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## **JUBUK METALLURGICAL REPORT**

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Magnetic Resources is pleased to release the attached summary report on metallurgical test work from consulting engineers Engenium Pty Ltd on reverse circulation drill samples and diamond core from the Jubuk magnetite project near Corrigin WA. As previously reported (MAU ASX release 30 July 2010), the test results shows that the Jubuk magnetite banded iron formation (BIF) responds to conventional treatment and is capable of beneficiation to produce a premium product.

Following these encouraging results, Magnetic is planning a further 25-hole drilling programme (increasing the total number of holes drilled at Jubuk to 50) to test the previously unrecognised western fold limb, to test the strike extensions of the BIF and to commence resource definition drilling.

For more information on the company visit [www.magres.com.au](http://www.magres.com.au)

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The information in this report is based on information compiled or reviewed by George Sakalidis BSc (Hons) who is a member of the Australasian Institute of Mining and Metallurgy. George Sakalidis is a director of Magnetic Resources NL. George Sakalidis 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 in the 2004 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. George Sakalidis consents to the inclusion of this information in the form and context in which it appears in this report.

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**MAGNETIC RESOURCES  
NL**

**JUBUK IRON ORE  
PROSPECT  
MAGNETITE  
PROCESSING**

**METALLURGICAL  
TESTWORK REPORT**

**9095A-REP-0000-Z-001**

## 1.0 SUMMARY

Engenium is assisting Magnetic Resources NL in assessing the Jubuk Iron Ore Prospect. This is a magnetite based iron ore, in the early stages of drilling. As the magnetite mineral only accounts for some 30% of the ore mineralisation, beneficiating the ore to a higher grade is essential. This beneficiation processing needs metallurgical testwork so an assessment program was developed for the first two stages of drilling.

### 1.1 Reverse Circulation Drill Program

RC drill chips are used to assess the grade of the ore. An important analysis step is the Davis Tube Recovery (DTR) test as it quantifies the quality and recovery parameters of the magnetite material. This analysis is performed on exploration drill samples, as a matter of routine, but the DTR parameters for every magnetite ore body differ. The size for the test, and the pulverisation method to get to that size, need to be determined for each ore body.

The program determined the procedure reported in Section 7.1 as the definitive DTR procedure for this ore.

The main parameter is that the ore size should be nominally 97% passing 75 $\mu$ , developed by pulverising, then screening the sample through a 75 $\mu$  screen and re-pulverising the oversize until 97% of the mass has passed through. This size is midway along a plateau of DTR performances when related to sizing so is a robust analysis.

The DTR performance was very encouraging and is summarised below in Table 1.1.

Davis Tube Product	Mass (g)	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %	LOI %
Magnetics	9.82	69.69	1.36	0.90	0.002	-3.17
Non Magnetics	19.55	3.91	76.79	7.72	0.054	0.78
Davis Tube Recovery	29.4%	90.0%	0.9%	5.5%	1.8%	na
Calc Head Assay		25.9%	51.6%	5.4%	0.037%	

Table 1.1 – Summary of DTR Results

### 1.2 Diamond Drill Program

The diamond program was performed in two stages. The first stage tested the full diameter core and another composite was developed for further magnetic-separation based testing. This composite assayed as shown below in Table 1.2.

Fe	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	TiO <sub>2</sub>	Mn	CaO	P	S	MgO	LOI
20.41	55.25	7.21	0.21	0.043	1.97	0.032	0.049	1.80	-0.45

Table 1.2 – Diamond Drill Composite, Head Assay

This initial, full core, assessment indicated the ore to be conventional in its hardness, abrasiveness and milling qualities. A summary of the results on the ore zones are shown below in Table 1.3.

Hole ID	Interval		In-situ SG	UCS MPa	Abrasive Index	Bond Ball Mill Work Index
	From (m)	To (m)				
JDH01	79.80	80.00	3.35	93.4	0.44	17.5 kWh/t
JDH01	93.00	93.20	3.31	80.5		
JDH01	115.50	115.75	3.39	65.3		

**Table 1.3 – Diamond Drill Composite, Physical Properties**

These results indicated very limited issues by processing using modern equipment.

A DTR was performed on this sample to indicate an expected performance and to check the robustness of the procedure. These results are shown below in Table 1.4.

DTR PRODUCT	Wt. (%)	Fe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	S (%)	LOI 1000 (%)	FeO (%)
Magnetic Conc.	26.2	70.50	1.31	0.67	0.003	0.022	-3.24	30.68
Non-mag tailing*	73.8	2.66	74.35	9.52	0.042	0.059		
Recovery% to Magnetic Conc.	26.2	90.4	0.6	2.4	2.5	11.7		

\*Non Magnetic fraction calculated

**Table 1.4 – Diamond Composite, DTR Results**

Following this test, a scoping style, Low Intensity Magnetic Separation (LIMS) program was performed to check the performance of the ore at industrial strength magnetic fields. The results, developed from the assay heads, are shown below in Table 1.5.

	Mass	Fe		SiO <sub>2</sub>		Al <sub>2</sub> O <sub>3</sub>		P	
	Dist	Grade	Dist	Grade	Dist	Grade	Dist	Grade	Dist
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Calculated head	100.0	20.03	100.0	55.96	100.0	7.29	100.0	0.050	100.0
P <sub>80</sub> 212µ Non-Mags	72.4	3.18	11.5	74.04	95.8	9.71	96.5	0.042	61.4
P <sub>80</sub> 212µ Mags	27.6	64.24	88.5	8.54	4.2	0.92	3.5	0.069	38.6
Grind 212µ Mags to 75µ									
P <sub>80</sub> 75µ Non-Mags	2.5	6.39	0.8	79.90	3.6	2.97	1.0	0.07	3.6
P <sub>80</sub> 75µ Mags	25.1	70.00	87.7	1.43	0.6	0.72	2.5	0.07	35.0

**Table 1.5 – Diamond Composite, 2 Stage LIMS Separation Results**

The performance is excellent, in line with the DTR performed on the RC chip sample.

This early testwork has shown that the Jubuk ore responds to conventional treatment and that the mineralogy of the ore mineral makes it capable of producing a premium product.

To this end the project needs to progress on two fronts, probably in a Pre-Feasibility Study (PFS) to make the project more robust. These fronts would be

- to confirm the tonnage available for mining; and
- to finalise the processing qualities of the ore minerals.

This Metallurgical Testwork Report was compiled for Magnetic Resources NL by Engenium Pty Ltd as an independent consultant. It is based upon information furnished by Magnetic Resources NL and by Engenium Pty Ltd engineering and project personnel.

This report is intended to be utilised by Magnetic Resources NL and its contents have not be audited any third party.

Engenium Pty Ltd also point out that the utilisation of the term "ore" throughout this report is intended to be used in a descriptive manner only and the term does not indicate any inferred or intended compliance with the definition of "ore" in the JORC code.

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