

# Magnis Resources

L I M I T E D

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## EXCEPTIONAL FLAKE GRAPHITE METALLURGICAL RESULTS EXTEND TO MAIN BLOCK F

- **Significant metallurgical results received for Main Block F**
- **Up to 68.5% of graphite concentrate in jumbo flake category +300 microns**
- **87-92% of graphite in the medium, large and jumbo categories**
- **Minor ore variability within Block F samples**
- **Samples for MOU for offtake partners and potential partners now prepared**
- **Maiden JORC Resource on track due for late November with majority of resource expected from Block F**
- **Current jumbo flake graphite price at \$US1,800 per tonne**

Magnis Resources Limited (ASX:MNS) reports further consistently high proportions of large and jumbo flakes in graphite concentrates from ongoing metallurgical testing of Main Block F and Block F South ore at its Nachu Graphite Project in Tanzania.

Metallurgical testing of the drill core from the 2014 exploration program is continuing with graphite concentrates produced from the drill core using a combination of milling and flotation stages. The scope of the current metallurgical program includes ore variability testing and optimisation of processing route and flake size. Since the most recent update on metallurgical testing, a further nine tests have been completed on both Block F South and Main Block F.

Magnis CEO Dr Frank Houllis commented: "The consistently high proportions of large and jumbo flakes in the graphite concentrates from all areas of Block F tested to date underpin the quality of the Nachu project. In addition to demonstrating low ore variability across Block F, today's results demonstrate the progress being made in improving flake size and simplifying the metallurgical process. This has culminated in the generation of representative product samples for our MOU offtake partners."

"As work progresses towards the announcement of the maiden JORC Resource later this month, we expect a large portion of the resource to come from Block F. With today's metallurgical results our project continues to go from strength to strength and reaffirms the validity of our claim that Nachu is a world class graphite project in every sense."

## Process Optimisation Testing

Initial metallurgical testing has focused on attaining high graphite concentrate grade while maintaining maximum flake size. Achieving maximum flake size is in keeping with process simplification as the number of grinding stages during cleaning of the rougher concentrate are minimised. The optimisation work has culminated in Test UNX125, which simulated the production process to be used for making the marketing sample for Magnis's MOU partners.

The ore used for Test UNX125 was a composite made from a 43m interval (24m to 67.6m) of core from Hole NADD026 in F South. **Table 1** summarises key outcomes for Test UNX125 and demonstrates the ability to produce a high proportion of jumbo flake graphite at high graphite recovery. The **overall recovery of graphite to the concentrate was 96.0%** with the calculated head for graphite in feed ore composite at 6.55% TGC.

**Table 1: Size Distributions and Grade of Graphite Concentrate Produced from Test UNX125 Using Ore from Block F South (NADD026)**

Classification	Sieve Size		%Weight Distribution	Graphite (%TGC )	% Graphite Distribution
	(microns)	Mesh			
Jumbo	> 300	+ 50	65.5	95.6	66.4
Large	180 – 300	+80, -50	22.2	93.6	22.1
Medium	150 – 180	+100, -80	4.4	91.8	4.3
Fine	< 150	- 100	7.9	86.7	7.2
Total			100	94.3	100

The graphitic carbon content (%TGC) in the table has been determined from the difference in the loss on ignition (LOI) between the temperatures of 425°C and 100°C

## Ore Variability Main Block F

Using a standardised procedure for testing ore variability, metallurgical testing of drill core has now been extended from Block F South to include Main Block F. The results reported here are for all the metallurgical tests that have been performed since the last update and include results from Block F central. **Table 2** summarises key outcomes for each test and demonstrates the consistently high proportion of jumbo flake graphite produced (ranging from 55.5 to 67%) at high graphite recovery (94.9 to 97.1%). Test parameters are given in **Table 3** with the hole locations given in **Figure 1**. The results show minor ore variability across the blocks in F in deeper non-oxidised zones of the core. There is some minor impact in terms of the grade and the flake size of the graphite concentrate produced from near surface core (**Test 123**) that has been subjected to oxidising conditions.

With the exception of **Test 121**, the standard ore variability test was used. For **Test 121**, the grinding time at each stage was extended with a significant benefit observed in grade and recovery of concentrate produced, albeit with a minor decrease in the proportion of jumbo flake.

**Table 2: Size Distributions and Grade of Graphite Concentrate Produced from Metallurgical Testing of Ore Samples from Block F South and Main Block F**

Flake Size	Sieve Size		% Distribution by Graphite Mass				
	(microns)	Mesh	Test 120	Test 121	Test 122	Test 123	Test 124
Jumbo	> 300	+ 50	<b>68.5</b>	<b>66.9</b>	<b>64.3</b>	<b>57.4</b>	<b>64.3</b>
Large	180 – 300	+80, -50	<b>18.5</b>	<b>18.8</b>	<b>21.4</b>	<b>23.8</b>	<b>21.2</b>
Medium	150 – 180	+100, -80	4.2	4.8	4.8	6.4	5.2
Fine	< 150	- 100	8.8	9.5	9.5	12.4	9.3
Total			100	100	100	100	100

**Table 3: Grade of Graphite Concentrate Produced from Metallurgical Testing of Sample Ore Composites from Block F South with Recovery**

Flake Size	Sieve Size		%TGC Graphite				
	(microns)	Mesh	Test 120	Test 121	Test 122	Test 123	Test 124
Jumbo	> 300	+ 50	94.4	95.4	95.1	90.3	94.7
Large	180 – 300	+80, -50	87	91.8	81.6	76.7	83.4
Medium	150 – 180	+100, -80	79.7	89.0	71.5	62.1	69.2
Fine	< 150	- 100	85.2	86.7	74.8	58	72.3
Ore Tested (interval length metres)			NADD026 (24-68m)	NADD026 (24-68m)	NADD028 (19-137m)	NADD028 (3-16m)	NADD030 (42-127m)
% TGC in Graphite Concentrate			90.3	93.1	88.3	79.2	88.0
% Graphite Recovery to Final Concentrate			96.7	97.1	96.1	91.5	96.2

The graphitic carbon content (%TGC) in the table has been determined from the difference in the loss on ignition (LOI) between the temperatures of 425°C and 100°C

Figure 1: Map of Drill Core Locations

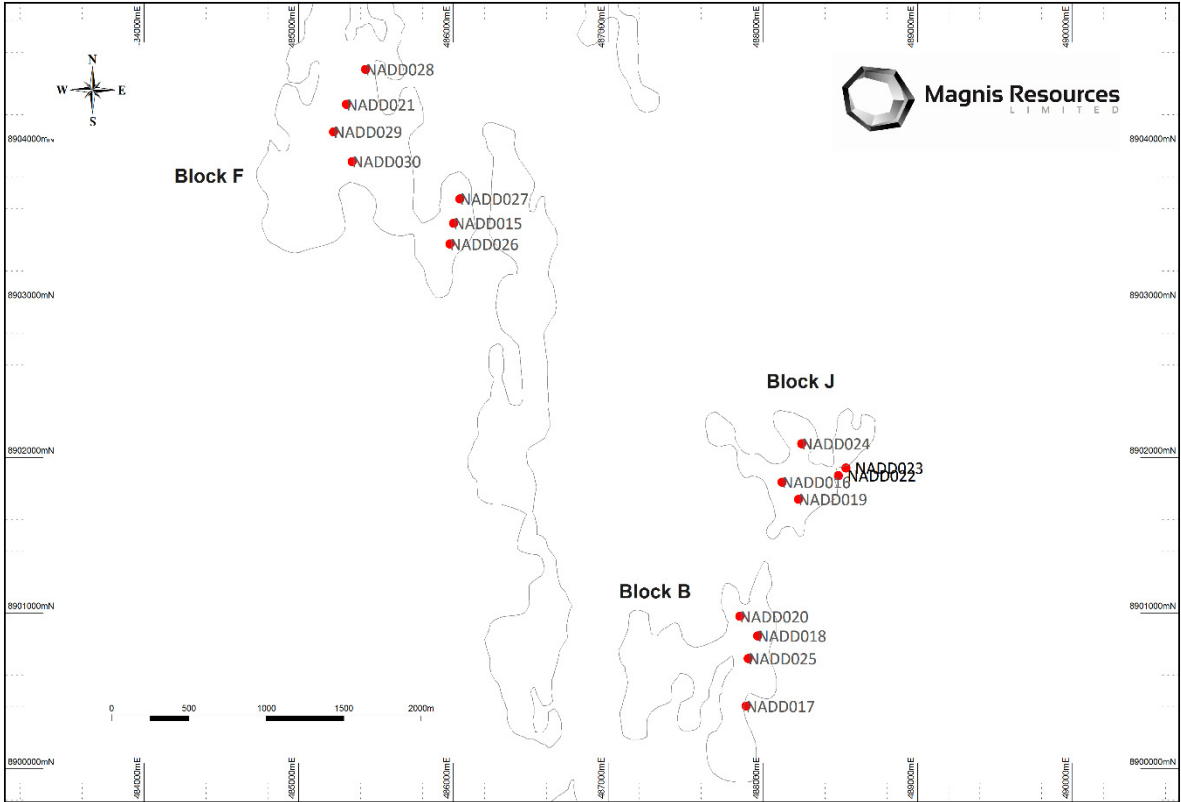


Figure 2: Larger Scale (60L) Flotation Test



## Product Samples for MOU Partners

Using the optimised test procedure (**Test UNX 125**), a larger scale floatation test (**Figure 2**) was performed using composite drill core from NADD015 and NADD026 from Block F South. The graphite concentrate was generated for the purpose of providing samples to MOU partners. These samples will be sent out in the coming days.

## Future Program

Going forward, the ore variability work will soon be completed with the testing of the final core from main Block F (NADD029), which has now been composited for metallurgical testing. Further optimisation work will focus on improving the robustness of the flotation process to treat ore across the whole of the Nachu ore body. The plan is to complete the process optimisation work in readiness for the announcement of a JORC Resource this month. With the mine plan to soon follow, the metallurgical program will then switch to larger scale testing of future ore feed to better define process performance and design data and the graphite concentrate product quality.



**Figure 3: Location of the Nachu Graphite Project**

Dr Frank Houllis  
 Chief Executive Officer  
 Magnis Resources Limited  
 For further information: +61 2 8068 6428

*Information in this report that relates to Exploration activities and Exploration results is based on information compiled by Mr Brent Laws, a Competent Person who is a registered member of the Member of the Australasian Institute of Mining & Metallurgy. Mr Laws is a full time employee of Magnis Resources Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for reporting of Exploration Results. Mr Laws consents to the inclusion of the data in the form and context in which it appears.*