



## March - 2012 QUARTERLY REPORT

### ATHENA RESOURCES LIMITED

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### CONTACTS

Mr Ed Edwards  
Managing Director

### PROJECTS

#### Byro:

Iron Ore, Nickel-Copper-PGE's

#### Ashburton:

Gold and Base metals

### SECURITIES

118M Shares - AHN  
28M Options - AHNO

### SHAREHOLDERS

Mr E Edwards	12.44%
Ishine International	7.03%
Mr D Kelly	6.51%
Hon A Thomson	4.21%

## HIGHLIGHTS

### BYRO PROJECT – IRON ORE

- **BYRO NORTH**

Rock chip sampling and field mapping reveal continuous magnetite seam extends for 5.8 kilometres with associated haematite apron

- **HAEMATITE AT BYRO**

Dense Media Separation (DMS) testing successfully demonstrate upgrade of Fe from haematite halos associated with Byro magnetite bodies

- **MIDADOO**

Rock chip sampling demonstrate kilometre scale magnetite outcrop with large haematite weathering apron

- **MISCELLANEOUS LICENCE APPLICATION**

Application has been made for miscellaneous licences to search for water to supply processing requirements of future camp and mining operations at the Byro Project.

- **RESEARCH AND DEVELOPMENT CLAIM**

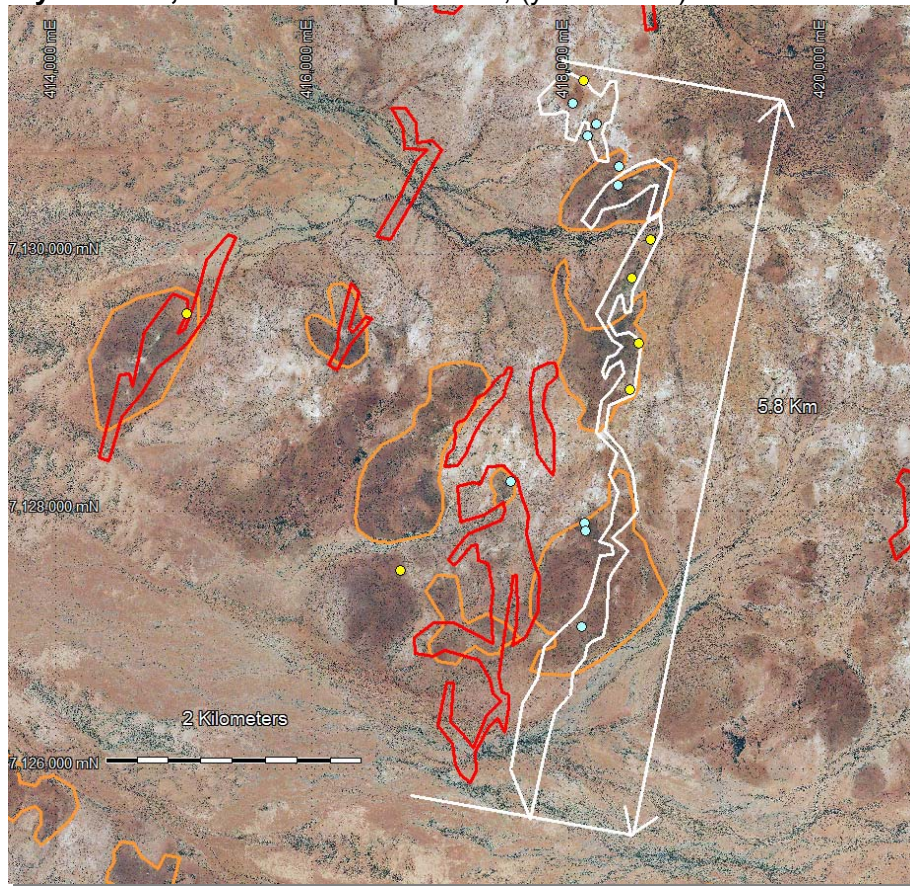
During the quarter Athena received \$ 675,294 in relation to Research and Development on the Byro Project.

**BYRO PROJECT** (Athena Resources 100%)

**BYRO NORTH IRON ORE**

During the December quarter the highly prospective Byro Iron Ore Project in the Mid-West region of Western Australia has been further expanded by the completion of surface sampling of a portion of the Byro North anomalies and at the Midadoo tenements to the south.

**Figure 1 Byro North, tenements sample sites, (yellow dots)**



White outline shows a continuous magnetite body. Orange perimeter delineating the haematite halo

**Table 1** Sample Locations

ID	Easting MGA	Northing MGA	Project
MBCR286	418497.02	7129958.05	North Byro
MBCR287	418491.8	7129815.23	North Byro
MBCR288	418405.21	7129330.84	North Byro
MBCR289	418368.58	7128919.73	North Byro
MBCR290	419297	7123994	North Byro

## Field recognisance and outcrop sampling

Rock chip sampling and field mapping reveal continuous magnetite seam extends for 5.8 kilometres with three large associated haematite aprons. Blue dot sample sites are assayed and previously reported. Yellow dot sample sites (this quarter) are awaiting assay. Magnetic susceptibility from these samples shows residual magnetism indicating incomplete oxidation from magnetite to haematite including the presence of martite.

- **HAEMATITE AT BYRO**

Haematite including martite, a high grade pseudomorph after magnetite has been discovered in Fe halos around magnetite outcrops within the Byro Project. Sieved fraction analysis followed by Dense Media Separation (DMS) techniques have successfully determined the Fe contained in the oxide may be processed to shipping grade. Athena is currently investigating spiral separation processes that will enable economic onsite processing of the iron oxides around the various high grade ore bodies throughout the Byro tenements. There is significant haematite associated with the magnetite outcrops within the Byro Tenements and are subject to ongoing research. At this very early stage Athena cannot determine accurate volumes and potential recoveries.

**Table2 DMS Assay Results** showing up to 63.61% Fe after separation

DMS Size Fraction	SG	Mass (g)	Mass %	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %	S %	LOI - 1000oC
-3.35 + 2.00mm	<3.32	12.05	14.40	32.52	33.28	11.89	0.03	0.04	7.59
	>3.32								
	<3.70	22.92	27.38	51.56	12.33	4.15	0.06	0.05	8.17
	>3.70	48.72	58.22	<b>58.09</b>	9.29	2.31	0.04	0.02	3.92
<b>Total</b>		83.69	100.00	52.62	13.58	4.19	0.04	0.03	5.61
-2.00mm + 500µm	<3.32	37.58	29.67	25.82	43.89	10.99	0.02	0.03	6.90
	>3.32								
	<3.70	23.48	18.54	51.52	10.95	4.79	0.06	0.05	8.67
	>3.70	65.59	51.79	<b>62.02</b>	5.30	1.97	0.03	0.02	2.92
<b>Total</b>		126.65	100.00	49.33	17.80	5.17	0.03	0.03	5.17
-500 + 45µm	<3.32	32.12	35.20	12.24	68.66	8.60	0.01	0.02	4.84
	>3.32								
	<3.70	10.97	12.02	48.44	11.26	6.79	0.06	0.05	9.99
	>3.70	48.17	52.78	<b>63.61</b>	3.50	2.12	0.03	0.02	2.69
<b>Total</b>		91.26	100.00	43.70	27.37	4.96	0.03	0.02	4.32

**Petrology and SEM of Fe oxides at Byro**

Athena has completed petrological and Scanning Electron Microscopy (SEM) to evaluate the Fe content of transported and oxidised saprolitic Fe bearing halos around magnetite outcrop at the Byro project. Results show the major constituents are haematite, goethite and minor martite and ilmanite with remnant magnetite. Martite and partly weathered magnetite hold residual magnetism dependent on whole rock oxidation leading to a review of low amplitude magnetism at the Byro Project.

**Table 3.** Petrographic and SEM analysis of Fe Oxides,(%) at Byro.

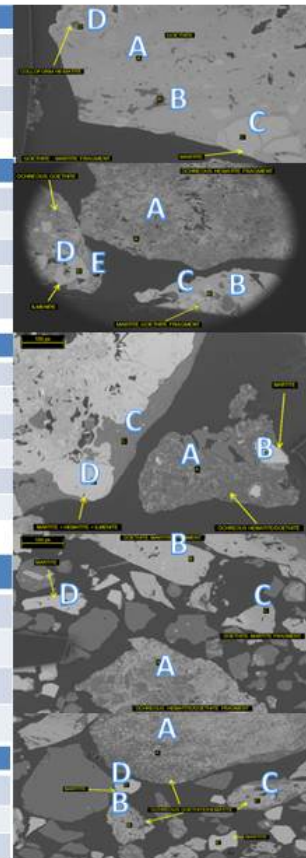
ELEMENT	A	B	C	D
Al <sub>2</sub> O <sub>3</sub>				3.4
SiO <sub>2</sub>	5.7	100.0	2.6	4.6
Fe <sub>2</sub> O <sub>3</sub>	94.3		96.2	92.0
TiO <sub>2</sub>			1.2	

ELEMENT	A	B	C	D	E
Al <sub>2</sub> O <sub>3</sub>	22.8	2.6	5.7		29.3
SiO <sub>2</sub>	35.1	2.8	8.4		35.7
Fe <sub>2</sub> O <sub>3</sub>	42.1	93.7	5.9	48.3	35.0
TiO <sub>2</sub>		0.9		50.2	
MnO				1.5	

ELEMENT	A	B	C	D
Al <sub>2</sub> O <sub>3</sub>	32.3	2.2	33.6	1.8
SiO <sub>2</sub>	61.1	2.9	58.3	2.1
Fe <sub>2</sub> O <sub>3</sub>	6.6	94.2	6.8	95.4
TiO <sub>2</sub>		0.7	0.5	0.8
K <sub>2</sub> O			0.4	
CaO			0.4	

ELEMENT	A	B	C	D
Al <sub>2</sub> O <sub>3</sub>	23.3	3.4	8.0	1.6
SiO <sub>2</sub>	43.1	7.3	9.2	3.0
Fe <sub>2</sub> O <sub>3</sub>	30.6	89.3	82.8	95.0
TiO <sub>2</sub>				0.4

ELEMENT	A	B	C	D	E
Al <sub>2</sub> O <sub>3</sub>	20.0	9.9	8.9	1.2	1.4
SiO <sub>2</sub>	25.9	10.2	16.0	2.7	2.0
Fe <sub>2</sub> O <sub>3</sub>	54.9	79.9	75.1	96.1	96.6

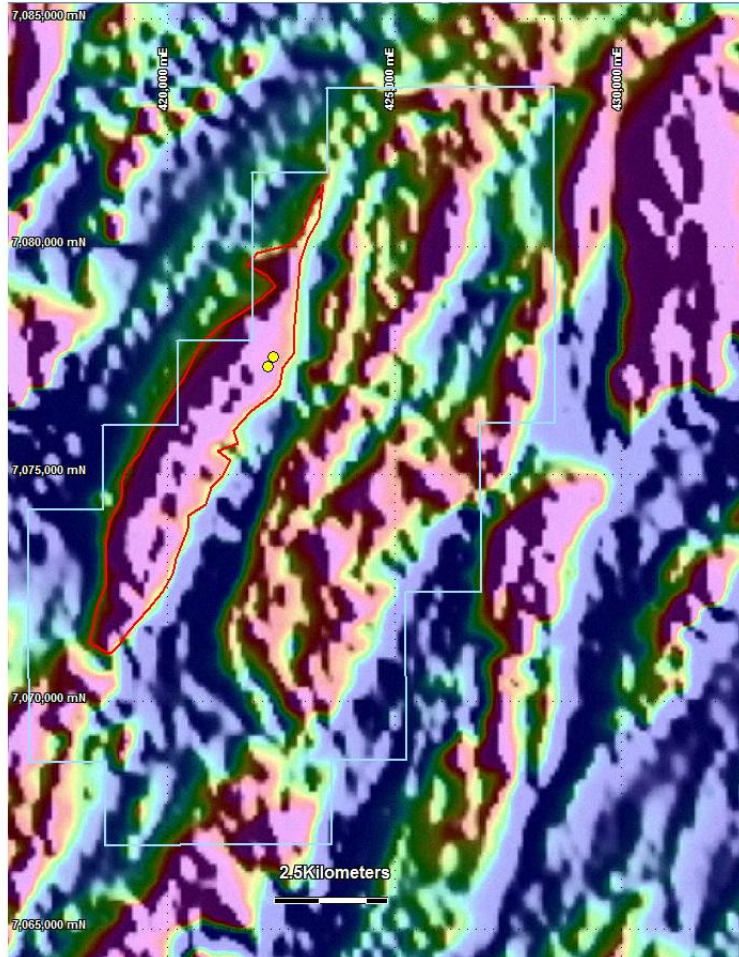


Surface Fe oxides after migmatic magnetite at Byro were sieve seized, processed through Dense Media Separation (DMS) and assayed. Results show an upgrade is achievable, table 3. The major constituents are haematite, goethite and minor martite and ilmanite with remnant magnetite

- MIDADOO**

Rock chip sampling demonstrate kilometre scale magnetite outcrop with large haematite weathering apron. Awaiting assay. This is a first pass over a new area

**Figure 2.**



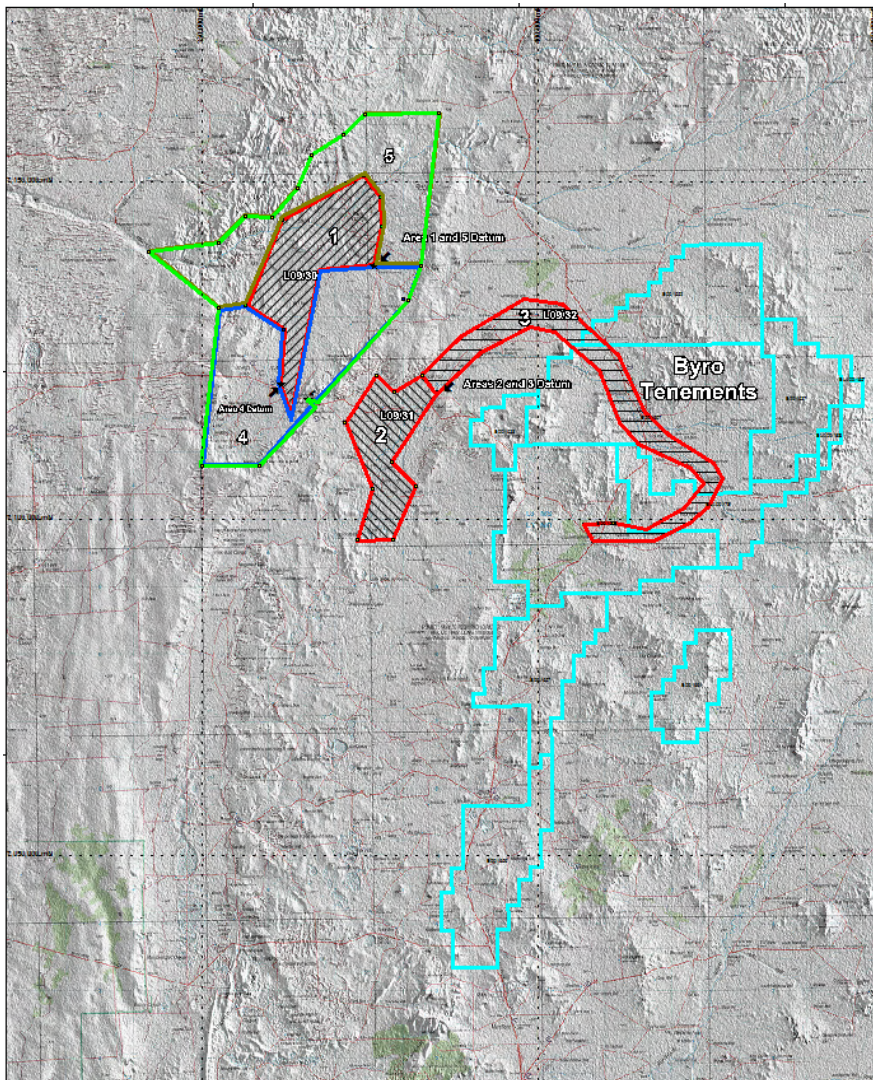
**Table 4.**

ID	Easting MGA	Northing MGA	Project	MagSus
MBCR293	422211.75	7077374.31	MIDOOEAST	138 * 10 <sup>-3</sup>
MBCR294	422321.8	7077575.01	MIDOOEAST	96 * 10 <sup>-3</sup>

- **MISCELLANEOUS WATER SEARCH LICENCE APPLICATIONS**

Athenas Resources has made appropriate application for miscellaneous licences within the requirements of the Mining Act to search for water to supply processing requirements of future camp and mining operations at the Byro Project. Applications have been made within and directly west of Athena tenements at the Byro Project area. Five applications have been completed covering the Byro Sub-Basin and paleochannels associated with the Yarra Yarra Creek and its termination near the Moolumber Swamp. Work will begin on understanding the water system and determining the quality and quantity of water that may be drawn from the systems with a sustainable outcome. Athena is working closely with the Department of Water, local pastoralists and specialist hydrogeological consultants to ensure thorough investigation.

**Figure 3**

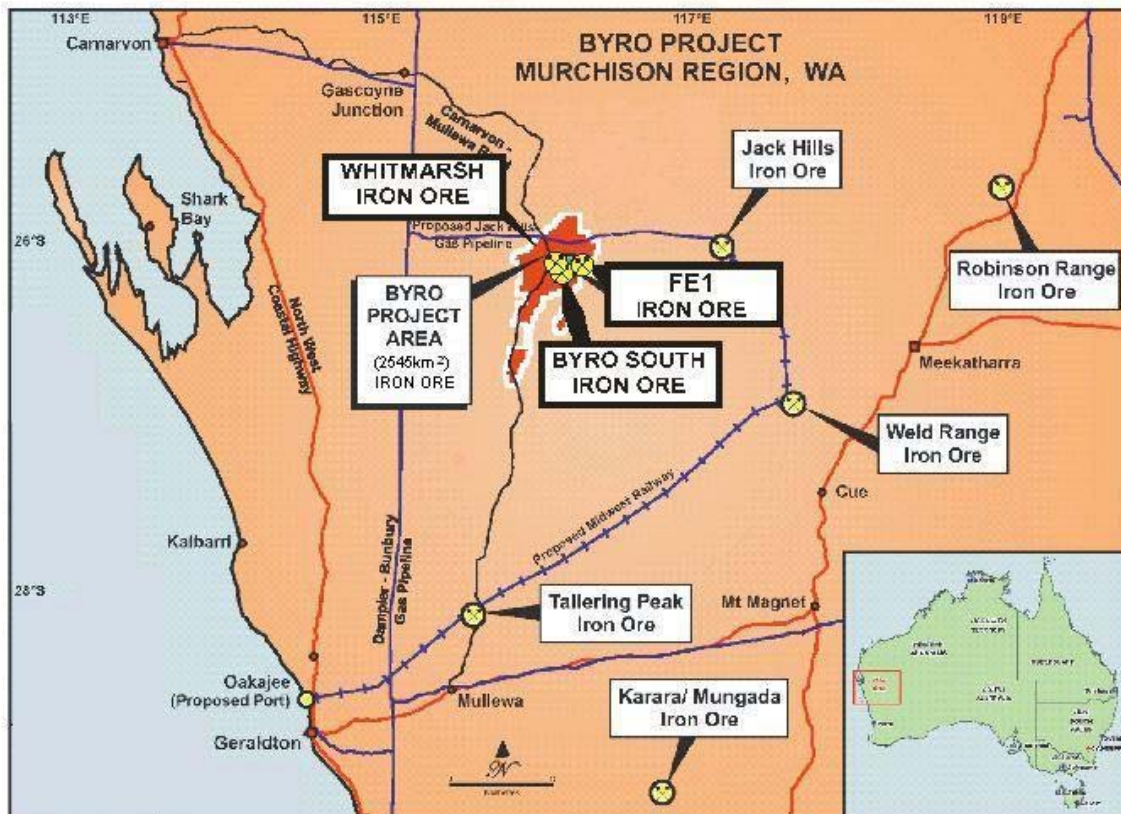


**ABOUT ATHENA**

Athena Resources Limited (ASX:AHN), which is based in Perth, was listed on the ASX in 2006 and currently has 118 million shares on issue. Athena’s major asset is its 100% interest in the Byro Project where it is exploring for copper, nickel, PGE’s in addition to iron ore. The company also has significant gold, lead and silver targets in the Ashburton.

The Byro Iron Ore Project (Athena 100% through its wholly owned subsidiaries) is strategically located some 330km north east of Geraldton and about 250km north of the Mt Gibson Tallering Peak Project. It is 100km west of the proposed Midwest Iron Ore Railway to link existing and future iron ore projects in the mid west region to the proposed Oakajee deep water bulk shipping port north of Geraldton.

**Figure 4. Byro Location Map**



E W Edwards  
 Managing Director  
 30 April 2012

The technical information relating to Athena's exploration projects was compiled by Mr Liam Kelly an employee of Athena Resources limited. Mr Kelly is a Member of the Australasian Institute of Mining and Metallurgy, and has sufficient relevant experience in the styles of mineralisation and deposit styles under consideration to qualify as a Competent Person as defined in "*The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2004 edition)*". Mr Kelly consents to this inclusion of the information in this report in the context and format in which it appears.