
184	185	1	4.04	4.14
185	186	1	3.45	3.64
186	187	1	3.94	4.31
187	188	1	5.07	5.32
188	189	1.4	4.14	4.33

From	To	Interval	Cg %	TC %
123	124	1	6.49	8.48
124	125	1	7.81	8.51

From	To	Interval	Cg %	TC %

Table 3: WD002 Total Carbon (TC) and Graphitic Carbon (CG) Analysis

From	To	Interval	Cg %	TC %
71.8	71.9	0.1	1.54	1.98
71.9	72	0.1	**14.2**	14.8
72	73	1	**14.7**	15
73	74	1	**12.3**	13.3
74	75	1	**12.4**	12.8
75	76	1	**13.2**	13.3
76	77.2	1.2	**13.3**	14
77.7	79	1.25	**12.2**	12.8
79	80	1.05	5.72	5.95
80	81	1	3.83	4.39
81	82	1	**11.5**	12.1
82	83	1	6.34	6.95
83	84	1	8.36	8.42
84	85	1	5.47	5.73
85	86	1	7.83	8.14
86	87	1	7.38	8.26
87	88	1	8.64	9.14
88	89	1	9.05	9.79
89	90	1	7.31	7.54
90	91	1	4.07	4.67
91	92	1	8.67	9.29
92	93	1	6.99	7.33
93	94	1	4.87	5.09
94	95	1	5.01	5.35
95	96	1	3.04	3.38
96	97	1	4.74	5.05

From	To	Interval	Cg %	TC %
97	98	1	6.18	6.5
98	99	1	7.24	7.74
99	99.9	0.9	7.22	7.67
99.9	101	1.1	3.37	3.55
101	102	1	2.76	2.9
102	103	1	2.04	2.18
103	104	1	1.31	1.53
104	105	1	2.45	3.22
105	106	1	2.13	2.29
106	107	1	1.53	1.84
107	108	1	1.44	1.62
108	109	1	2.40	2.76
109	110	1	2.21	2.76
110	111	1	0.83	1.92
111	112	1	0.37	1.11
112	113	1	1.14	1.48
113	114	1	2.43	2.65
114	115	1	1.37	1.56
115	116	1	2.57	2.82
116	117	1	2.67	2.89
117	118	1	5.49	5.9
118	119	1	2.64	2.78
119	120	1.2	0.97	1.09

Petrographic study

Six core samples ranging from 4–12 cm in length were collected from drill holes WD001 and WD002. Independent petrographic investigation using polished thin sections under microscope was then undertaken to define the mineralogy and interpretation of the graphite mineralisation and alteration. The key observations from the petrographic study are presented in Table 4 and summarised below.

The host rock of the graphite mineralisation is predominantly light-grey, fine-to-medium grained, porphyritic biotite granite, containing darker, partly rounded, altered blebs (having appearance of xenoliths) with clots or blebs of graphite up to 2 cm in diameter.

Figure 2: The darker areas above illustrate the frequency, density and consistent distribution of the graphite mineralisation associated with other darker alteration minerals through the core of WD001. The high graphite bearing blebs typically show high metallic reflectance in certain light angles

The major alteration mineral assemblage is graphite and sericite, accompanied by weak-to-moderate biotite-chlorite-epidote-magnetite with intermittent cordierite, seen as dark blebs or clots.

Unusually, the graphite within the altered granite host rock appears to have at least two origins: as assimilated xenoliths of carbonaceous meta-sediments, and as abundant clots and grains from hydrothermal-structural impacts, including hydrothermal veining, producing secondary or reactivated enrichment of the graphite.

Table 4: Summary of petrological observations

Petrology Sample Name	WD001 75.0 m	WD001 88.8 m	WD001 110.5 m	WD002 76.62 m	WD002 87.5 m	WD002 88.58 m
Simple rock description	Altered graphitic granite	Altered graphitic granite	Altered graphitic granite	Altered graphitic granite	Altered graphitic granite	Medium-grey granite, strongly altered brecciated – foliated graphitic recrystallised rock of likely metamorphic origin
Mineral % [4]						
Quartz	25-30%	25-30%	25-30%	25-30%	25-30%	10-15%
K-feldspar	25-35%	25-35%	25-35%	25-35%	25-35%	-

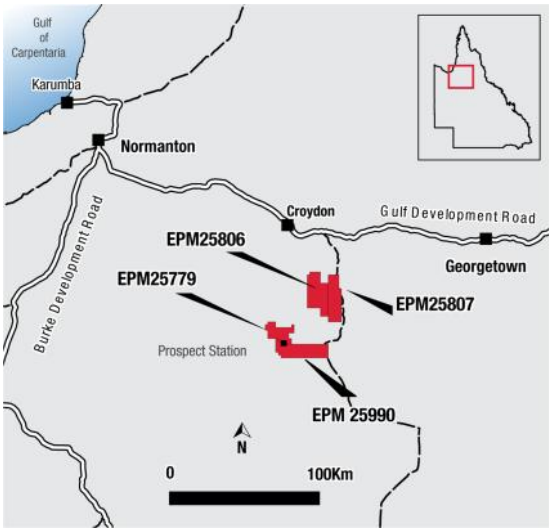
[4] Visual modal estimate

Albite (Na feldspar)	-	-	-	-	-	15-20%
Graphite	5-10%	5-10%	5-10%	10-20%	15-20%	25-35% [5]
Sericite	15-20%	15-20%	15-20%	20-30%	20-30%	-
Biotite	10-15%	3-5%	3-5%	3-5%	<1%	10-15%
Epidote	3-5%	3-5%	3-5%	3-5%	-	-
Chlorite	1-2%	1-2%	1-2%	1-2%	3-5%	10-15%
Magnetite	<1%	3-5%	3-5%	1-2%	-	-
Apatite	<1%	<1%	<1%	<1%	<1%	-
Opaque oxide (magnetite and/or ilmenite)	<1%	<1%	<1%		<1%	
Cordierite	-	-	-	-	-	15-20%
Graphite mineralisation	Moderate graphite	Moderate graphite	Moderate graphite	High graphite	High graphite	Very high graphite [6]
Major hydrothermal alteration minerals associated	High sericite & biotite	High sericite	High sericite	High sericite	High sericite	High cordierite, high biotite, albite, low quartz, no K-feldspar

[5] Abundant graphite veins, clots and Schlieren textures
[6] Abundant graphite veins, clots and Schlieren textures

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 750km^2 and is held 100% by Metallica's 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 (CO_2) or methane (CH_4) gaseous injection and/or carbonaceous rocks incorporated into the magma chamber, which later crystallises out as pure or near-pure carbon (graphite) crystals and or hydrothermally reactivated graphite associated with remnant graphite.

Unusually, the graphite within the Esmeralda altered granite host rock appears to have at least two origins: as assimilated xenoliths of carbonaceous meta-sediments, and as abundant clots and grains from hydrothermal-structural impacts, including hydrothermal veining, producing secondary or reactivated enrichment of the graphite.

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	JORC Code explanation	Commentary
Sampling techniques	• 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. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. • 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.	• The exploration program was targeting graphite mineralisation interpreted to be hosted within the Proterozoic Esmeralda Granite in the Croydon Province of Far North Queensland. • Locally the target granite is unconformably overlain by Sediments Jurassic or younger in age of the Carpentaria Basin, • Two core drill holes were completed to twin historic RC percussion holes to collect samples for quality analysis, both graphite percentage and potential metallurgical studies to determine if the graphite mineralisation is prospective. • Two core holes (WD001 & WD002) were completed and sampling was completed on the Proterozoic section of the hole with minor sampling of the unmineralised cover sequence for completeness. • Drill core was split into half core using a core saw and samples were bagged for despatch to a nearby laboratory. • Sampling was nominally on 1 meter intervals (with occasional up to +/- 90cm variation on sample intervals best sampled to obvious geological boundaries) and samples were despatched for Carbon Type analysis (Cg, TC & $CO_{3,}$), Total sulphur. • The Company has taken all care to ensure no material containing additional carbon has contaminated the samples. • All samples were individually labelled and logged
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	• Drilling has been completed using a core drilling rig producing core at HQ3 size (61.1mm). • Drill holes were collared at surface and the un-mineralised Mesozoic cover sequence was cased with HWT casing to maintain hole integrity and prevent hole contamination.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • 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.	• All sampling was completed samples derived from a core drilling program completed in October / November 2015. • Drilling utilised HQ3 (61mm) sized coring equipment and all core samples were recovered from the core barrel by pumping out of the splits. • Core was collected from the splits of core barrel and placed into marked up core trays. • After the core was carefully placed in HQ sized core trays and transported a short distance to a core processing area where drill core recovery was measured, depth mark-up and photography was completed. • The mineralized zone had variable rock quality and core recoveries were acceptable to good. • Sampling was mostly 1 meter intervals of drill core and sampled on the meter marks of the recovered core. Sample intervals were adjusted where there was significant lithological change. This was completed by an experienced geologist.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Logging	• 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. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged.	• Geological logging was completed on the drill core following drill core recovery and mark up by a competent geologist experienced in drill core logging. • The core has been geologically and geotechnically logged qualitatively to an adequate standard for this reconnaissance exploration drilling program. • The entire cored section of the drill hole has been logged and photographed, including areas where there is negligible mineralisation to provide the geological information required to fully develop the stratigraphical model. • 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. • Petrological review of mineralised graphitic blebs/clots indicates that up to 50% of the material present is sericitic and possibly other clays despite the apparent appearance of 100% graphite making hand held field visual estimates difficult. • Sawn diamond core has been retained for record in core trays.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples. • 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. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• All core required for sampling was half cored using a diamond saw. • One half of the sample was submitted for geochemical analysis with the remaining half kept in the tray for reference. • Most sample intervals were 1 metre in interval and apportioned to metre marks. • The sample interval marks were sawn orthogonally to the core axis on the metre mark for sample accuracy, as well as making as keeping an obvious metre interval mark in the reference sample in the core tray. • No duplicate or reference samples have been submitted at this stage as this still reconnaissance exploration and no resource estimation is completed on this core. • Sample size is more than adequate for the style of mineralisation being sampled. • The sampling was carried out by an experienced field geologist.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • 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. • 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.	• Initial geochemical analysis has been completed using SGS Australia. • Analysis by SGS Australia was completed using the following analysis codes o PRP88 – Sample Preparation o CSA06V – Total Carbon & Total Sulphur o CSA02V – Carbonate carbon o CSA 05V – Graphitic Carbon • Quality Control of analysis is restricted to internal laboratory checks at this preliminary stage. • The Competent Person is satisfied the Graphitic Carbon results are representative and accurate.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• Due to the first pass and early reconnaissance nature of the exploration drilling, no verification of sampling and analysis has been completed at this stage but is planned for future programs. • The data has been manually updated into a master spreadsheet which is considered to be appropriate for this early stage in the exploration program
Location of data points	• 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. • Specification of the grid system used. • Quality and adequacy of topographic control.	• 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.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • 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. • Whether sample compositing has been applied.	• 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 graphite mineralisation and to collect sufficient representative samples for preliminary metallurgical testwork. The spacing was adequate for this purpose. • As this is the initial sampling, there is inadequate data available to determine what constitutes sufficient data spacing and distribution for resource estimation. • The sampling schedule is 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.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • 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.	• 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. • The graphite mineralisation appears to be pervasive throughout the altered granite target host rock.
Sample security	• The measures taken to ensure sample security.	• Drill core recovery was regularly observed by a competent geologist who supervised core being placed in core trays and each tray photographed. • Core processing and core recovery confirmed acceptable to good 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.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• A detailed review of the sample protocols has not been carried out as this is an initial reconnaissance exploration drill program not leading to resource estimation. • Drilling information collected by the experienced field geologist such as drilling, logging and sampling method, sample interval selection, transportation, security, laboratory analysis and the appropriateness of methods has been reviewed by the Competent Person

JORC Code, 2012 Edition – Table 1

Section 2 Reporting of Exploration Results

(Criteria listed in Section 1 also applies to this Section 2)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• 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. • 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.	• Exploration has been completed within EPM 25779 Warrior (area 175 Km2) and it held by 100% owned subsidiary company Touchstone Resources Pty Ltd. • Currently the tenement is recently granted by the Queensland Government and is currently in good stead. • Landowners were supportive of the recently completed drilling program
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• Historic exploration has been completed by various explorers since 1970 in the area seeking gold, base metals, diamonds and other minerals – no past exploration was known to target graphite. The 2015 program was designed to confirm historic reporting of graphite with drill core and quantify historically described graphite as well as collect representative samples for preliminary metallurgical testwork.
Geology	• Deposit type, geological setting and style of mineralisation.	• Initially interpreted to be a granite hosted graphite deposit. The granite maybe part of the Proterozoic Esmeralda Supersuite. Locally, the Carpentaria Basin sediments cover the granite and make the geology highly interpretive.
Drill hole Information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	• See body of report and Section1

JORC Code, 2012 Edition – Table 1

Section 2 Reporting of Exploration Results

(Criteria listed in Section 1 also applies to this Section 2)

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Results are reported in percentages. • Other than Intervals of graphitic mineralisation that are reported in weighted averages using a 3% Cg cutoff grade or some other stated cutoff grade, no data aggregating or manipulation methods were used.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	• Not enough information is available to confirm the relationship between mineralisation and width at this initial stage of exploration • The targeted mineralisation in the drilled exploration area has no surface expression and has approximately 40m to 75m of cover sediments. • Historic explorers using EM surveys including air, ground and down hole techniques interpreted a flat lying structure. • Both drill holes were drilled vertically based on the information available. • Further drilling is required to define the extent and geometry of the graphite mineralisation.
Diagrams	• 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 drill hole collar locations and appropriate sectional views.	• See body of report
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• Comprehensive reporting has been completed with all individual Cg and Tc results received from the laboratory have been tabulated in the body of the report.
Other substantive exploration data	• 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	• The presence of Mesozoic and Cainozoic cover sequences has restricted historic exploration to magnetic survey, EM and drilling of targets generated in seeking precious and base metal exploration. • Graphite mineralisation was not targeted, and when intersected it was

JORC Code, 2012 Edition – Table 1

Section 2 Reporting of Exploration Results

(Criteria listed in Section 1 also applies to this Section 2)

Criteria	JORC Code explanation	Commentary
	deleterious or contaminating substances.	reported qualitatively and briefly.
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• Futher work planned is to complete preliminary metallurgical test work on the core samples to determine graphite quality, purity and potential value. • Additional exploration is contingent on metallurgical results.