MINERAL COMMODITIES LTD
ABN 39 008 478 653
Email: info@mncom.com.au
Web: www.mncom.com.au

Australian Securities Exchange
Company Announcements Office

10 May 2018

ADDITIONAL MUNGLINUP EXPANDABLE GRAPHITE TESTWORK RESULTS INFORMATION

- *Excellent expansion volumes of 400 mL/g for coarse (+300 micron) flakes*
- *Expansion volumes of 305 mL/g for medium (+180 to -300 micron) flakes*
- *Finer flakes also show good expandable characteristics*
- *Munglinup graphite shown to be suitable for a broad range of expandable graphite markets, including high-end graphite foil*
- *Concept study on expandables plant to commence*

Mineral Commodities Ltd (ASX: MRC) ("the Company" or "MRC") is pleased to announce the results of its Expandable Graphite testing on Munglinup Graphite Concentrate by Dorfner ANZAPLAN in Germany. The concentrate for the testwork was produced from the Master Composite sample generated for the recent Munglinup Metallurgical Testwork[1].

Using conventional chemical treatment at room temperature for short durations produced the expansion volumes[2] below on thermal treatment:

Flake Size (microns)	Expansion Volume (mL/g) at 800°C	Expansion Volume (mL/g) at 1000°C
>300	400	400
180-300	240	240
106-180	190	190
75-106	140	150
<75	100	120

Using an ancillary intercalation agent further increased the expansion volumes of the minus 300 micron flakes:

Flake Size (microns)	Expansion Volume (mL/g) at 800°C	Expansion Volume (mL/g) at 1000°C
180-300	290	305
106-180	205	240
75-106	145	160
<75	100	115

[1] Refer to MRC's ASX Announcement "Munglinup metallurgical testwork confirms premium flake graphite" – 8 February 2018.
[2] Expansion volume calculated as volume of expanded graphite divided by mass of dried, intercalated (chemically treated) graphite. Expansion volumes calculated in terms of post thermal expansion mass will be higher, due to the release of gases from the intercalation agent and some volatisation of the graphite.

Expansion started at 180ºC to 250ºC – within the typical range for standard expandable graphite products.

The results show that Munglinup concentrate is expandable across a broad range of flake sizes. A standard grade expandable graphite typically has an expansion volume of 250ml/g, with a range of grades with expansion volumes from sub 100ml/g up to 400ml/g, defining the end-market.

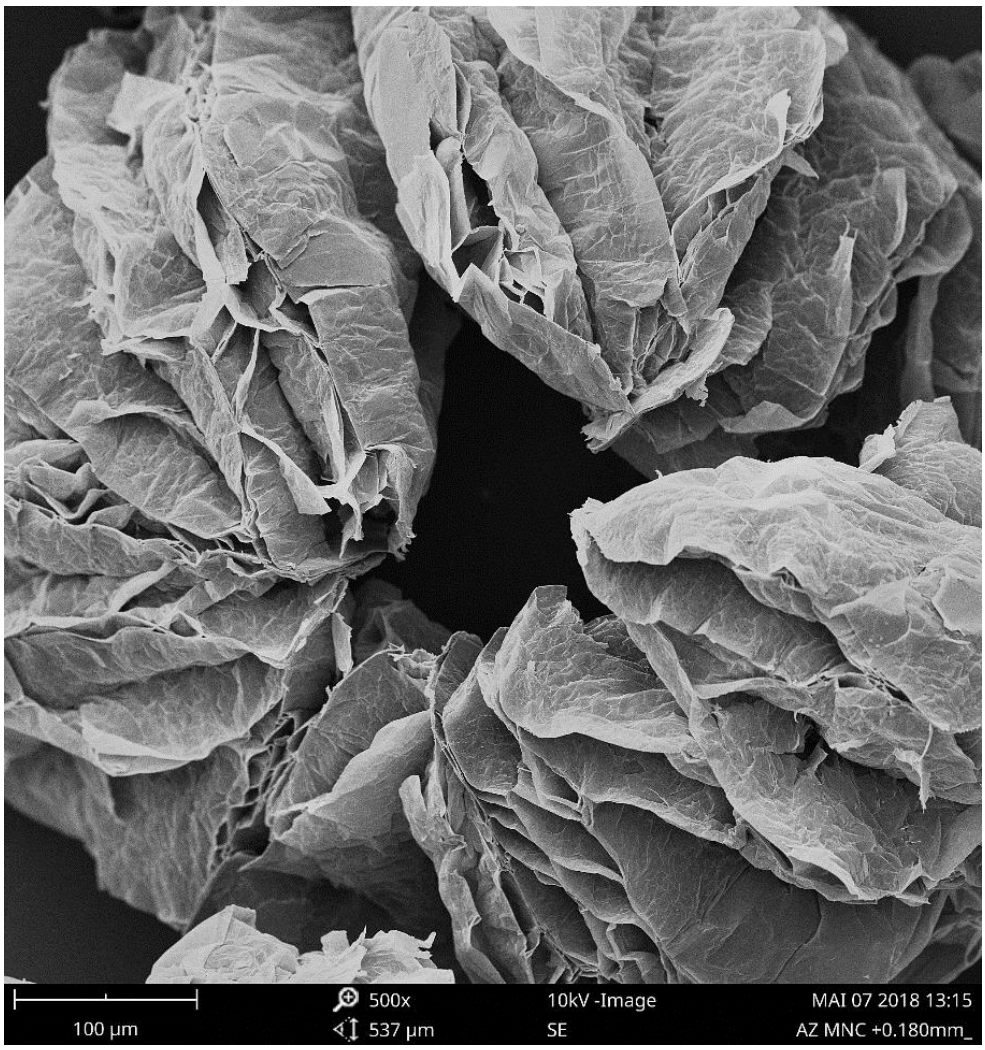


Figure 1 – SEM micrograph of expanded +180 micron/-300 micron graphite

High expansion volumes of 400mL/g are not easy to achieve, making the coarse flake material suitable for high-end uses such as graphite foil. Based on industry requirements, MRC will also be able to supply expandable graphite for insulation foam, fire retardants and gasket markets using the lower expansion volume flakes.

In addition, analysis of the concentrate confirmed an average TGC grade of 97.4%. Scanning electron microscopy (SEM) shows that impurities are surface alumino-silicates as well as some relatively free quartz. Consequently, there is potential to further upgrade the quality of the concentrate through optimization of the flotation circuit.

Figure 2 – SEM micrograph with energy dispersive X-ray (EDX) analysis with back-scatter detection (BSD) – impurity minerals appear bright.

Given the positive testwork results, MRC's subsidiary MRC Graphite Pty Ltd ("MRCG") will conduct a concept study on the development of an expandable graphite plant. Results from the study will be released as it progresses.

MRC's Executive Chairman Mark Caruso commented "*These results validate our approach to look at a range of markets for Munglinup graphite concentrate and the associated value-adding opportunities.*

Our development work on expandable graphite, graphene and soon to commence battery anode materials studies, together with variability testing and optimisation of the Munglinup flowsheet, will provide the foundation for developing the Munglinup project as a secure, low risk, high quality supplier of graphite and related materials – a project that is not solely reliant on a single market. "

The master composite sample used to produce the graphite concentrate for expandability testing was built using core from 22 different and spatially variable drill holes located within the Halberts Main Deposit. The Halberts Main Deposit is the largest of all known deposits within the Mining Lease comprising 85% of the reported Mineral Resource and is scheduled for development prior to the other smaller satellite deposits.

Figure 3 – Location of drill holes used to produce the metallurgical master composite and showing the proposed pit optimisation outline.

- ENDS -

For enquiries regarding this release please contact:
Peter Torre – Company Secretary
Ph +61 8 6253 1100

Appendix 1 – Competent Persons Attributions

Exploration Results & Mineral Resource Estimates

The information is extracted from the report entitled "Further Resource Information – Munglinup Graphite Project" created on 13th September 2017 and "Munglinup Met Tests Confirms Premium Flake Graphite" created on 8th February 2018 and are available to view on the ASX website. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Metallurgical Testwork

The expandable graphite metallurgical testwork was managed by Dr Christian Graf of Dorfner ANZAPLAN, a Germany based consultancy specialising in expandable and other downstream processing of graphite concentrates. Dr Graf consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Appendix 2 - Munglinup Graphite Project (JORC Code, 2012 Edition – Table 1 report)

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	Commentary
Sampling techniques	• The current resource database consists of 161 air core holes and 38 diamond holes representing 6612m of drilling and 2738 analyzed drill samples. • Air core (undertaken by Graphite Australia) ore zone intervals were sampled every meter using a scoop spear and the material bagged and numbered. Waste was not sampled except for a small buffer either side of the mineralisation. • Diamond drilling (undertaken by Graphite Australia) ore zone intervals were sampled every meter except for ore boundaries where longer or shorter interval was taken. Waste was not sampled except for a small buffer either side of the mineralisation.
Drilling techniques	• Diamond drilling was done using HQ triple tube. • The mineralisation occurs from surface and drilling was done to a maximum of 61.1m depth.
Drill sample recovery	• No continuous data was recorded on core or chip recovery. Only poor sample quality and recovery was recorded for air core. • Due to the style of the deposit it is considered that any material loss is not significant to the estimation of mineralisation.
Logging	• The current resource database consists of 161 air core holes and 38 diamond holes representing 6604m of drilling that were initially logged by onsite geologists. Diamond core was relogged and resampled in 2016. • The data and results obtained from the 2012-2013 (Graphite Australia) drilling campaign were compared with the new logging and lab results from 2016 (AEMCO) as well as the historical logging and grades from the 1986 diamond holes by Sons of Gwalia. The two datasets were correlated to an acceptable level. • A comprehensive logging system was developed and included alteration (type, style and intensity), grain size, rock type / lithology, colour, minerals, textures, fabric, parent rock (where fresh), sedimentary setting and, graphite class and grade. • Geotechnical aspects in the form of RQD parameters were also recorded for the diamond core as well as specific structures and details in this regard e.g. alpha angles.
Sub-sampling techniques and sample preparation	• Air core was sampled using a scoop spear. • Diamond core was cut by a diamond impregnated blade core saw and half core sampled. Re-sampling of the remaining core in 2016 for data validation purposes (422 core samples including 26 duplicates and 19 repeat samples) used quarter core.

Criteria	Commentary
	• Duplicates (quarter core) were taken every 20 meters.
Quality of assay data and laboratory tests	• Standards were inserted every 20 meters. No blanks were used in addition to normal laboratory QAQC protocols. • Sample analysis was undertaken by Nagrom in Perth for the Graphite Australia samples. • The graphite content is reported as Total Graphitic Carbon (TGC). Prepared samples were dissolved in HCl over heat until all carbonate material is removed. The residue is then heated to drive off organic content. The final residue is combusted in oxygen with a Carbon-Sulphur Analyser and analysed for Total Graphitic Carbon (TGC). • Sample analysis was undertaken by Analabs in Perth for the Gwalia Minerals NL samples. Two methods were used. • Fixed carbon (>40%C) – C graphite is determined as an expression of fixed carbon which is calculated by subtracting the sum of the percentages of moisture in the sample, volatile matter and ash from 100 (BS1016 methodology) • Fixed carbon (<40%C) - the sample is washed with organic solvents, filtered and washed with NaOH solution, the sample is then attacked with hot 1:1 HCL to remove carbonates, washed and dried at 105oC, the residue is analysed for carbon by converting the carbon to CO2 in a Leco furnace and measuring by infra-red. • Eleven check samples (pulps) from Analabs were sent to Classic Laboratories for cross checks. Classic Laboratories washed the samples with dilute HCL to remove carbonates, ash at 450oC to remove organic carbon and assay by Leco furnace for the remaining fixed carbon / C graphite. Check assays >10% fixed carbon were all within ±10% of the original Analabs assay. Analabs assays within the range 5% -10% fixed carbon were approximately 15% lower than Classics check assays.
Verification of sampling and assaying	• Four twin holes were drilled by Graphite Australia near (8-14m) the historical diamond holes by Sons of Gwalia. • The database containing drilling data and results was provided by Graphite Australia. A review of the data was done by the project field geologist Mr Luke Forti and the accuracy of the data was discussed with him during a number of meetings with AEMCO during 2015. Confirmation on the integrity and accuracy of the data was provided. • A visual review of the diamond core was then done by AEMCO in 2016 to confirm the historical logging by Graphite Australia. Any outstanding information was recovered from the diamond core and updated geological logs were created. • Diamond core was relogged and resampled in 2016. 422 Core samples were re-analyzed by Nagrom during April 2016, including 26 duplicate and 19 repeat samples to confirm grade results. GGC01, GGC08 & GGC09 standards were used. • The data and results obtained from the 2012-2013 (Graphite Australia)

Criteria	Commentary
	drilling campaign were compared with the new logging and lab results from 2016 (AEMCO) as well as the historical logging and grades from the 1986 diamond holes by Sons of Gwalia. Any discrepancies or errors were either corrected or the results rejected.
Location of data points	• All exploration drillhole collars were re-surveyed to 0.05m accuracy by Esperance Surveys in July 2016. In total 90% (179 holes) were re-surveyed to confirm location integrity. Average variation from the original field survey in all directions was less than 2m. • Air core holes were down hole surveyed at the end of the hole only. Diamond drill holes were surveyed at 30m depth and the end of hole. • Local grids were established at each of the prospects then later converted to GDA94. Hole collars were surveyed by GPS.

Data spacing and distribution	• Drill spacing:
	  ○ Halberts Main Zone: (Drill Grid 50 x 20m).
	  ○ Halbert South Zone: (Drill Grid 40 x 20 & 40 x 10 infill)
	  ○ Harris Area: (Drill Grid 40 x 20m)
	  ○ McCarthy West Area: (Drill Grid 40 x 20)
	  ○ McCarthy East Area: (Drill Grid 40 x 10)

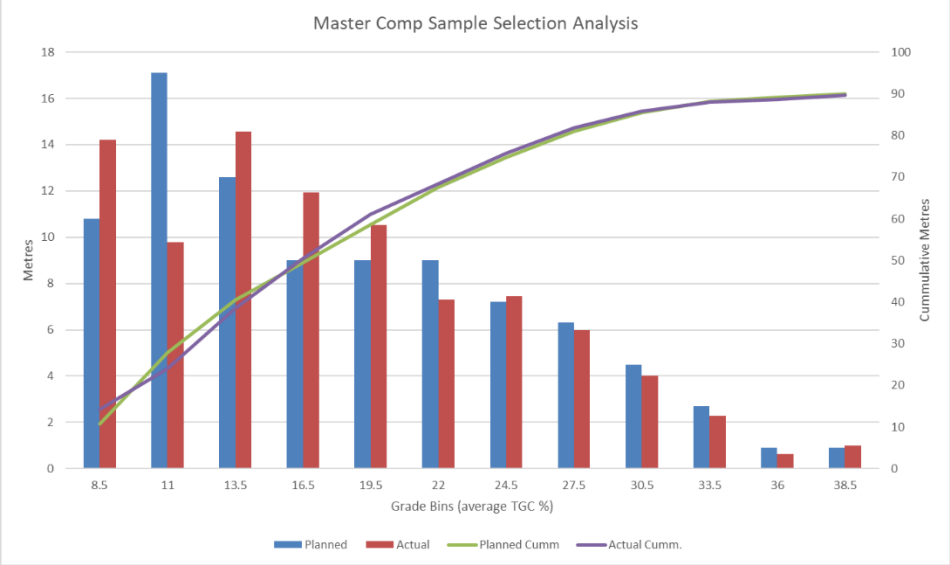
Orientation of data in relation to geological structure	• The deposits were drilled at approximately -60° to intersect the mineralised zoned approximately orthogonal to the interpreted dip and strike of the geological units. • The interpreted mineralised zones correlated extremely well with historical interpretations done by Sons of Gwalia in the 1980's and 1990's and high degree of confidence in the orientation and zoning of the graphite mineralisation is noted.
Sample security	• Graphite Australia followed a disciplined QA/QC process as is evident from their database and chain of command documents. • AEMCO followed the same procedure and personally took all resampled material to Nagrom and recovered the processed sample material for storage with the remaining core and air core samples at a secured location in Welshpool, WA.
Audits or reviews	• An audit was conducted by Coffey Mining Pty Ltd in 2011 prior to the additional drilling undertaken by Graphite Australia. The review stated; "Resources and reserves are assessed to be non-JORC compliant, given the age and the lack of available core. However, given the level of documentation provided, and the extent to which an auditable trail exists in relation to the modelled resources and reserves, the metrics presented are credible and serve as basis for project decision making." • The 2012-2013 exploration work done by Graphite Australia during was reviewed and completed by AEMCO in 2015 and 2016 and from this review a maiden JORC 2012 resource was determined.

Section 2 Reporting of Metallurgical Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
Mineral tenement and land tenure status	• The tenements (M74/75 & E74/505) are situated on the Ravensthorpe SI 51-5 and North-Over 3031, 1:250,000 and 1:100,000 geological sheets respectively. • Mining Lease 74/245 was granted on the 26 August 2010 for a term of 21 years. The Lease is 685 hectares in area. • Exploration License 74/505 of 2 block size was granted on 23 October 2012 for a period of 5 years. • Gold Terrace Pty Ltd are the current registered owners of the Munglinup Mining Lease (M74/245) and Exploration License E74/505. • There is a caveat on the tenements relating to a 2% gross royalty liability with Adelaide Prospecting as the beneficiary. • The fully granted mining lease is valid to August 2031. • The tenements are located in a fully gazetted mining reserve, with no native title or private land ownership issues.
Metallurgical work done by other parties	• Significant previous metallurgical testwork has been undertaken. Early tests achieved an average of 85% C in con at 95% recovery, with rougher float followed by 5 stages of cleaning on mixed (un-sized) ore. Later tests focused just on rougher flotation in +300micron, and +150/-300micron size ranges. Excellent recoveries of +150micron material (~98%) at relatively low con grades (~60%C) was seen. Reasonable recoveries of +300micron material was seen at higher cons grades. These tests however left significant graphite in the oversize/undersize and artificially inflated the graphite grade in target size ranges to more than 30%. • Overall, more than 20 specific metallurgical studies were undertaken on the Munglinup Graphite mineralisation, predominantly in the late 1980's and early 1990's. This testwork culminated in the release of a Feasibility Study by Gwalia Minerals in 1991. • In 2011, Graphite Australia commissioned Nagrom to undertake various metallurgical tests on a 2t bulk sample. As a result of this test work, a conceptual flow sheet was developed based on a beneficiation circuit with unit operations that are conventional and well proven in the industry. A circuit comprising feeder and trommel, desliming, classification, gravity, milling, flotation, drying, screening and bagging was considered. This forms the base case for this study. This flow sheet and historical data was reviewed by Battery Limits and deemed reasonable however further optimisation is possible and additional metallurgical testwork has been undertaken to address this. • No specific allowances have been made for deleterious elements. Any non-graphite material that reports to the graphite concentrate is deemed

Criteria	Commentary
	to be dilutionary in nature only and does not attract any specific penalties beyond the reduction in concentrate price based on the graphite concentrate purity as is standard in the industry. This was confirmed by the recent metallurgical testwork reported in company announcement 8th Feb 2018. • An 8t bulk sample was extracted from the Halberts Main deposit to be used for metallurgical test work undertaken by Nagrom in 2011. This sample does include material from the three mineralisation types. The sample has ultimately been deemed only partially representative as it does not include material from depth. Recent metallurgical testwork utilised a master composite derived from historical drilling core and that has been selected to provide high representivity of the deposit. • Both historical and recent work has been done on the mineralogy of the deposit. The latest petrographical study was conducted on 12 samples from drill core that are representative of the deposit. The petrographical nature of the graphite mineralisation at Munglinup is well understood and shows that the final product will be able to meet the required specifications mineralogically.
Geology	• The Munglinup area comprises Archean to Paleoproterozoic, metamorphosed granitic and other metamorphic rocks of the Albany–Fraser Orogen, typically hornblende (± garnet) gneiss and migmatite. • Within the gneissic rock mass, rocks containing the Munglinup graphite deposits consist of a succession of tightly folded metasedimentary rocks with a consistent dip to the southeast. • The classification scheme most widely accepted for graphite deposits was introduced by Cameron (1960). It classifies known graphite deposits into five categories reflecting the different types of graphite. • Using this classification scheme, it is most likely that the Munglinup deposit can be characterized as a type 1, disseminated flake graphite in silica-rich meta-sediments deposit.
Drill hole Information	• This information is included in previous Company Announcements including those release on 11/09/2017, 13/09/2017 and 08/02/2018.
Data aggregation methods	• No cut-off grades were applied to exploration data. • The master composite that was produced for the metallurgical testwork was representative of the modelled orebody in that the grade distribution and material types matched the overall mineralisation modelled

Criteria	Commentary
	
Relationship between mineralisation widths and intercept lengths	• Inclined air core and diamond drilling (HQ3) was done to try and intersect the different graphite zones as close to true width as possible. Average dip angle was 60°.
Diagrams	• Drill hole collar location plans and sections given in previous Company Announcements including those release on 11/09/2017, 13/09/2017 and 08/02/2018. Location of the holes used to build the master composite are given in company announcement dated 08/02/2018.
Sample preparation and processing methods applied	• 40kg of the master composite was prepared for production of a 5kg graphite concentrate sample. The sample was stage ground in a rod mill to 100% passing 1mm. Particle size distribution (PSD) and TGC assays were conducted on eleven size fractions of the ground Master Composite. The resulting P80 (80% of the material passing) size was calculated at 473µm. • The feed material was then processed using a standard flotation flow sheet comprising rougher and scavenger cells, with a regrind followed by multiple cleaner stages with stirred milling between stages. • The resulting graphite concentrate sample to be used for downstream processing assessment has a P80 of 193µm and average TGC grade of 97.8%.