



## JUNE 2021 – QUARTERLY REPORT

### ATHENA RESOURCES LIMITED

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### CONTACTS

Mr Ed Edwards  
Executive Director

### PROJECTS

Byro Project (Athena 100%):

Industrial Minerals, Iron Ore,  
Nickel-Copper-PGE's

### SECURITIES

361 million Ordinary Shares

### SHAREHOLDERS

Goldway Mega	14.43%
Brilliant Glory	11.91%
Mr E Edwards	11.55%
Sunset Capital	7.89%
Mr P Newcomb	4.74%

### BYRO BASE METALS PROJECT

Following Athena Resources review of the prospective base metal targets, and Southern Geoscience Consultants technical assessment, HP MLTEM SQUID surveys are underway covering the six high priority target areas defined.

#### HP MLTEM SQUID surveys

- GEM Geophysics' are onsite, and it is expected the HP MLTEM surveys will be completed by 30<sup>th</sup> July.

#### Ground Bougar Gravity

- Design of infill gravity surveys have been completed for the Milly Milly and Moonborough ultramafic intrusions.
- Atlas Geophysics Pty Ltd been booked for the next available crew to undertake the survey.

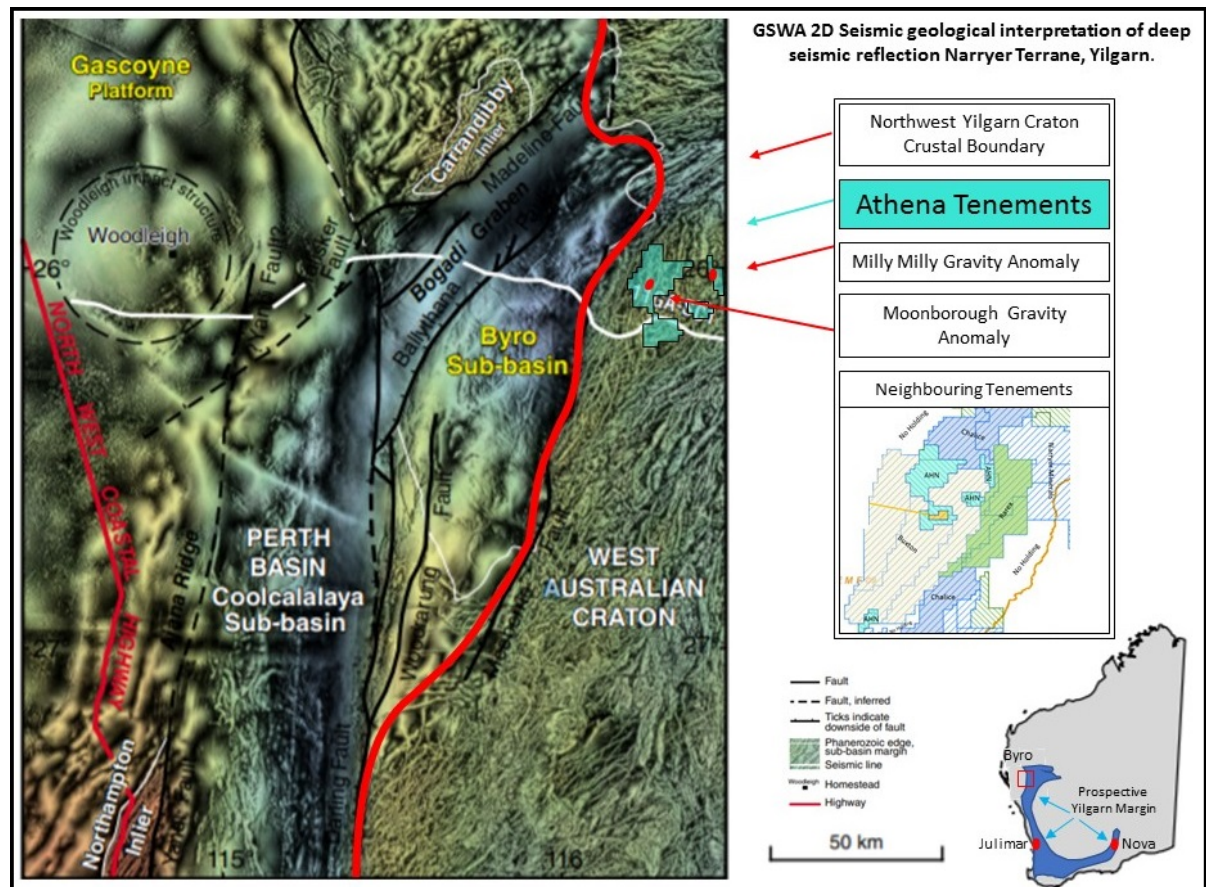
### BYRO INDUSTRIAL MAGNETITE PROJECT

Athena Resources continues its efforts in development of the Byro Industrial magnetite Project with further metallurgical test work underway. Work includes final dressing of the concentrate products at the Byro South and Whistlejack ore bodies.

## BYRO BASE METAL EXPLORATION

### Background

Athena has confirmed that the regional setting of its tenements within the highly prospective north-western margin of the Yilgarn Craton hosts layered intrusive occurrences containing elevated copper nickel and PGE mineralisation. During tenure the Company has reduced the search ellipse while homing in on geochemically fertile source rock hosting geophysical anomalies within the Byro layered intrusions.



**Figure 1.** Project Location at the margin of the Yilgarn Craton, (red line).

### HP FLTEM Surveys

The company is continuing with its base metal exploration program with the Geophysical Ground Electromagnetic Surveys commissioned this quarter. The surveys are currently underway at the Company's 100% owned Byro Base Metal Project within its Byro tenements.

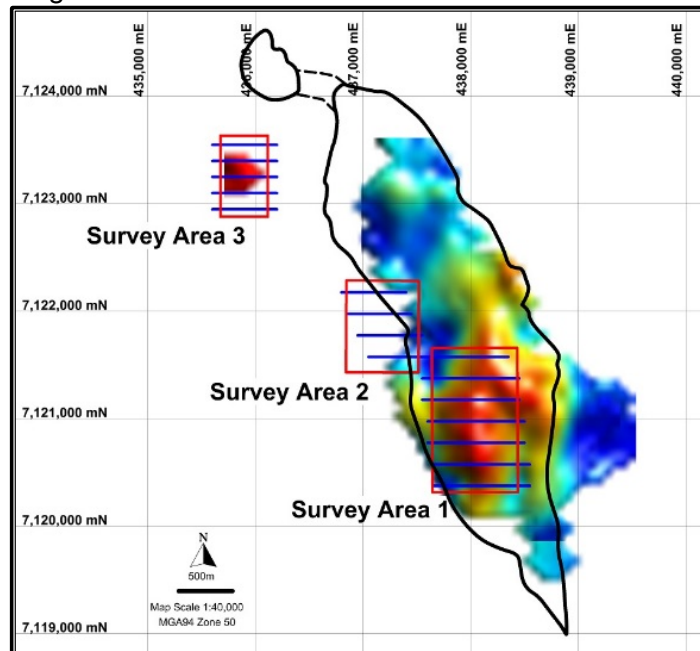
GEM Geophysics arrived onsite on Tuesday 29 June and continue with a High-Powered Fixed Loop EM (HP FLTEM) surveys, using high power ~100-200A, low base frequency, HT SQUID B-field sensor and optimal slingram sensor over the 6 identified target areas.

The survey is the next step in the Athena base metal exploration program following completion of review of base metal prospectivity and geophysical surveys within the Athena tenements. (Base Metal Review announced on the ASX Platform on 23 March 2021).

## Athena Resources Limited – Fourth Quarter Activities Report

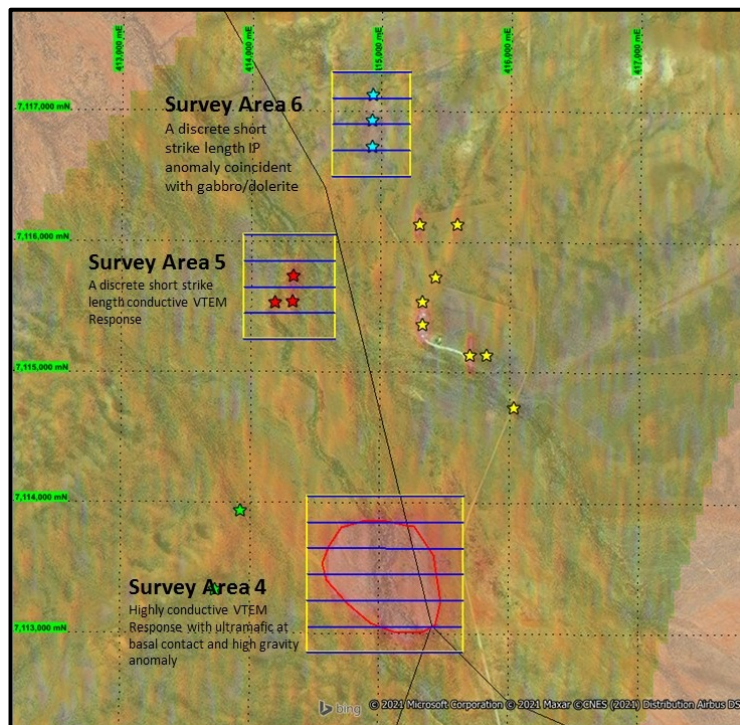
Results from the Company's base metal review confirmed 6 base metal target areas with anomalous, moderate to strong, mid and late time responses coincident with aspects of exploration to date supporting the prospective potential of ineffectively or untested anomalies.

The HP FLTEM surveys at the Milly Milly intrusion will be for a total 12,500-line meters with 140 stations over 3 target areas.



**Figure 2.** Milly Milly HP MLTEM Survey Locations

At the Moonborough intrusion the survey will be for a total 13,000-line meters with 144 stations over 3 target areas.



**Figure 3.** Moonborough HP MLTEM Targets and Survey Locations



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### Ground Bougar Gravity Surveys

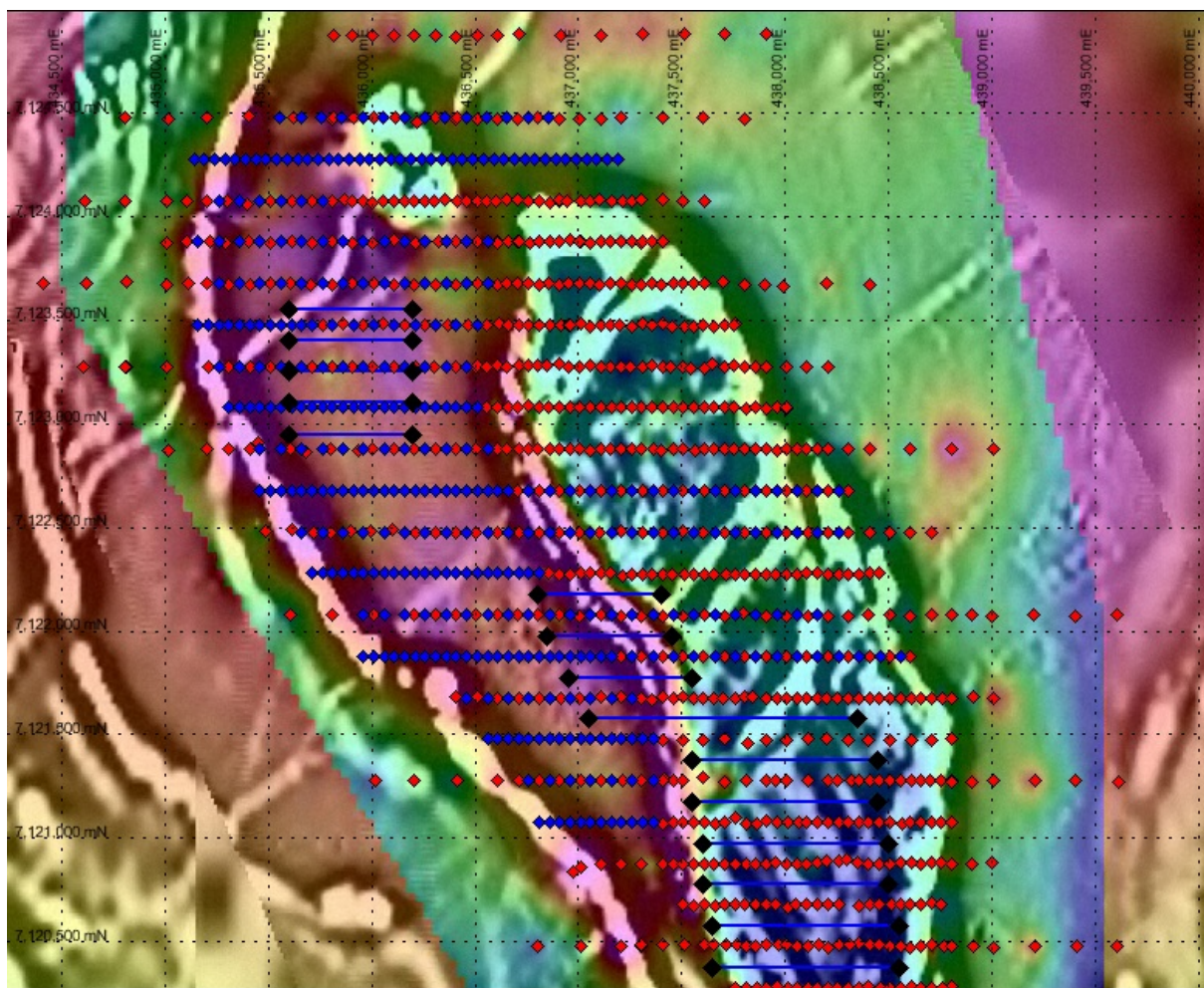
Athena Resources in consultation with Southern Geoscience Consultants have evaluated the Athena gravity data set. It was determined infill and extension of the gravity data is warranted.

Design of infill gravity surveys have been completed for the Milly Milly and Moonborough ultramafic intrusions. The infill surveys include 359 stations covering Milly Milly and 260 stations covering Moonborough.

- **Milly Milly gravity Infill**

The Milly Milly gravity survey is designed to give high definition over the recently discovered very high gravity anomaly at the west contact of the Milly Milly intrusion and areas of interest being covered by HP MLTEM surveys.

Infill stations at the northern section at Milly Milly follow preliminary modelling of a potential conduit within the intrusive architecture. Infill in this area is designed to gain better constraint on changing dynamic flow zones or gravity traps at depth.



**Figure 4.** Milly Milly Gravity Survey Locations. (Infill stations blue, previous stations red).

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- **Moonborough Gravity Infill**

Historical Moonborough gravity data from the GSWA and Newmont Australia Ltd is shown in Figure 5. This was followed by Athena gravity surveys, 2010. The historical data and follow up work by Athena were reviewed this quarter. It was identified infill of wide spaced gravity stations by Athena was warranted given the existing VTEM and gravity anomalies.

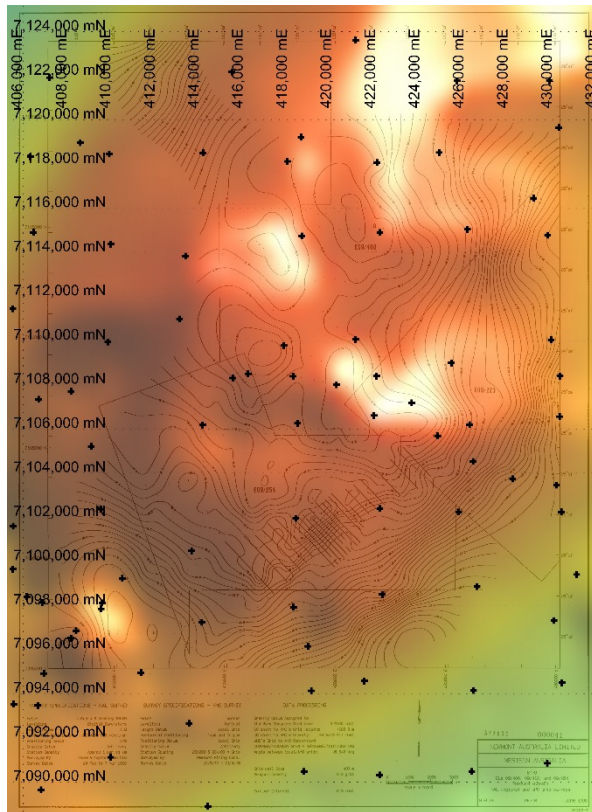


Figure 5 Historical Gravity Data

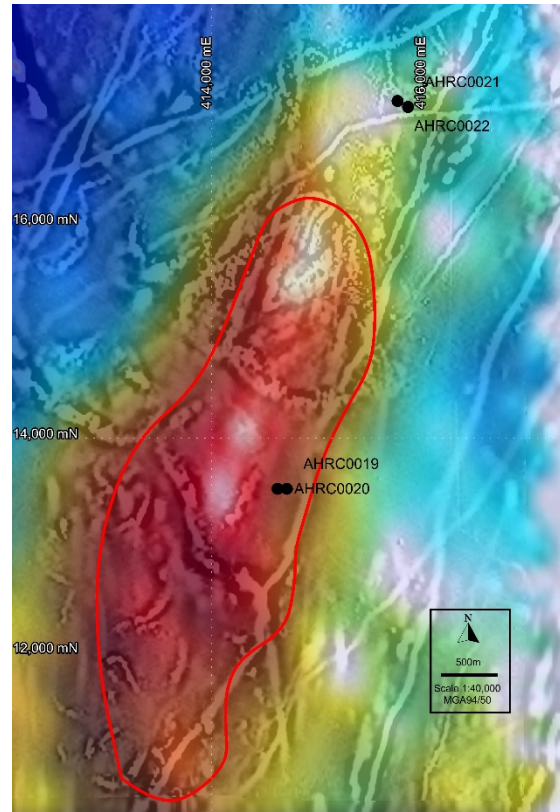


Figure 6 Gravity acquired by Athena

The 2010 gravity survey over the Moonborough anomaly was completed using a 200m by 600m grid with 146 stations. The 260-station infill survey focuses within the extent of the anomaly Figures 6 and Figure 7.

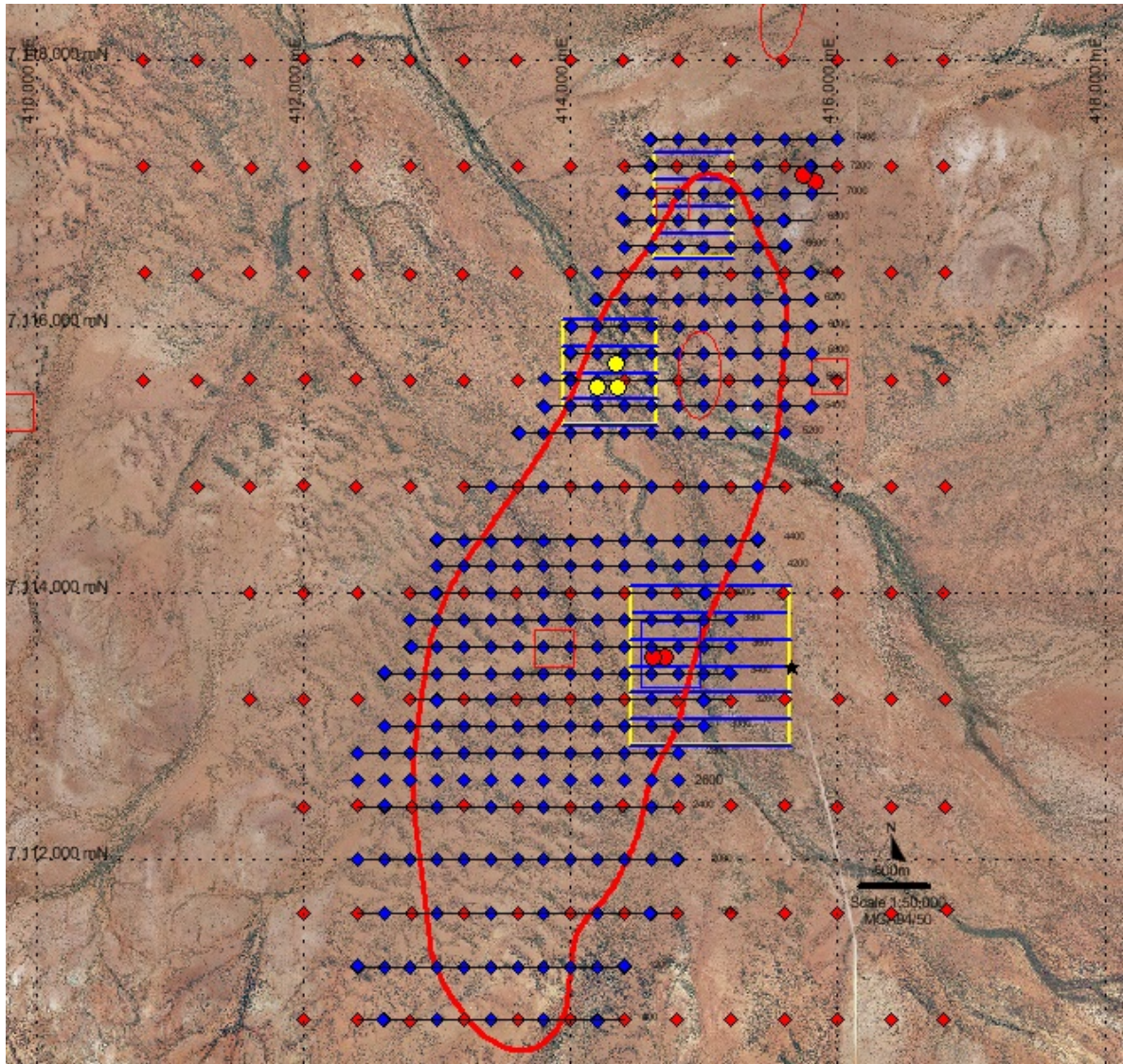
Background gravity associated with the margins of the anomaly are in the order of 0.5mGal. A 100m by 100m grid is set out over locations within the gravity anomaly where historical data were above 6mGal and coincident with VTEM anomalism. The remainder of the grid is set at 100m by 200m spacings, Figure 7.

Atlas Geophysics Pty Ltd have been booked for the next available crew to undertake the gravity survey. At this stage it is anticipated the survey will be completed by early August.

On completion of the surveys, data will be reviewed by Southern Geoscience Consultants. It is anticipated modelling, interpretation and drill target refinement will take 6-8 weeks to complete.



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**Figure 7.** Moonborough Gravity Survey Locations. (Infill stations 100m by 100m grid blue, previous Athena stations 600 by 200 red).

### DRILLING PROGRAM APPROVAL

A PoW application was submitted on 24 March 2021 and approved covering the exploration program within tenement E09/1781 for a period of 4 years. This approval is restricted to the use of ground disturbing equipment to undertake drilling activities.

An application for drilling activities has been submitted for M09/168 at the Mt Narryer mining lease for infill drilling and resource development. The company is awaiting approval.

The Company now has active Program of Work approvals for exploration activities covering Byro Base Metal Projects and the Byro Industrial Minerals Project within tenements E09/1507, E09/1637, E09/1552, M09/166 and E09/1781.

#### Byro Base Metals Exploration

- E09/1507 PoW (Registration ID 91543), covering drilling activities within the (Cu/Ni/PGE) base metal project at the Moonborough Intrusion.

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- E09/1637 PoW (Registration ID 92254), covering drilling activities within the (Cu/Ni/PGE), base metal project at the Milly Milly Intrusion.

### **Byro Industrial Minerals Project**

- E09/1552 PoW (Registration ID 91543), covering drilling activities within the Think Big, Happy Union, Vanderhum and Olvidado ore bodies for maiden drilling.
- M09/166 PoW (Registration ID 77001), covering encryption drilling at the FE1 Flagship Project to lift the JORC Inferred Resource to a JORC 2012 compliant Indicated Resource.
- E09/1781, PoW. (Registration ID 95863), for infill drilling activities and resource development within the Byro South, Whistlejack and Whitmarsh Find ore bodies.

## **BYRO INDUSTRIAL MINERALS PROJECT**

The Company continues its efforts towards development of the Byro Industrial magnetite Project and is actively seeking project funding and product offtake opportunities for its high purity and high grade (72%Fe) magnetite products.

Current development of the Byro Industrial Magnetite Project has involved further metallurgical test work, underway at ALS Laboratories in Perth with assay results pending. Test work has included final dressing of the concentrate products at the Byro South and Whistlejack ore bodies. The company is aiming to improve the product iron grade from these ore bodies to a consistent 70%Fe by removal of remaining silica in concentrate using standard reverse flotation processes. An additional test sinter has been completed with assay results also pending.

## **OTHER INFORMATION**

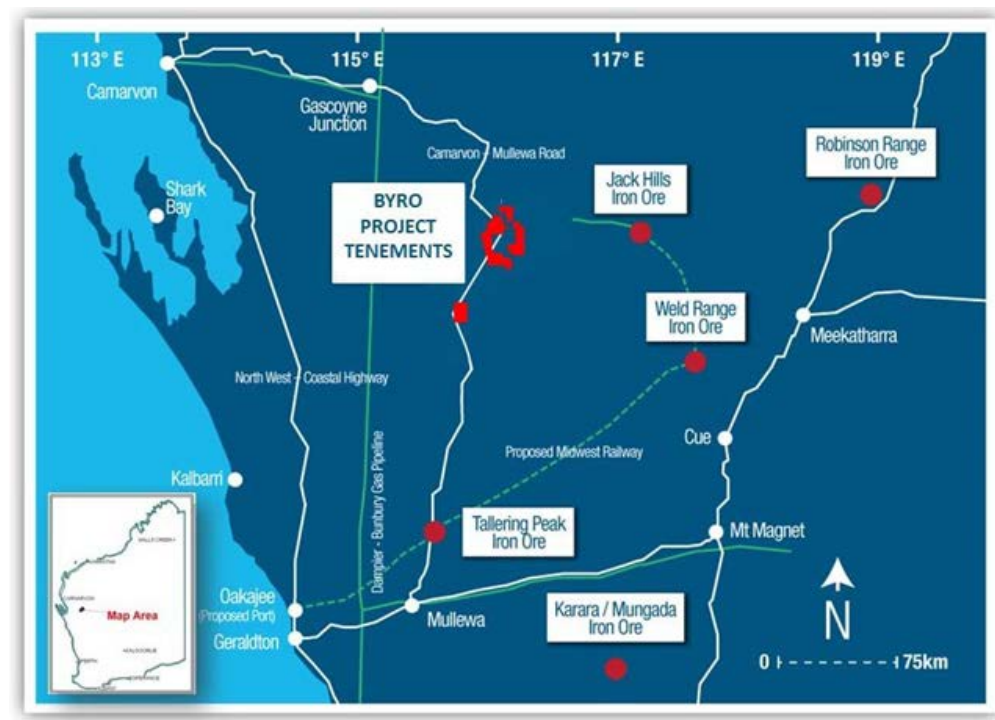
\$30,000 was paid to related parties of the Company and their associates during the quarter.

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## ABOUT ATHENA RESOURCES LIMITED

Athena Resources Limited (ASX:AHN), which is based in Perth was listed on the ASX in 2006 and currently has 361 million shares on issue. Athena owns a 100% interest in the Byro Project through its subsidiaries Complex Exploration and Byro Exploration where it is exploring for copper, nickel, PGE's and iron ore.

Regional Project Location



Edmond Edwards Executive Director of Athena has authorised release of this Quarterly Activities Report to the ASX.

Yours faithfully

Ed Edwards  
Executive Director  
ATHENA RESOURCES LIMITED  
30 July 2021

## INTERESTS IN MINING TENEMENTS

Athena Resources Limited 100%	Tenement Type
<b>Byro Exploration</b>	E – Exploration License
E09/1507	
E09/1552	
E09/1637	
E09/1781	
E09/1938	
<b>Byro Project Mining</b>	M - Mining Lease
M09/166	
M09/168	



## Athena Resources Limited – Fourth Quarter Activities Report

### CAUTIONARY NOTES AND DISCLOSURES

#### **Disclosures**

*All data and Information of material nature referred to within this Quarterly Report with reference to the Byro South Mineralisation Report and the Milly Milly intrusion have previously been reported on the ASX platform in compliance with the relevant JORC compliance reporting format at the time of data acquisition.*

#### **Announcements**

*03/09/2012 Assay Results From Whitmarsh Find, Whistlejack and Byro South Iron ore Projects*

*18/10/2011 Byro Iron Ore Project Growth*

*02/02/2012 Byro Nickel Copper Project*

*06/10/2012 High Grade Fe Results at Byro East*

*25/10/2014 Milly Milly Intrusion Detailed Gravity Survey*

*12/09/2014 Milly Milly Nickel Intrusion Gravity Survey Identifies Anomalous Gravity Zones*

#### **Cautionary Notes and Forward Looking Statements**

*This announcement contains certain statements that may constitute “forward looking statements”. Such statements are only predictions and are subject to inherent risks and uncertainties, which could cause actual values, results, performance achievements to differ materially from those expressed, implied or projected in any forward looking statements.*

#### **JORC Code Compliance Statement**

*Some of the information contained in this announcement is historic data that have not been updated to comply with the 2012 JORC Code. The information referred to in the announcement was prepared and first disclosed under the JORC Code 2004 edition. It has not been updated since to comply with the JORC Code 2012 edition on the basis that the information has not materially changed since it was last reported.*

#### **Competent Persons Disclosure**

*Mr Kelly is an employee of Athena Resources and currently holds securities in the company.*

#### **Competent Person Statement**

*The information included in the report 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 2012 Edition)”. The historical information included is compliant with the relevant JORC Code, 2004 Edition, and new information announced post that version of the JORC Code is compliant with the JORC Code 2012 Edition. Mr Kelly consents to the inclusion of the information in the report in the context and format in which it appears*