63 Lindsay Street Perth WA 6000
p 61 8 9428 2900
f 61 8 9428 2910
e ahn@athenaresources.com.au
www athenaresources.com.au
ABN : 69 113 758 900

19 July 2011

The Company Announcements Office
Australian Securities Exchange Limited
4 Floor 20 Bridge Street
SYDNEY NSW 2000

Athena Excellent Iron Ore Magnetite Chinese Testwork Results

- Excellent results from CRIMM's Mineralogical Study and Metallurgical Beneficiation Testwork
- Results indicate 94% of the magnetite can be liberated at a relatively coarse grind
- Results indicate a simple processing circuit comprising crushing, grinding and wet low intensity magnetic separation
- Coarse grind of P80-125 micron and two stages of wet low intensity magnetic separation can produce concentrate of >67% Fe grade with Fe recovery of 95% in concentrate mass of 53%
- Coarse grind size to provide savings in both capital and operating costs

Athena Resources Limited (ASX: AHN) has received the testwork report from **Changsha Research Institute of Mining and Metallurgy** (CRIMM).

CRIMM was engaged by Athena in January to undertake beneficiation testing on samples from the Byro magnetite deposit in Western Australia to study its metallurgic features to ensure a scientific basis for decision-making on the development and investment of the Byro Project.

200kg RC Chip samples were delivered to CRIMM in March and the Diamond Core in June 2011. CRIMM then conducted the testing in an empirical manner. The testing was completed in June with the main points as follows:

Major Results from Mineralogy Study

- Process mineralogical research showed that the ore is primary acidic magnetite ore with low phosphorus and sulphur content.
- Iron represents the major recoverable element of the ore with Total Fe content 37.52%. The ore is composed of simple components among which magnetite is the main iron-bearing mineral hosting 92.27% of total iron content.
- The magnetite occurs mainly in disseminated stripes with no significant secondary alteration.
- The size of magnetite crystals is quite variable with the finest being smaller than 0.02mm and the coarsest larger than 2.0mm, with most between 0.15-1.2mm.
- While magnetite is by far the most abundant iron mineral, iron is also reported as Fe in hematite and limonite (2.16%), Fe in silicate (5.04%), Fe in carbonate (0.45%) and Fe in sulphide as pyrite (0.08%).
- The mineralogy indicates at the appropriate grind size and wet low intensity magnetic separation the majority of the magnetite will be recovered, while a percentage of the hematite if attached to magnetite, will also be recovered. The pyrite is not expected to be recovered, while the majority of both the Fe in carbonate and silicate will report to tailings.

- Waste minerals to be rejected through beneficiation include mainly quartz, followed by Al_2O_3, CaO and MgO; together they constitute 46.83% of the total ore weight. The content of deleterious components phosphorus and sulphur are fairly low and are not expected to be detrimental to concentrate quality.
- Mineralogy indicates that 94% of the magnetite can be liberated by grinding to 65% passing 200 mesh (75 micron).

Major Results from Beneficiation Testwork

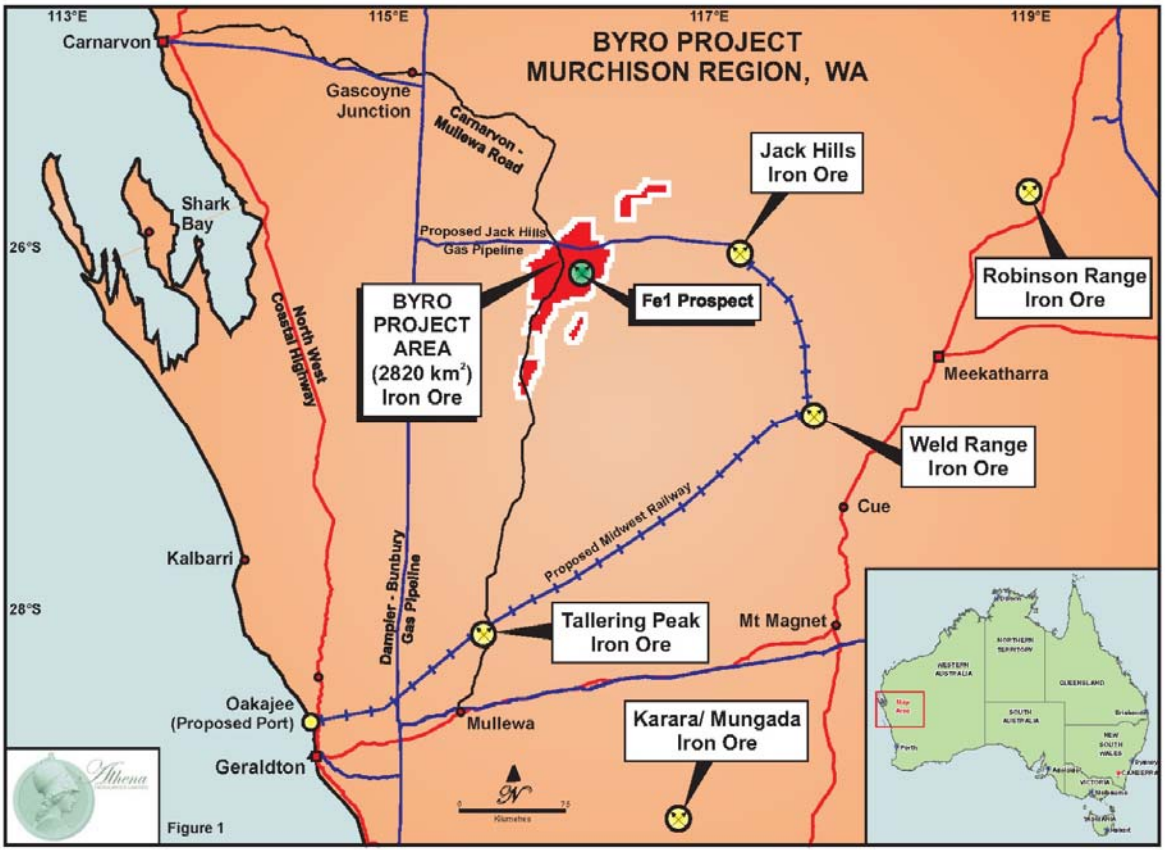
- Substantial test work and analyses showed that the magnetite in the ore cannot be effectively concentrated by dry magnetic separation and coarse tailing discarding, but can be concentrated by milling and wet low intensity magnetic separation.
- The processing flowsheet proposed includes crushing, grinding followed by wet low-intensity wet magnetic separation.
- The wet low intensity magnetic separation includes a primary roughing stage followed by a secondary cleaning stage.
- Beneficiation testwork was carried out over nine grind sizes ranging from 45% passing 200 mesh (75 micron) to 96.5% passing 400 mesh (38 micron) and four magnetic field intensity strengths.
- Beneficiation testwork indicated that excellent results are achieved by grinding to 65% passing 200 mesh (75 micron).
- The following results were achieved at 65% passing 200 mesh (75 micron):
    - Concentrate mass recovered of 49.75% (50.25% rejected to tailings)
    - Total Fe grade of concentrate of 70.31%
    - Total Fe recovery of 94.46%.

- While superior results are achieved by grinding to 65% passing 200 mesh (75 micron), very good results are achieved at the coarser grind size of 45% passing 200 mesh (75 micron).
- The following results were achieved at the coarser grind of 45% passing 200mesh (75 micron):
    - Concentrate mass recovered of 52.52% (47.48% rejected to tailings)
    - Total Fe grade concentrate of 67.31%
    - Total Fe recovery of 94.95%.
- The differences in results from the two grind sizes are marginal, however at the coarser grind size there will be saving in both capital and operating costs. For this reason the beneficiation testwork has recommended a grind size of 45% passing 75 micron. This is equivalent to a P80 of approximately 125 micron.
- A millability test was conducted between the Byro ore and a standard Chinese ore. Byro ore milled very well compared to the Chinese ore and reported a millability coefficient of 2.79 which indicated Byro achieved the target grind size in approximately one third the time required by the Chinese ore.

About Athena Resources Limited

Athena Resources Limited (ASX:AHN), which is based in Perth, was listed on the ASX in 2007 and currently has 107 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 is strategically located some 100km west of the proposed Midwest Iron Ore Railway which is planned 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.



Competent Persons Statement

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

E W Edwards
Managing Directo