



magnetic resources<sup>NL</sup>

## QUARTERLY REPORT for the Quarter Ended 31 March 2012

### HIGHLIGHTS

**Magnetic Resources NL**  
ABN 34 121 370 232

**ASX Codes:** MAU and  
MAUCA

Level 2, 16 Ord Street  
West Perth WA 6005

T +61 8 9226 1777  
F +61 8 9485 2840  
E [info@magres.com.au](mailto:info@magres.com.au)

PO Box 1388  
West Perth WA 6872

**Issued Capital:**  
**Shares - Quoted:**  
67,883,211 fully paid  
shares  
17,418,862 contributing  
shares  
**Options - Unquoted:**  
2,295,000 options  
exercisable at \$0.2709 by  
23.12.2014  
2,145,000 options  
exercisable at \$0.4607 by  
21.12.2015  
2,700,000 options  
exercisable at \$0.1499 by  
27.12.2016

**Cash:** \$1.57 million

**Directors:**  
**Peter Thomas**  
Non Executive Chairman  
**George Sakalidis**  
Managing Director  
**Roger Thomson**  
Executive Director  
**Eric Lim**  
Non Executive Director

### IRON ORE DRILLING

During the quarterly period 99 drill holes for 4,193m, tested six targets at Cheesemans/Buntine/Jubuk South/Marriotts/Lomos/Vinegar Project areas.

#### Cheesemans/Buntine (Refer to ASX Release 26 April 2012)

- 3,082m of drilling in the Wubin Area. The Cheesemans Buntine and adjacent Fitzsimons targets confirm coarse grained magnetite bearing rocks similar to the advanced Jubuk project.
- Cheesemans is an 11km broad magnetic target where current drilling has tested 1km and confirms the extensive nature of BIF zones within a broad anomaly. Best result to date is 56m at 31.6% Fe.
- Davis Tube Recovery on Cheesemans BIF at 75 micron grind produced a premium product containing 70.2% Fe 1.4% SiO<sub>2</sub> concentrate with very low impurities.
- The Company has now identified ten projects with coarse magnetite targeting 105kms of interpreted strike whereas previously reported occurring only at Jubuk over 4.3km.
- Coarse magnetite bearing rock types have been discovered over satellite targets to Jubuk at Marriotts, Lomos and Vinegar. Results pending.
- New airborne geophysical data has delineated 125km of new targets.
- The pegging rush that followed the Company's initial foray into the area has seen a major iron ore pellet producer take a significant position in the region exploring and purchasing deposits that have similar coarse grained magnetite as Jubuk and Cheesemans. A number of other Iron ore pellet producers and metal trading houses have under CA been reviewing Magnetic's data.
- These results show the Company's near term potential to prove up a resource base of a scale indicated as viable by the Conceptual Mining Study (ASX 29 Sept 2011).

## **At Jubuk South/Marriotts Project**

Magnetic has recently completed RC and aircore drilling at Jubuk South, Marriott, Lomos and Vinegar targets, all in the Jubuk area near Corrigin. The drilling targeted several large magnetic anomalies with the aim of identifying satellite magnetite deposits in the Jubuk district. A range of coarse grained magnetite rock types were intersected including BIF, magnetite gneiss, magnetite granodiorite and magnetite granitoid. Drill samples from the program are currently being analysed.

- 9 RC and AC drill holes for 377m tested 2 lines of a broad magnetic target called the Marriott prospect to the south west of Jubuk and intersected between 20-40m thicknesses of magnetite bearing gneiss and granodiorite over a 2km strike. Samples are submitted for assay.
- 9 RC drill holes for 389m tested 2 lines RC drilling of the Jubuk South extension has confirmed the Jubuk mineralisation extends further south with a lens of magnetite bearing BIF discovered on 2 drill lines 800m apart. Samples are submitted for assay.

## **At Lomos Project**

- Lomos is defined as broad [several hundreds of metres] with high magnetic amplitude fold structure about 1.5km in extent. Samples are submitted for assay.
- 4 RC drill holes for 220m exploratory tested a past ground magnetic and gravity survey.
- Drilling discovered a broad 150m wide open ended magnetic granitoid with coarse magnetite. Samples are submitted for assay.

## **At Vinegar Project**

- Vinegar is defined as broad [several hundreds of metres] with high magnetic amplitude fold structure about 2.5km in extent.
- 5 RC drill holes for 125m exploratory tested a broad magnetic interpreted fold structure.
- Drilling was limited due to poor ground conditions prevailing at the time but allowed the discovery of open ended magnetic granitoid with coarse magnetite. Samples are submitted for assay.

## **IRON ORE SAMPLING**

### **York (Refer to ASX Release 27 April 2012)**

- Reconnaissance rock chip sampling program in the York area 100km north-east of Perth comprises of numerous magnetic anomalies associated with magnetite.
- The York rock chip sample results confirms the occurrence of coarse grained Jubuk style and conventional banded iron formation (BIF) rock types associated with several geophysical anomalies (30km of targeted strike) that extends further north of the Company's advanced premium magnetite project at Jubuk.
- Sample Y5 represents a 30m wide ridge of outcropping coarse grained magnetite rock (38% Fe, 40% SiO<sub>2</sub>, 2% Al<sub>2</sub>O<sub>3</sub>, 0.05%P) and is mapped at surface to be an inclined coarse grained BIF.

- **Sample Y7-8 represents weathered and fresh metamorphosed gneissic banded iron formation (45-49% Fe, 27-30% SiO<sub>2</sub>, 2% Al<sub>2</sub>O<sub>3</sub>, 0.02%P) associated with a broad magnetic anomaly 4.0km x 0.5km in extent at surface.**
- **These initial grab sample results offer further opportunity for the occurrence of coarse grained premium quality magnetite and near surface DSO associated with major infrastructure close to Perth (Avon-Albany Railway and the Perth-Kalgoorlie Railway).**

## **Project Summary**

### **Cheesemans – Buntine Projects**

Magnetic Resources (MAU) has completed a 72-hole, 3,082m RC exploration drilling program over part of the Cheesemans and Buntine iron ore targets in the Wubin area just 235km north of Perth testing for DSO and BIF. This program forms part of a systematic assessment of numerous targets for direct shipping ore (DSO) and magnetite identified on Magnetic's extensive holdings in the SW of Western Australia, where coarse magnetite has now been identified in ten areas of exploration to date (refer Figure 1).

The Cheesemans and Buntine drill results and previous drilling at Fitzsimmons confirms the occurrence of coarse grained Jubuk style and conventional BIF rock types associated with geophysical anomalies that extends further north of Jubuk, justifying further work on other geophysical targets throughout the Company's tenements in the South West region. The Company now has an interpreted 225km of untested primary geophysical targets with additional subsidiary targets that may be upgraded. Targets drill tested are exhibiting coarse magnetite.

At both Cheesemans and Jubuk a premium coarse grained product exists, potentially suitable for direct reduction which can demand a 10-30% premium in price. The region surrounding the Company's extensive tenements have been blanket pegged by competitors one of which is an iron ore–pellet producer looking for the same premium coarse magnetite product as Magnetic.

### **Cheesemans**

Cheesemans comprises a series of iron lenses within a broad high amplitude magnetic anomaly and is accessible over 11km where initial sampling and shallow drilling by Magnetic has indicated near surface and deeper coarse grained iron enrichments. 42 RC holes totalling 1,837m tested a 1km strike length in the northern part of the target anomaly, see Figure 2. The drilling intersected two metamorphosed banded iron formation (BIF) units with a best intercept of 22m @ 28.3% Fe. Significant intercepts are summarised in Table 1. Past drilling returned a best intercept of 56m @ 31.6% Fe.

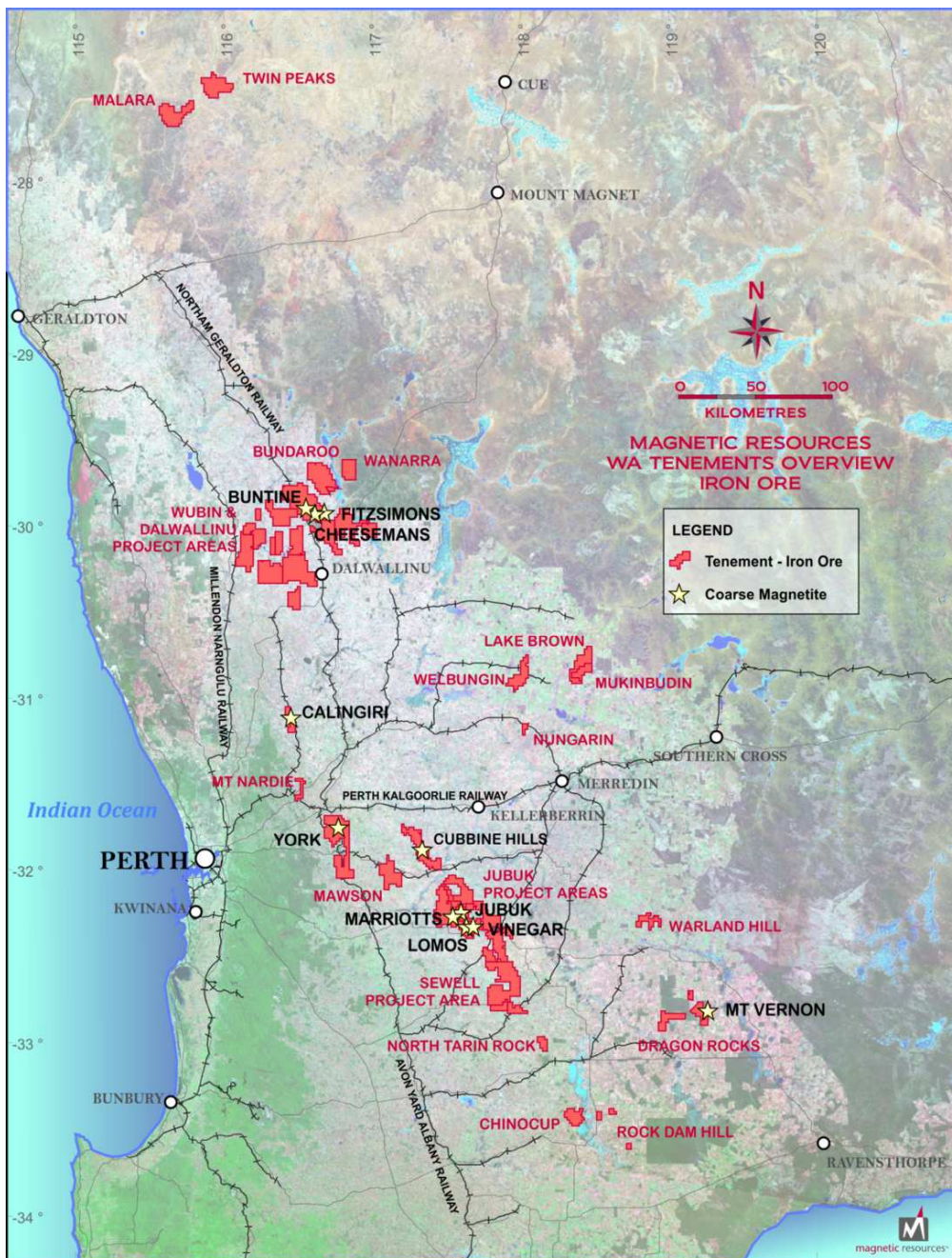


Figure 1  
**Project Overview illustrating projects with coarse magnetite BIF targeted.**

The Cheesemans BIF is steep dipping, recrystallised, coarse grained and in surface outcrop is similar in appearance to Magnetic’s Jubuk magnetite project near Corrigin.

Some of the recent drill holes bottomed in BIF, indicating that the BIF may extend up to 30m in thickness. Davis Tube Recovery (DTR) test work on a composite sample from drill holes CHRC15, 27 35 and 38 is summarised in Table 2.

Table 1  
**Cheesemans BIF Drill Results**

Hole Number	Co-ordinates		From m	To m	Interval m	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %
	East	North							
CHRC 01	463850	6685903	6	16	10	25.89	48.94	6.21	0.03
CHRC 02	463827	6685900	40	48	8	38.11	75.84	6.12	0.10
CHRC 03	463802	6685901	34	49	15	26.81	50.35	3.17	0.06
CHRC 15	463827	6686100	20	33	13	36.02	43.99	1.22	0.04
			43	54	11	30.96	46.25	2.94	0.06
CHRC 26*	463751	6685505	35	43	8	29.97	50.58	1.75	0.05
CHRC 27*	463772	6685548	31	53	22	28.35	47.14	3.49	0.05
CHRC 35	463676	6686498	44	55	11	26.74	46.42	4.14	0.04
CHRC 37+	463748	6686491	39	50	11	25.96	48.28	5.60	0.10
CHRC 38+	463724	6686507	41	52	11	31.76	47.96	1.04	0.04
CHRC 41*	463879	6686196	23	33	10	34.58	41.25	3.00	0.04

Analyses by pressed powder XRF 1m intervals. Azimuth 090° unless indicated otherwise. Dip-60°.  
\*Azimuth 270° \*Azimuth 130°

Table 2  
**Cheesemans DTR Results**

Grind Size Microns	Feed Grade %				Concentrate Grade %				Fe Recov %	Mass Recov %
	Fe	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	P	Fe	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	P		
-125	33.3	43.7	2.2	0.05	68.90	2.67	0.63	0.009	63.8	30.8
-75	33.3	43.7	2.2	0.05	70.15	1.44	0.58	0.005	64.1	30.4

Test work by Amdel Mineral Laboratories. Field strength 3000 gauss

DTR tests on separate composite samples from each of holes CHRC 15, 27, 35 and 38 gave similar results at a 75 and 125 micron grind and 3000 gauss field strength. These test results indicate that the magnetite liberates well at a relatively coarse 125 micron grind size to produce a low silica concentrate with acceptable recoveries. The Company is encouraged by these results and is planning to test the remaining accessible 11km strike length of this target zone.

In addition, the drilling intersected shallow flat lying detrital iron oxide accumulations about 10m thick, interpreted to be valley fill flanking the BIF to the west. Drill intercepts of the detrital iron oxide are summarised in Table 3.

The alumina content of the detrital iron oxide is elevated and further work will be required to determine if this can be significantly lowered by screening out the clay considered to be causing the alumina.



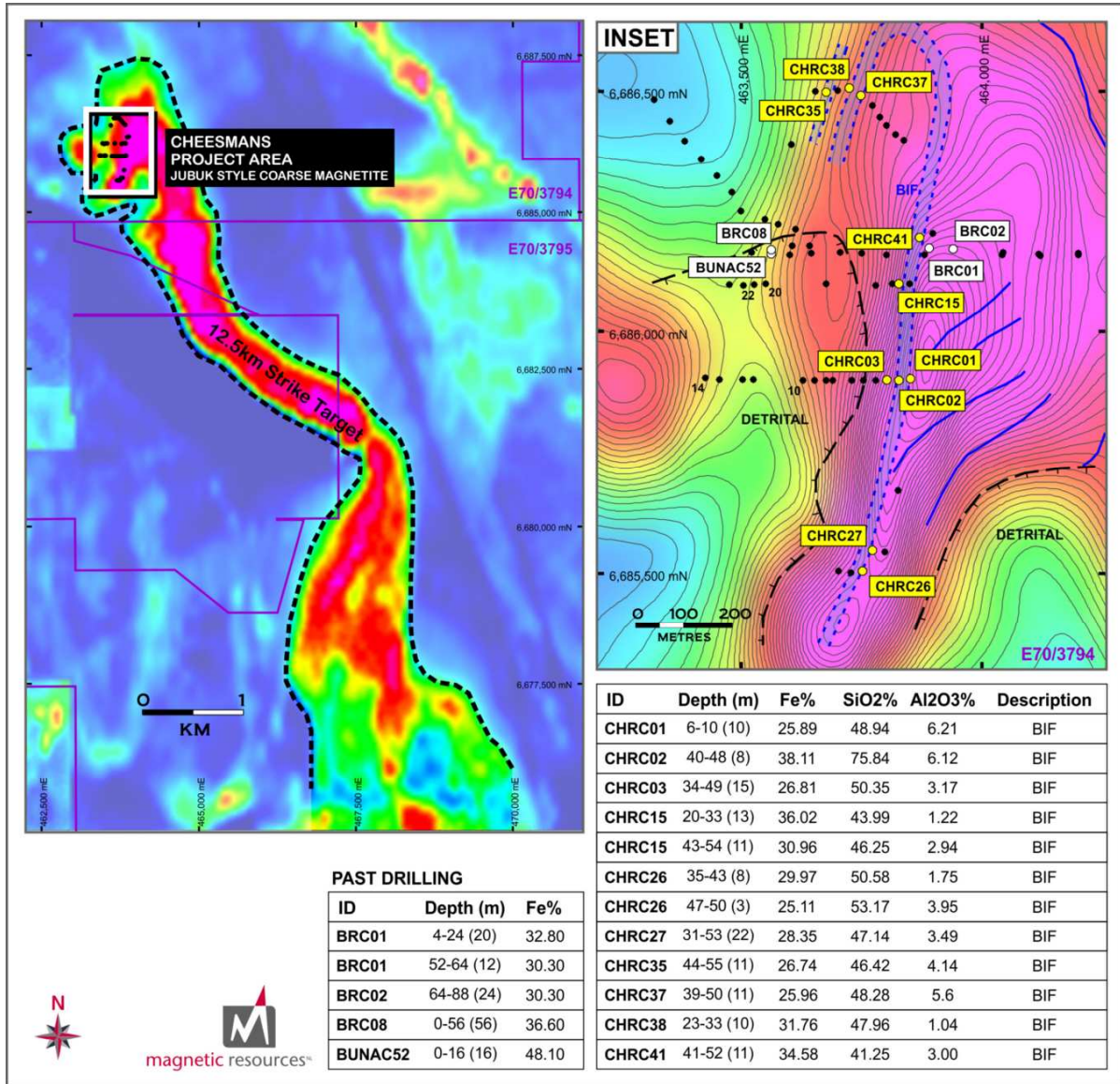


Figure 2  
**Cheesemans Project illustrating noted drill holes with coarse magnetite BIF and past drilling of note.**  
 (Further note: the 12.5 line km includes a presently restricted area of about 1.5km)

Table 3  
**Cheesemans Detrital Iron Intercepts**

Hole Number	Co-ordinates		From m	To m	Interval m	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %
	East	North							
CHRC 05	463752	6685900	1	4	3	41.69	22.2	9.84	0.02
CHRC 07	463690	6685900	1	15	14	38.45	23.62	10.78	0.02
CHRC 08	463676	6685900	1	15	14	36.62	21.91	15.21	0.01
CHRC 09	463652	6685900	9	17	8	34.79	12.98	20.84	0.01
CHRC 10	463628	6685900	14	23	9	35.94	15.07	20.06	0.01
CHRC 20	463550	6686100	0	15	15	32.91	16.2	15.07	0.01
CHRC 22	463504	6686097	9	18	9	39.05	15.94	17.01	0.01

Analyses by pressed powder XRF. Azimuth 090°. Dip-60° 1m intervals

## Cheesemans - Past Drilling – Notable Drill Holes

Past drilling by Magnetic reported in its half yearly Report to December 2010 (drill holes BRC01 and BRC02) hundreds of metres further east of the current drilling in a mapped gneissic sequence forming part of the overall magnetic anomaly, encountered lenses of magnetite up to 24m at depth, extending the BIF magnetite eastwards.

An intercept of 56m @ 31.6% Fe from surface in drill hole BRC08, extends the intercept of BIF further south of the current drilling in the north-west. Refer to Table 4 for past reported results.

Table 4  
Cheesemans Past Reported Iron Intercepts – December 2010

Hole Number	Co-ordinates		From m	To m	Interval m	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %
	East	North							
BRC01	463890	6686174	4	24	20	32.80	30.6	11.8	0.07
BRC01	463890	6686174	52	64	12	30.31	43.0	3.7	0.05
BRC02*	463940	6686172	64	88	24	30.28	31.9	13.0	0.06
BRC08**	463562	6686163	0	56	56	31.60	31.5	12.0	0.04
BUNAC52+	463563	6686169	0	16	16	48.10	12.4	8.5	0.03

Analyses by pressed powder XRF 4m composites  
Azimuth 305° unless indicated otherwise. Dip-60°  
\*Azimuth 270° \*\*Azimuth 90 +Azimuth 0 Dip 90

## Other Targets

During 1Q/2012 the Geological Survey of Western Australia publicly released high resolution airborne geophysics. This new geophysical data has enhanced the quality of airborne data covering the Company's existing tenements. Furthermore, a number of tenements have been pegged as a result of this new data, whilst reduction of acreage has been undertaken over existing tenements.

The new released data has also generated an interpreted 125km of targets to be added to the Company's existing iron target portfolio.

## Buntine

About 5km north of Cheesemans, the Buntine prospect comprises a targeted 7.5km-long high amplitude magnetic anomaly. 30 RC drill holes totalling 1245m tested a 900m strike length with three drill lines. The drilling results are summarised in Table 5.

Table 5  
Buntine BIF Drill Results

Hole Number	Co-ordinates		From m	To m	Interval m	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %
	East	North							
BRC 27	458485	6689690	41	52	11	27.94	42.69	5.13	0.05
BRC 30	458416	6689751	28	33	5	33.53	45.44	1.71	0.03
BRC 32*	458530	6689704	33	38	5	30.70	43.04	2.31	0.07
			43	52	9	28.87	42.98	4.66	0.06

Analyses by pressed powder XRF. Azimuth 060° unless indicated otherwise. Dip-60°. \*Azimuth 240°. 1m intervals

The Buntine BIF is steep dipping and is also coarse grained similar to that at Cheesemans and ranges from 5m to 11m in down hole thickness. DTR test work on a composite sample from drill holes BRC 27 and 32 is summarised in Table 6.

Table 6  
Buntine DTR Results

Feed Grade %				Concentrate Grade %				Fe Recov %	Mass Recov %
Fe	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	P	Fe	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	P		
30.5	41.5	4.4	0.061	64.56	4.00	1.30	0.008	32.4	15.3

75 micron grind. Field strength 3000 gauss.

The DTR tests indicate that the Buntine concentrate is somewhat lower grade and with lower recoveries compared to the Cheesemans BIF. The Buntine DTR test work is however, limited to one specific area of intercept.

## York

Magnetic Resources (MAU) has completed a road side prospecting reconnaissance rock chip grab sampling program in the York area 100km north-east of Perth (see Figures 3 and 4). This initial program of work forms part of a systematic assessment of numerous targets for direct shipping ore (DSO) and magnetite being identified on Magnetic's extensive holdings in the SW of Western Australia.

The York rock chip sample results (Table 7) confirms the occurrence of coarse grained Jubuk style and conventional BIF rock types associated with geophysical anomalies that extends further north of the Company's advanced premium magnetite project at Jubuk, justifying further work on other geophysical targets throughout the South West region.

The Company now has interpreted 105km of coarse magnetite targets over ten project areas, with York contributing about 30km of magnetite targets.

The York tenement comprises a series of iron rich magnetite sequences within a number of broad high amplitude magnetic anomalies. Initial reconnaissance rock chip sampling has indicated deeper coarse grained iron enrichments. Of note are samples Y5, 6, 7, 8 forming part of a broad target anomaly, see Table 1. The surface rock chip sampling at Y5–8 intersected metamorphosed banded iron formation (BIF) units. The land holder approved access to grab sample and mapping.

Significant is the occurrence of BIF rocks elsewhere distributed throughout the tenement associated with targeted magnetic anomalies.

The York BIF rocks present as an outcropping, recrystallised, coarse grained magnetite in surface outcrop. The Company is pleased with this initial assessment of its tenement application and will need to engage in further land holder relations subject to grant of title.

Table 7  
York BIF Rock Chip sample Results

Rock Chip Number	Co-ordinates		Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %
	East	North				
YR001	485043	6482660	35.80	43.45	2.12	0.05
YR005	484706	6487113	37.96	40.31	1.43	0.03
YR006	483558	6486658	37.03	43.12	0.73	0.05
YR007*	483619	6685901	44.94	30.30	2.29	0.02



Rock Chip Number	Co-ordinates		Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %
	East	North				
YR008*	483711	6487191	48.75	26.60	1.80	0.01
YR009**	483711	6487191	31.54	23.33	21.23	0.02
YR010	477720	6492703	39.92	38.51	1.37	0.04
YR011	477617	6492922	35.30	43.14	2.11	0.06
YR012	472150	6481611	35.09	43.93	1.24	0.06

Analyses by pressed powder XRF Labwest Pty Ltd

\* weathered and un-weathered gneissic BIF \*\* Bauxitic laterite overlying Y7, Y8

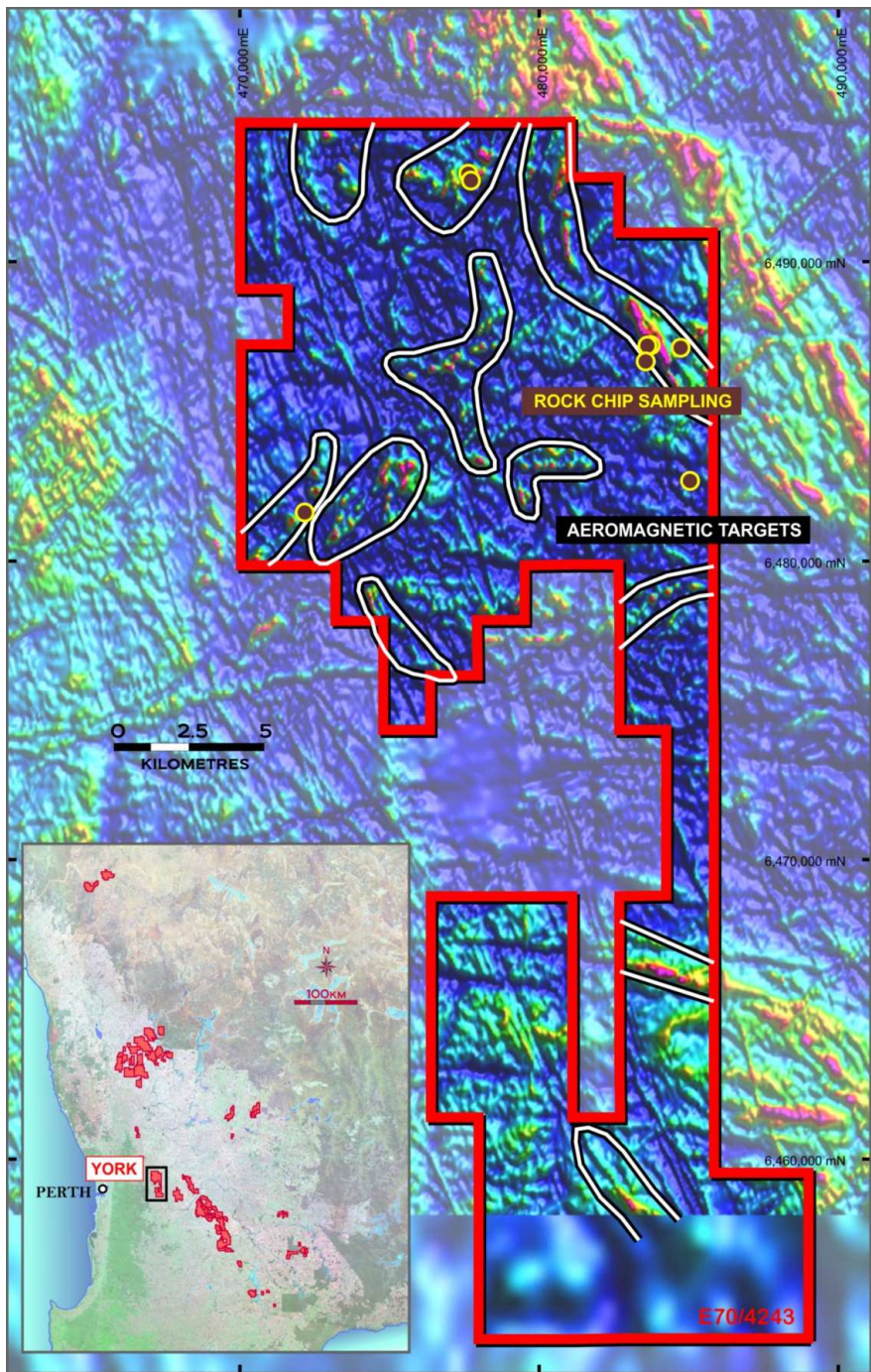


Figure 3

York tenement showing interpreted magnetics and sampled BIF

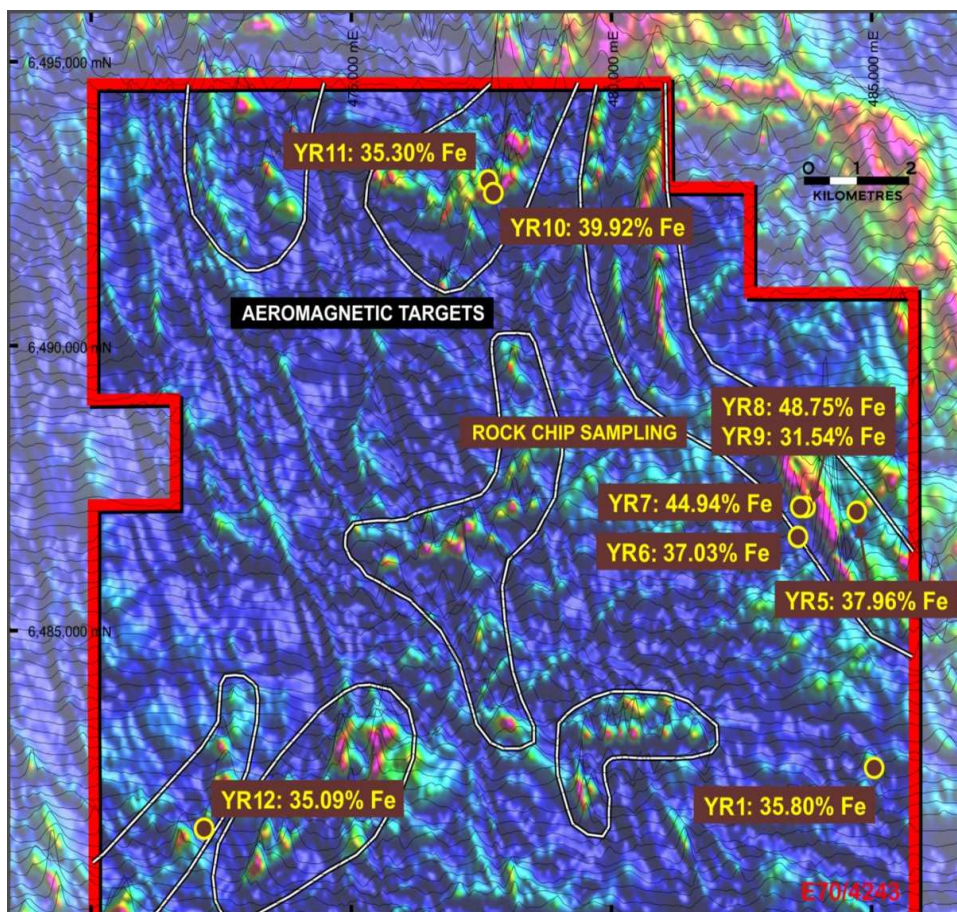


Figure 4  
Part of York tenement showing samples and rock chip assays

Magnetic Resources is encouraged by the early success at York and is planning follow up sampling, DTR analysis and drilling to ascertain whether the coarse grained magnetite is a premium quality like the Jubuk and Cheesemans projects reported to the ASX 26 April 2012 and the potential for near surface DSO.

## OTHER PROSPECTS

Magnetic Resources remains encouraged by the results of its sampling, drilling and test work in the Perth hinterland with the aim of identifying high quality iron ore deposits close to existing infrastructure and ports. Further assessment and sampling is being carried out over new targets delineated.

### Nungarin

Follow up rock chip sampling confirmed BIF in association with magnetic airborne anomalies amongst granite and coarse gneissic rocks exist.

Targeting about 6km of magnetics which are linear to curvilinear and broad (0.5km wide) in places (refer to Figure 5).





## **Mukinbudin**

The Company's E70/3788 Mukinbudin tenement (refer Figure 1) north of Southern Cross Western Australia, is an area targeted for iron ore, gold and uranium.

Follow up rock chip sampling confirmed BIF in association with magnetic airborne anomalies amongst granite and coarse gneissic rocks exist.

The Company is particularly interested in a broad Uranium/Potassium (U/K) anomaly associated with radiometric data flown at the same time as magnetic data.

Soil samples taken across part of the uranium anomaly over a sand covered flat drainage basin, adjacent to pegmatite outcrops to the south east, have been tested for light rare earth elements (LREE).

The Company has now commenced with a Heavy REE (HREE) assay of the pulps and results are pending.

## **CORPORATE**

Magnetic Resources has successfully applied its interpretation skills and picked up over 6387sq km of land. It has been a front runner and picked up and drilled and sampled targets prospective for both DSO and premium quality coarse grained magnetite in a region which has been blanket pegged and explored and evaluated by a major Iron ore-pellet producer looking for long term supply and production.

In response to the Conceptual Mining Study completed by the Company it now has refocused and found nine additional premium quality magnetite projects which are shallow and sometimes on surface and has increased the length of the coarse magnetite projects from 4.3km originally found at Jubuk to 105km, which will potentially help support a viable larger scale operation.

The Company has been busy in the field and also busy in discussions with at least ten companies over the last quarter looking at accelerating the evaluation and commercialisation of the iron discoveries.

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

George Sakalidis  
Managing Director  
Phone (08) 9226 1777  
Mobile 0411 640 337  
Email [george@magres.com.au](mailto:george@magres.com.au)

Roger Thomson  
Technical Director  
Phone (08) 9226 1777  
Mobile 0419 969 183  
Email [roger@magres.com.au](mailto:roger@magres.com.au)

The information in this report is based on information compiled or reviewed by Cyril Geach (BSc Hons-Geol), who is a member of the Australasian Institute of Geoscientists. Cyril Geach is a consultant to Magnetic Resources NL. Cyril Geach 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'. Cyril Geach consents to the inclusion of this information in the form and context in which it appears in this report.