



DECEMBER 2020 – QUARTERLY REPORT

ATHENA RESOURCES LIMITED

ASX: **AHN**
Symbol:
ACN: 113 758 900
Address: 21 Millstream Rise
Hillarys
WA 6025

Telephone: (08) 9307 7902
Email: ahn@athenaresources.com.au
Website: www.athenaresources.com.au

CONTACTS

Mr Ed Edwards
Executive Director

PROJECTS

Byro Project (Athena 100%):

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

SECURITIES

310 million Ordinary Shares

SHAREHOLDERS

Brilliant Glory	13.85%
Mr E Edwards	12.28%
Goldway Mega	12.73%
Mr P Newcomb	5.51%

CORPORATE

PLACEMENT

Placement to Raise \$85,000

BYRO BASE METALS PROJECT

New Focus on base metal exploration following full review of the prospective base metals within the Byro tenements resulting in 5 Targets Identified within the Milly Milly intrusion and at the Moonborough intrusion.

MILLY MILLY Intrusion

Milly Milly exploration program has further developed the two target areas and designed drilling programs. POW's were applied for and granted for Milly Milly exploration program.

Moonborough Intrusion

Moonborough exploration program has confirmed an existing EM target and defined 2 new EM targets. POW's were applied for and granted for Moonborough exploration program.

BYRO INDUSTRIAL MAGNETITE PROJECT

Athena Resources has been investigating potential synergies with the proposed Mid-West development of renewable hydrogen and the production of green steel.



This PDF is bookmarked for ease of navigation

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CORPORATE

PLACEMENT

On 30 December 2020 Athena Resources Limited announce that it had completed a placement of 2,428,571 fully paid ordinary Athena shares at an issue price of \$0.035 each to raise \$85,000 (**Placement**).

The shares under the Placement (**Placement Shares**) were issued to Goldway Mega Trade Limited (**Goldway**), a Hong Kong registered company. Goldway is not a related party of Athena.

OFFICE CLOSURE AND COVID – 19 RESPONSE

The Athena Resources new registered office is at 21 Millstream Rise, Hillarys, WA 6025. Telephone 08 9307 7902.

Staff continue to work from home remotely and can be reached by email at – ahn@athenaresources.com.au

The Company continues to be eligible for JobKeeper for it's one full time employee and will be entitled to \$1,200 per fortnight under the current government proposals.

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BYRO BASE METAL EXPLORATION

Renewed focus on base metal exploration with geophysical review in progress focused on the prospective base metals within the Byro tenements. The review to date resulting in 5 Targets areas confirmed within the Milly Milly intrusion and at the Moonborough intrusion. Final review summary is currently underway. Ground EM surveys (MLEM), to further resolve the targets is currently being developed.

MILLY MILLY Cu/Ni/PGE INTRUSION

A PoW application was submitted on 22 November 2020 and later approved covering the exploration program within the E09/1637 tenement for a period of 4 years. This approval is restricted to the use of ground disturbing equipment undertake the activities. E09/1637 PoW. Registration ID 92254

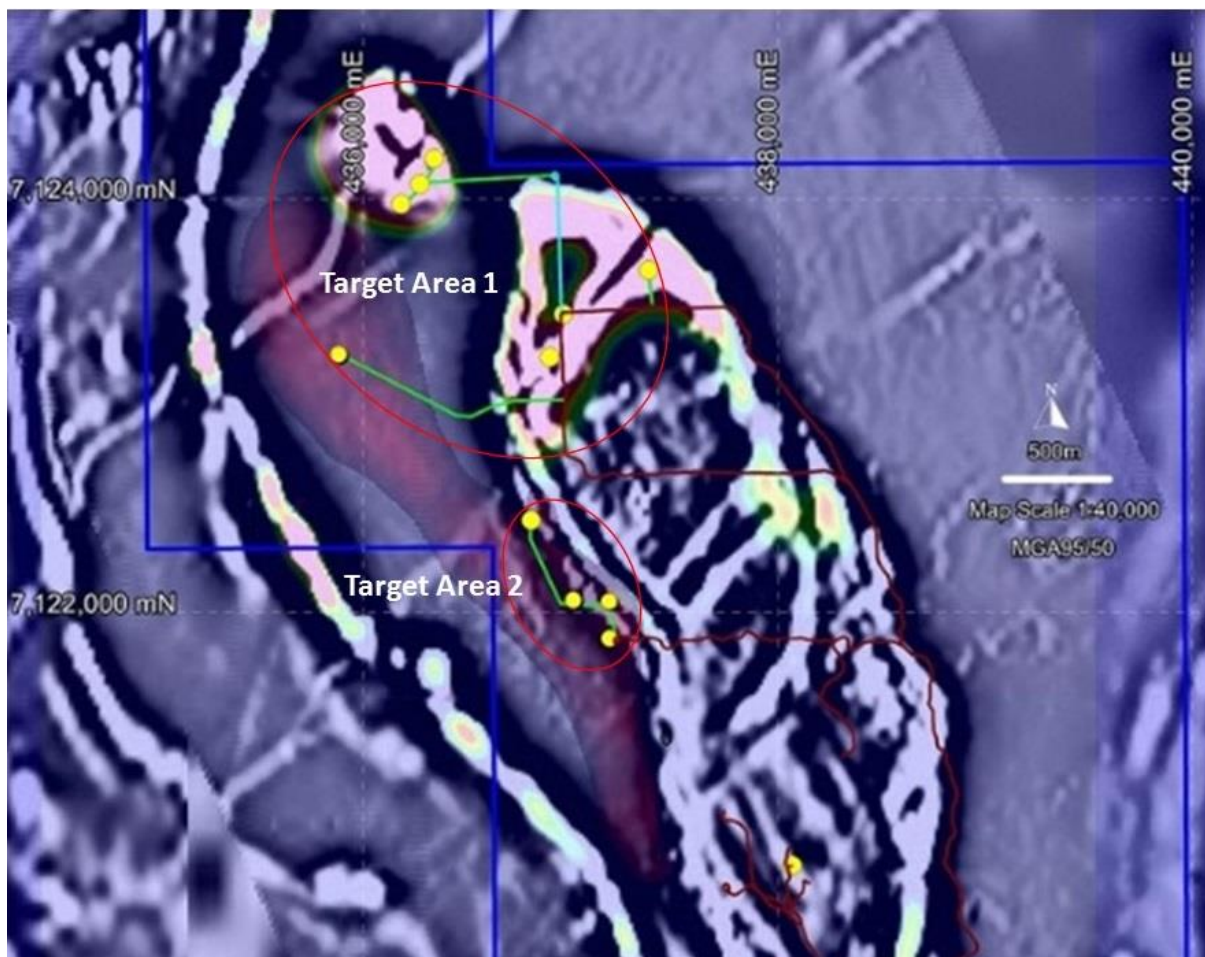


Figure 1. PoW approved drill locations on magnetic response with gravity anomaly adjacent to the west and north of the main intrusion contact.

Two Target areas are currently being focused on, Figure 1. Target area 1 is interpreted as a potential conduit and sulphide trap shown in Figure 2 below. Target area 2 is located above the large gravity anomaly coincident with favourable and anomalous geochemistry from drill hole AHRC0007 suggesting a possible second layer to the intrusion and potential mixing boundary with the potential for sulphur addition.

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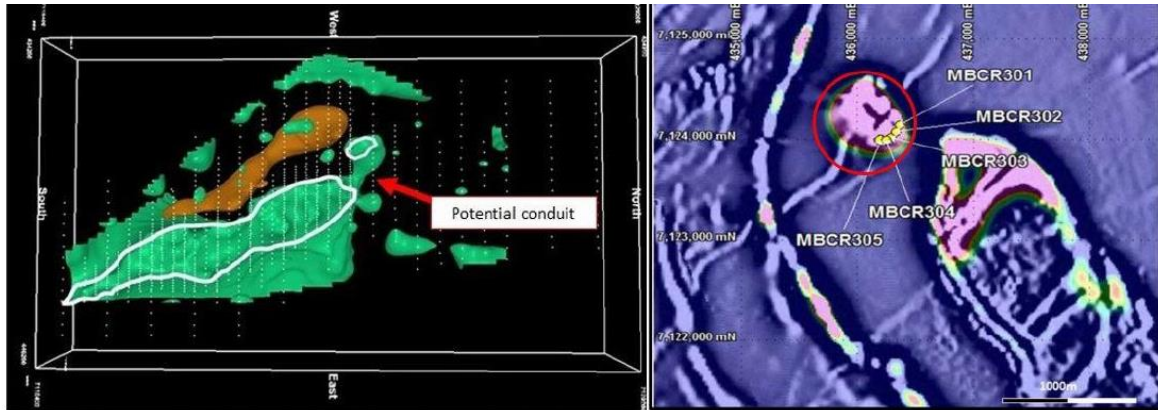


Figure 2. Milly Milly Intrusion potential conduit and northern magnetic anomaly. (Left - a gravity inversion indicating potential link to the northern tip of the intrusion, green. Right – Magnetic anomaly and surface sample locations at the northern tip of the intrusion).

Moonborough Cu/Ni/PGE INTRUSION

A program was designed and PoW application submitted on the 16/10/2020 covering exploration within the E09/1507 tenement for a period of 4 years. The approval is restricted to the use of ground disturbing equipment to undertake the activities. E09/1507 PoW. Registration ID 92853

The PoW took longer than usual through the approval process due to some of the drill targets falling within the freehold land associated with the Byro Pastoral Lease. Athena was required to seek amendment to the Grant of Tenure including a signed agreement with the landowners and copies of the Original Crown Grant, Certificate of Title and Survey Plans delineating the freehold lot (Lot114).

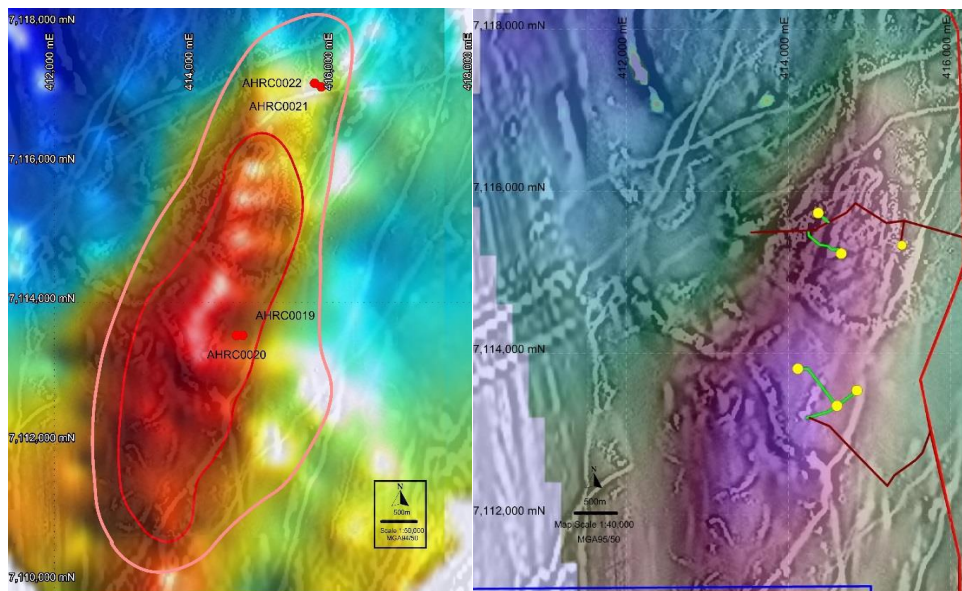
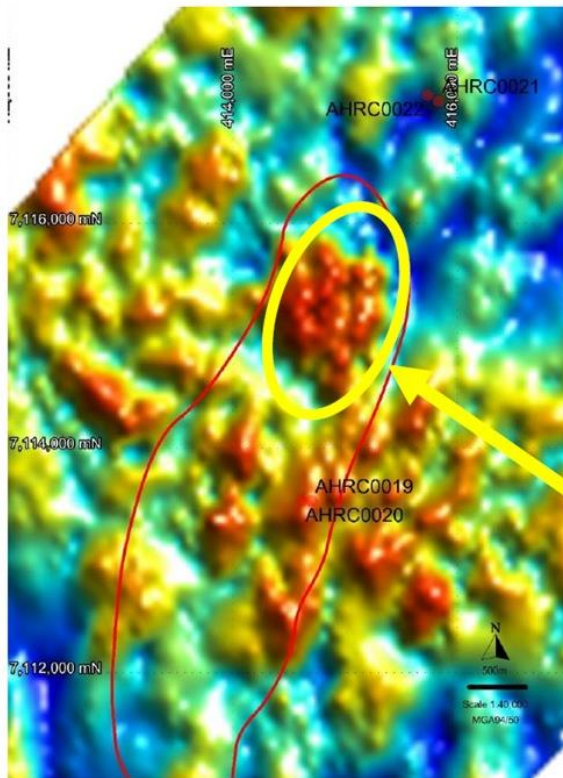


Figure 3. Moonborough Intrusion Gravity anomaly. **Figure 4.** PoW approved drill locations.

Targets 3 and 4 are new targets identified from review of 2010 VTEM data. Figures 5 to 8 below show EM responses identifying the targets. Moving Loop Ground EM (MLEM), will follow at the conclusion of the review.

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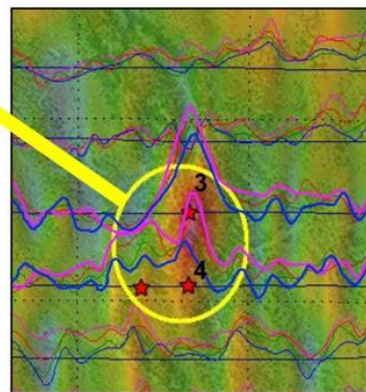


VTEM channel, Tau 25 B Field Mid Time
Figure 5

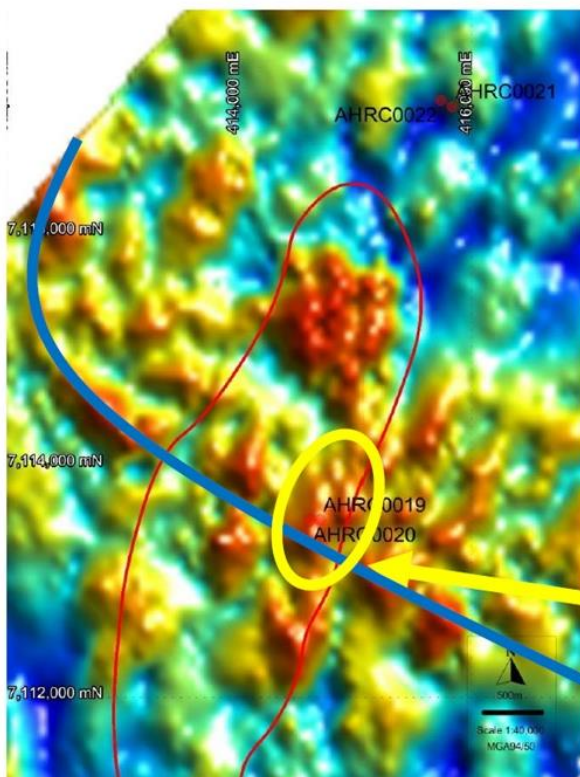
The Moonborough targets are a very exciting coincidence of gravity, EM, archetypal rock units and favourable pathfinder elements.

Mid and late time VTEM reflectors have identified two strong discrete targets (3-4) at the Yarra Yarra area and a target of lower amplitude to the west of Target 4

Target 3. Yarra Yarra North EM Target
Target 4. Yarra Yarra (EM Target)



VTEM channel Tau 37 B Field Late Time
Figure 6

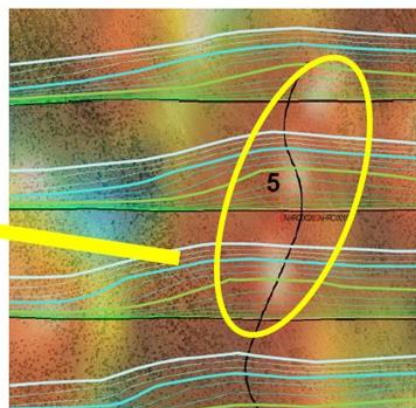


VTEM Tau 25 B Field Mid Time Response.
Figure 7

The Fifth Moonborough target is also a very exciting coincidence of gravity, EM, archetypal rock units and favourable pathfinder elements.

Mid and late time VTEM reflectors have identified Target 5 at the Byro Station area inclusive of Near surface conductance which will be resolved with ground FLEM to define discrete reflectors and better targeting.

TARGET 5. BYRO STATION EM TARGET



VTEM Tau 37 B Field Late Time over gravity
Figure 8

Target five, Figures 7 and 8 was identified and drilled in 2010. Drilling intersected an ultramafic but there was no follow up. The 2010 VTEM EM response is now understood to have been

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masked by conductive properties within the Yarra Yarra paleochannel. High powered SQUID ground EM is being planned to further define this target prior to drilling.

BYRO INDUSTRIAL MINERALS PROJECT

A PoW application was submitted on 16 October 2020 and later approved covering the exploration program within the E09/1552 tenement for a period of 4 years. This approval is restricted to the use of ground disturbing equipment to undertake the activities outlined in program below. E09/1552 PoW. Registration ID 91543

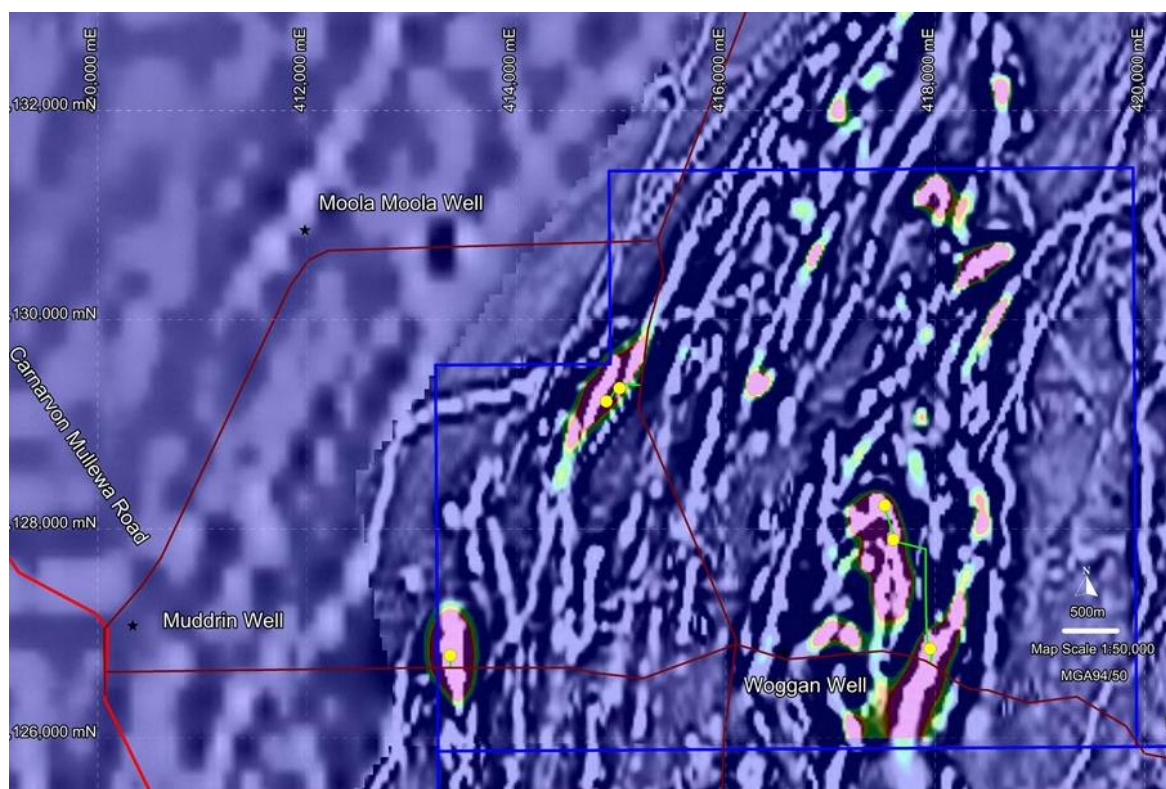


Figure 9 PoW approved drill locations for Tenement E09/1552

Note: A PoW Registration ID 77001 is currently in place for infill drilling at M09/166 to raise the JORC inferred resource to indicated.

GREEN STEEL

It is Athena Resources intension to be part of the solution of reducing carbon dioxide emissions throughout its mining and end use steel production process, striving to be part of a fossil free steel industry.

The Western Australian Government has proposed development of a renewable hydrogen production facility in the Mid-West with the launch of the WA Renewable Hydrogen Strategy in July 2019.

In August 2020 the WA Government published a road map towards development and asked for Expressions of Interest (EoI) seeking input to establish the infrastructure requirements, operational frameworks and interested parties to establish a hydrogen project, at the Oakajee SIA with a focus on the production of renewable hydrogen.

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During the quarter Athena Resources carried out research into the compatibility of the Byro magnetite for successful hydrogen reduction for feed stock to renewable energy/electric arc furnace smelting.

Conventional blast furnace smelting using coking coal as a fuel and carbon monoxide as a reducing agent has been employed in the past because of the benefit of removing impurities via the slag but consequently producing 10% of global CO₂ emissions. Arc furnaces cannot handle impure ores in this way. One of the prime outcomes of the research was that the purity of the Byro magnetite and specifically the FE1 resource carries exceptionally low impurities ideal for arc furnace type smelting.

Foremost, the review confirmed steel making technology is currently being developed and in place to reduce the iron oxide to an Fe feed for feed stock using hydrogen (H) which removes oxygen from the magnetite to produce Fe and H₂O. Compared to a blast furnace, iron oxide feed stock is reduced in the furnace using carbon-monoxide (CO), a process called direct reduction, which removes oxygen from the magnetite to produce Fe and CO₂.

HYBRIT (Hydrogen Breakthrough Ironmaking Technology) is a solution that incorporates hydrogen reduction and electric arc technology. This technology is currently being developed and used successfully in Sweden - (LKAB, SSAB, and Vattenfall) with variants of the system in Germany, Finland and Japan.

The Byro Industrial Minerals Project is a prospective hydrogen off-taker, for transport fuel, and metals refining using hydrogen gas as a reducing agent in the production of an alternative Direct Reduced Iron, (DRI). The product suitable for supply to the powder metals manufacturing industry and high purity feed stock to renewable energy powered electric arc furnace steel production.

Athena Resources is currently putting documentation together in the form of an expression of Interest to the WA Government.

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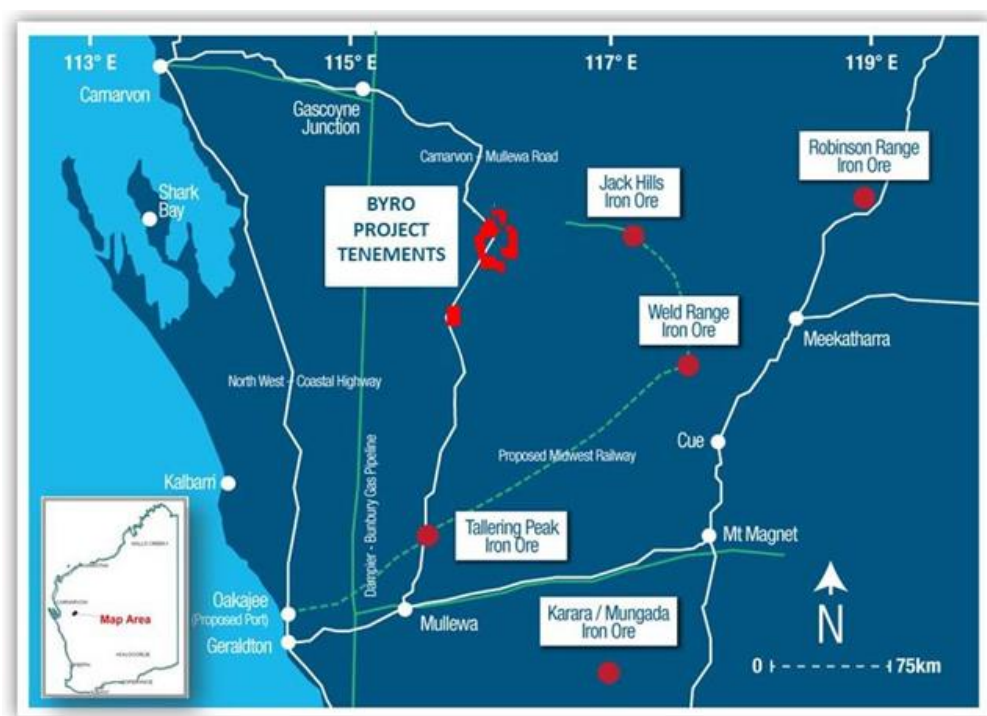
OTHER INFORMATION

There was \$15,000 paid to related parties of the Company and their associates during the quarter.

ABOUT ATHENA RESOURCES LIMITED

Athena Resources Limited (ASX:AHN), which is based in Perth was listed on the ASX in 2006 and currently has 310 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
29 January 2021

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INTERESTS IN MINING TENEMENTS

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

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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