

23 March 2021

The Company Announcements Office
ASX Limited
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BYRO BASE METALS PROJECT

GEOPHYSICAL REVIEW OF ELECTROMAGNETIC ANOMALISM

Athena Resources Limited is pleased to announce the Company has completed assessment of the Byro Base Metal Project. Assessment included a detailed review of Electromagnetic Anomalism within the Byro tenements in cooperation with Southern Geoscience Consultants.

Review covered all historic exploration results and electromagnetic surveys including a ground GeoFerret fixed loop, time domain electromagnetic survey, (FLTEM); an airborne versatile time domain electromagnetic survey, (VTEM); ground moving loop, time domain electromagnetic surveys, (MLTEM); and down hole electromagnetic surveys, (DHEM).

Review highlighted historical high priority areas covered had clear inherent problems.

Notably:

- FLTEM and MLTEM ground surveys had severe IP/SPM effects in the in-loop responses. The FLTEM data also only surveyed single loop locations and as such, some potential conductors' geometries would have been poorly coupled and likely undetectable if present.
- VTEM was deemed partly ineffective in places due to noise from conductive regolith, Induced Polarization (IP) and superparamagnetic effects (SPM), masking late time responses.
- Follow up ground EM was not completed on recognised VTEM anomalies.
- Drilling to date has not effectively tested the anomalies

Results from the review have confirmed six base metal target areas with anomalous, moderate to strong, mid and late time responses. It was recommended by Southern Geoscience Consultants to use a high power ~100-200A, low base frequency, HT SQUID B-field sensor and optimal slingram sensor offset to overcome any IP/SPM issues in the near surface and provide low noise surveying over all six target areas.

Work on all aspects of exploration to date support the prospective potential of the six ineffectively or untested EM anomalies so far identified.

A survey crew has been booked for late April 2021 to commence a HP MLTEM survey at Byro as specified by Southern Geoscience Consultants.

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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.

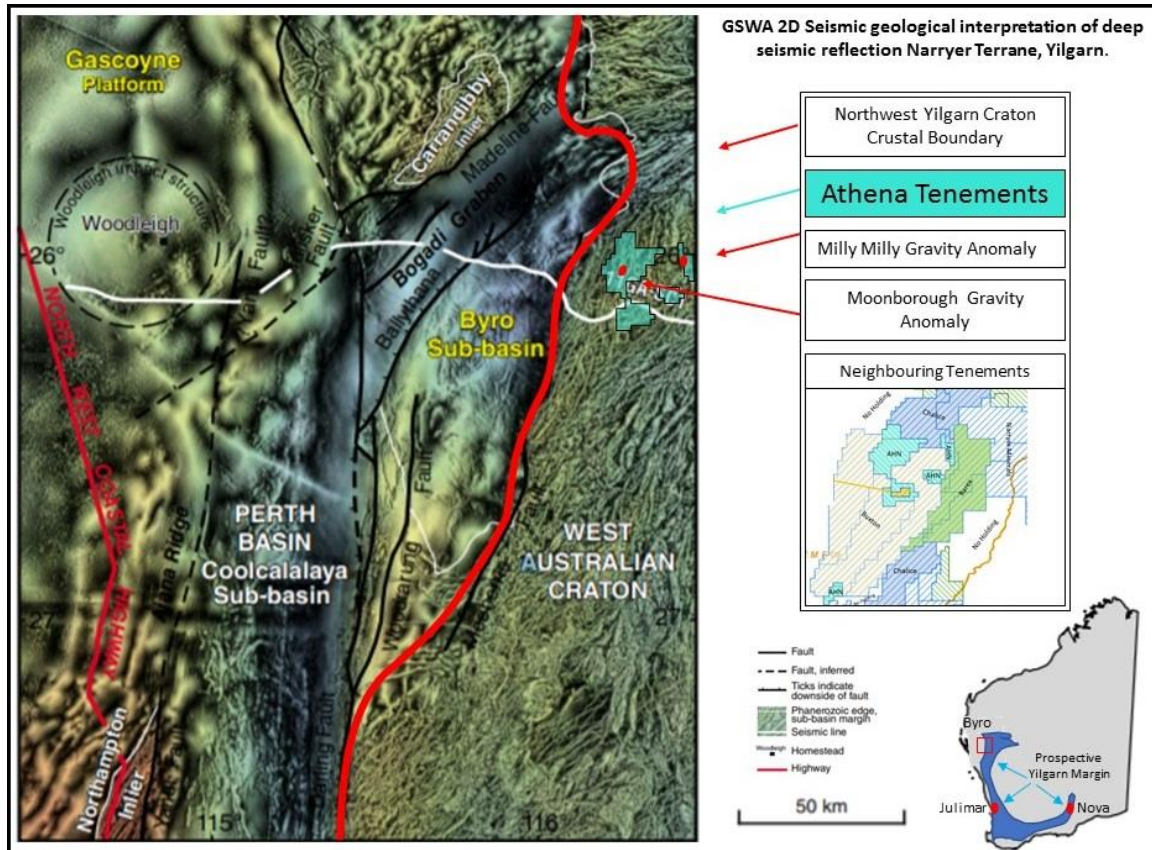


Figure 1. Project Location

Through ongoing exploration efforts, the company identified five significant untested anomalies within the Milly Milly intrusion, (2 targets areas), and Moonborough intrusion, (3 target areas), reported in the December 2020 Quarterly Report. Following the detailed Southern Geoscience Electromagnetic Review, the number of targets has now increased to six target areas.

The added target area, (Target 1), is within the southern lobe of the Milly Milly main intrusion. The area has had only one drill hole, AHDH0001, in the proximity of a VTEM anomaly. The prospectivity of the area increased given the presence of metal sulphide in AHDH0001 at 157m down hole, confirmed from lithological logging and assay. On reviewing DHEM data, a clear broad off hole anomaly is identified, centred at approximately 140m depth. There was no in hole conductor detected suggesting the hole did not test the VTEM response and was ineffective.

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Review of Milly Milly Intrusion EM Surveys

The Milly Milly intrusion is interpreted as a serpentinite olivine dunite within a pyroxene outer layer which intruded through the Narryer Gneiss Terrane. Timing of the intrusion is poorly constrained to the late Archean early Proterozoic. The geochemistry of the dunite demonstrates large volume flow through of high MgO – Sulphur undersaturated, (<700ppm), fertile source rock with elevated sulphide development and availability of Ni to form large volumes of metal sulphide with the addition of sulphur. The intrusion is capped with a laterite and thick silica cap.

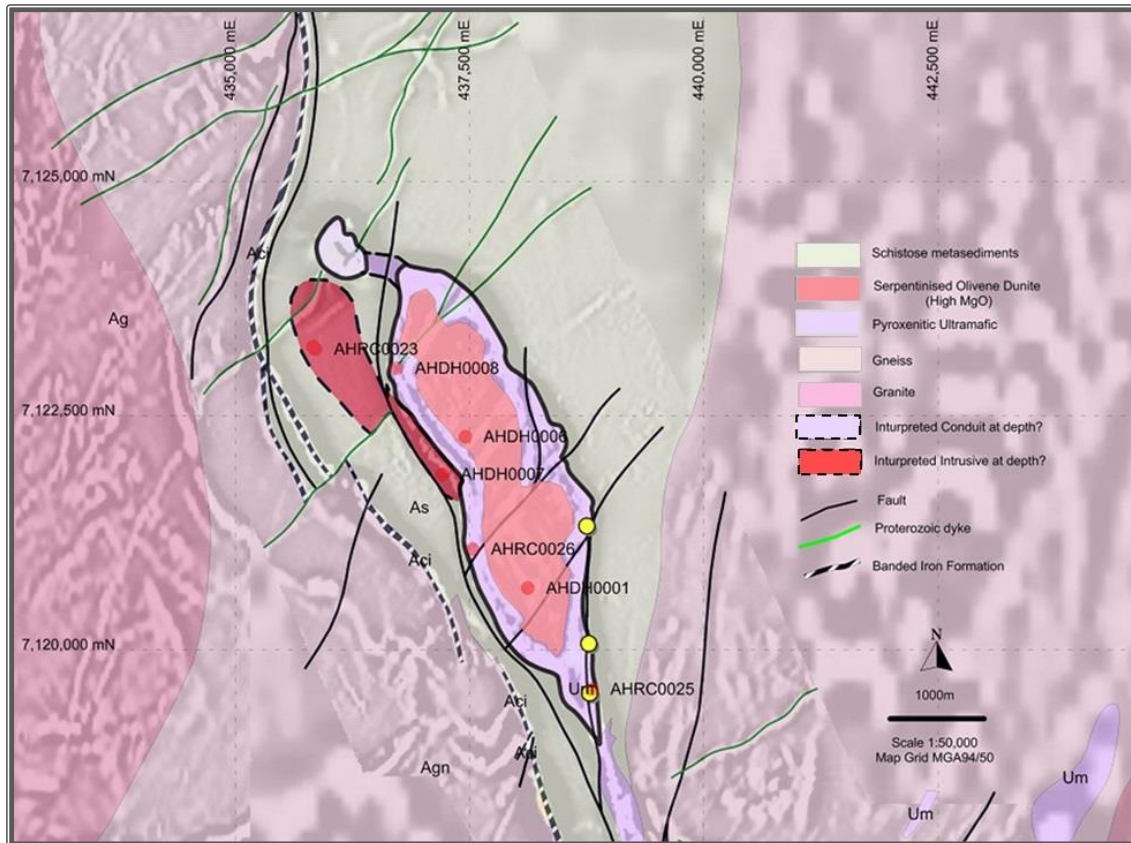


Figure 2. Geological Interpretation of the Milly Milly Intrusion

The inherent problems identified in the historical broad scale VTEM and GeoFerret FLTEM, and small scale MLTEM and DHEM electromagnetic surveys are detailed below.

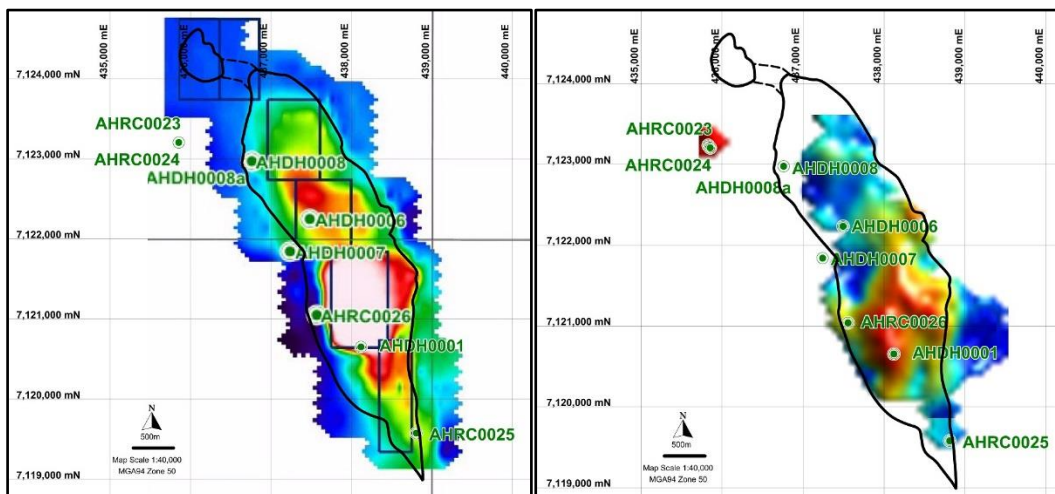


Figure 3. GeoFerret Channel 16 (mid-time)

Figure 4. VTEM dbdt Channel 37-48 (late-time)

No significant basement conductors were resolved in the FLTEM GeoFeret™ data, (Figure 3). Strong IP effects were encountered over much of the survey area and these dominate mid to late time data. The FLTEM data also only surveyed single loop locations with some potential conductors' geometries poorly coupled and likely undetectable. There was no correlation to the predominantly north trending lithology and magnetic signatures of the intrusive body.

The 2010 Byro East VTEM response, (Figure 4), was also subject to IP/SPM effect limiting data quality in the late time channels and effective survey penetration but the technology sufficient to resolve a broad series of mid to late time anomalies that correlate well with the predominantly north trending lithology and magnetic signatures of the intrusive body. From the VTEM a high amplitude, late time conductive response is present east of drill hole AHRC0026, (Figures 2 and 3), with a strike length of over 1.5km. Lower amplitude conductive responses extend over 3.5km from east of AHDH0006, AHDH0007, and AHDH0008 and extends south of AHRC0026 towards AHDH0001.

The review has demonstrated that none of drilling to date has effectively tested the source of this VTEM anomaly. An HP MLTEM survey is recommended before further drilling. The recommended survey incorporating a high power ~100-200A, low base frequency, HT SQUID B-field sensor and optimal slingram sensor offset to overcome the IP/SPM issues in the near surface and will provide low noise surveying and high resolution for accurate targeting where the VTEM was less effective.

Milly Milly Target Areas

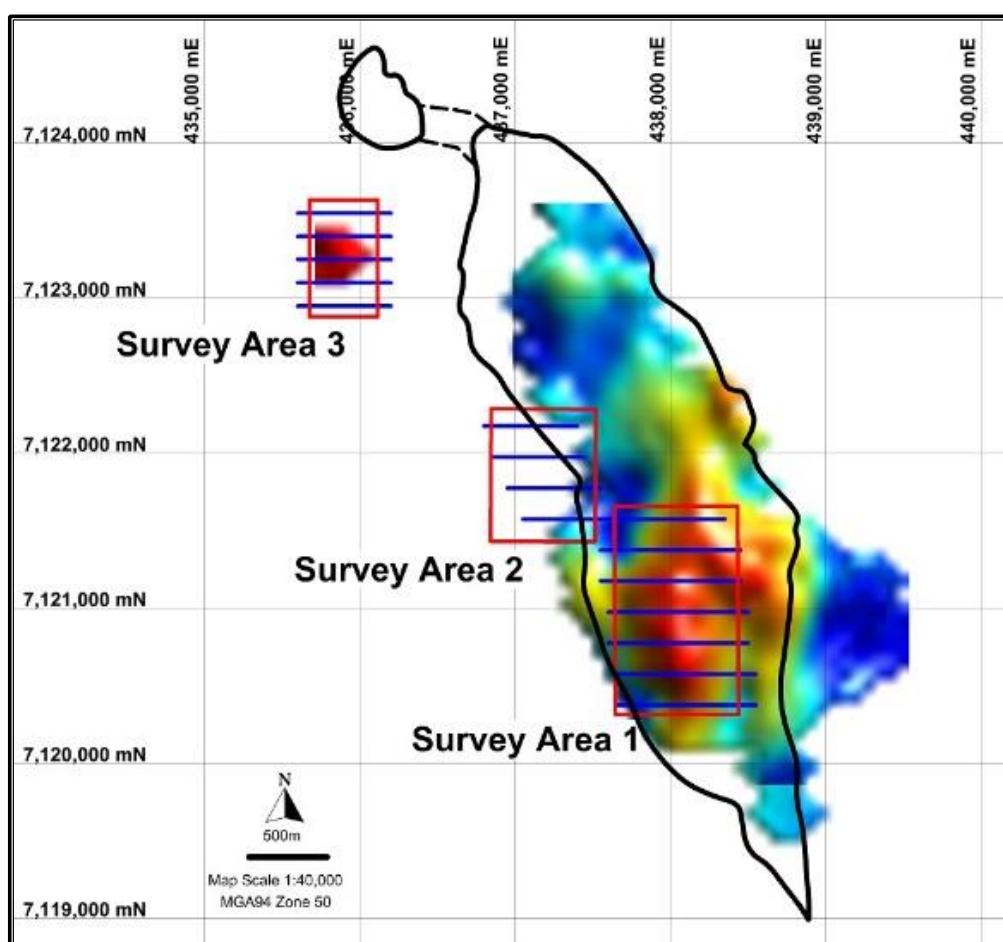


Figure 5. Milly Milly HP MLTEM Survey Locations

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Target 1. The Milly Milly Intrusion Central Lobe.

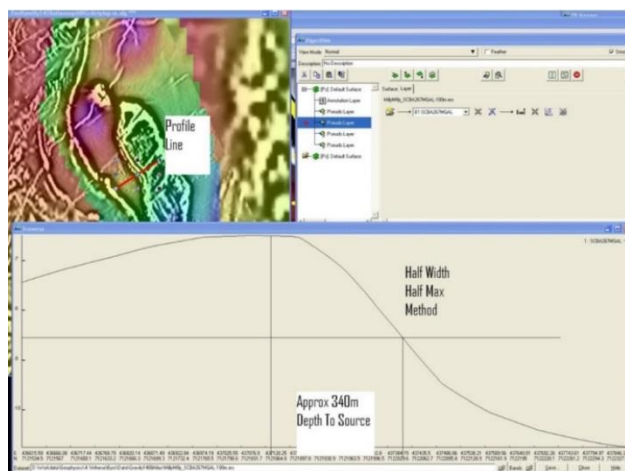
The VTEM high amplitude anomaly at Target 1 appears to be immediately west of drill hole AHRC0026 but a lack of any significant geochemical, lithological or DHEM response indicates the VTEM anomaly has not been tested at this location.

AHDH0001 was drilled at the southern extent of the VTEM anomaly and intersected 0.8m elevated nickel sulphide at 0.33%Ni from 151.36m and 1.73m elevated nickel sulphide from 157.4m at 0.31%Ni including 0.06m at 0.57%Ni.

Modelling of the VTEM is underway in conjunction with DHEM data from hole AHDH0001 which showed an off-hole response, down hole at 140m. The hole does not appear to have intersected the source of the VTEM response but the coincidence of anomalous elevated sulphide with an off-hole EM anomaly also at 100-140m depth may be a vector towards the source of the VTEM anomaly. The elevated nickel sulphide and off hole conductor are 100m below the regolith and weathered zone where the IP/SPM effects occur. A HP MLTEM survey will ensure effective coverage/detection of any bedrock conductors with low interference/noise to depths of up to 400m.

Target 2. Milly Milly Intrusion West Contact.

Preliminary modelling of the gravity data revealed potential structural flow dynamics within the intrusion. An earlier gravity review focused on the intrusive architecture, and potential locations for formation of nickel sulphide accumulations such as changing dynamic flow zones or gravity traps. Southern Geoscience Consultants have evaluated the data set. It was determined infill and extension of the gravity survey is warranted to gain better constraint on the anomalies interpreted at depth between 300-500m.



Ground and airborne electromagnetic surveys have not effectively covered this area. It should be noted that given the survey vintage, VTEM surveying will have a limited investigation depth even with limited noise from ground effects, normally to depths of ~150- ~250m. The interpreted depth in this location from gravity data, Figure 6, suggests 300-350m to target. It is likely steep dipping conductors overlaid by regolith with IP/SPM effects unlikely to have been defined by the VTEM previous coverage.

Figure 6. Gravity anomaly depth interpretation at AHDH0007

Drill hole AHDH0007 was drilled in September 2014 outside the Milly Milly intrusion west boundary, Figure 2, targeting the large gravity anomaly. The hole was expected to encounter a metapelite but remained in ultramafic to end of hole and showed variable geochemistry with high MgO, including sections of primitive ultramafic and signs of metal depletion towards the end of hole. Cloudy nickel sulphide and secondary iron sulphide were reported in 2014 but no significant mineralisation was recorded.

The variable geochemistry up to 478m could be explained by magma mixing from the central intrusion with an intrusive pulse or by assimilation of country rock. The downhole geochemistry from 478m to 531m-EoH, suggests a separate structurally controlled assemblage of less evolved magma. It is to be explored if this flow could be a new discovery

and a separate intrusion to the Milly Milly Intrusion and origin of the recently discovered gravity anomaly.

HP MLTEM surveying (as per above criteria) will be undertaken for this localised, high priority, prospective area identified through geological/geochemical and geophysical consensus.

Target 3. A Geochemical/Gravity/VTEM Target 800m West of the Intrusion.

Holes AHRC0023 and AHRC0024 were drilled targeting a VTEM response, (Figure 7), and a high gravity anomaly at depth. It was noted in the assessment that holes AHRC0023 and AHRC0024 intersected elevated sulphur and Cu/Ni/Cr/MgO within structures from 88m and 92m respectively, (Figure 7). Hole AHRC0024 also returned assays showing elevated Cu/Ni/Cr/MgO from 116m to 128m accompanied with a spike in sulphur to 4000ppm and mafic xenoliths with a talcy feel. The holes were drilled in 2010 through the sedimentary metapelite, west of the Milly Milly intrusion on an oblique section at Northing 7,123,240mN.

It is likely the two drill holes, AHRC0023 – 24 have not tested the anomaly, instead drilling over the top. Follow up HP MLTEM is recommended to further refine the target.

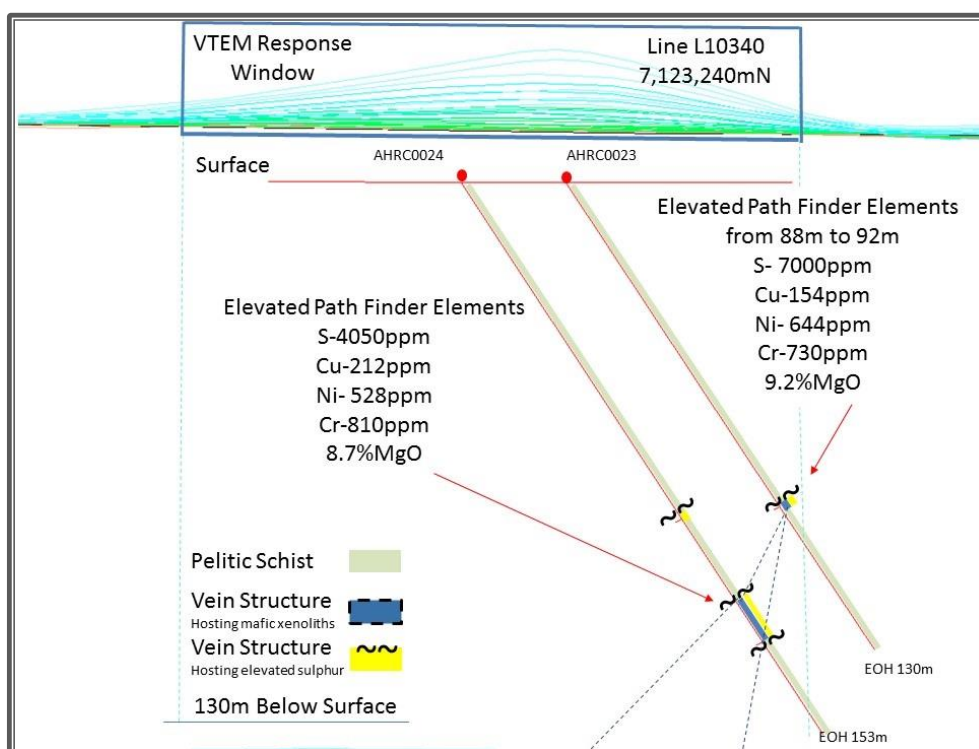


Figure 7. AHRC0023-24 East-West Section looking North on VTEM line L10340

In the regional context, this is a good indication of sulphur availability close to an intrusive system at the Yilgarn margin. In terms of local geochemistry, it is interpreted the sulphur is secondary to the metapelite. The coincidence of sulphur with elevated Cu/Ni/Cr/MgO signatures is intriguing given the geophysical anomalies and presence of mafic/ultramafic xenoliths.

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Moonborough EM Target Areas

The Moonborough intrusion includes Dolerite Gabbro and Ultramafic rock units containing key pathfinder elements archetypal to producing Ni-Cu-PGE metal sulphides. EM and gravity signatures are coincident with the location of the key pathfinder elements discovered to date and warrant detailed investigation.

Three compelling target areas have been identified at Moonborough from review of the VTEM data and recommended for HP MLTEM coverage, (Figure 8). The prospectivity of the target areas is aided by the coincidence of a high gravity anomaly and correlation with exploration data including drilling, geochemistry and geological interpretation.

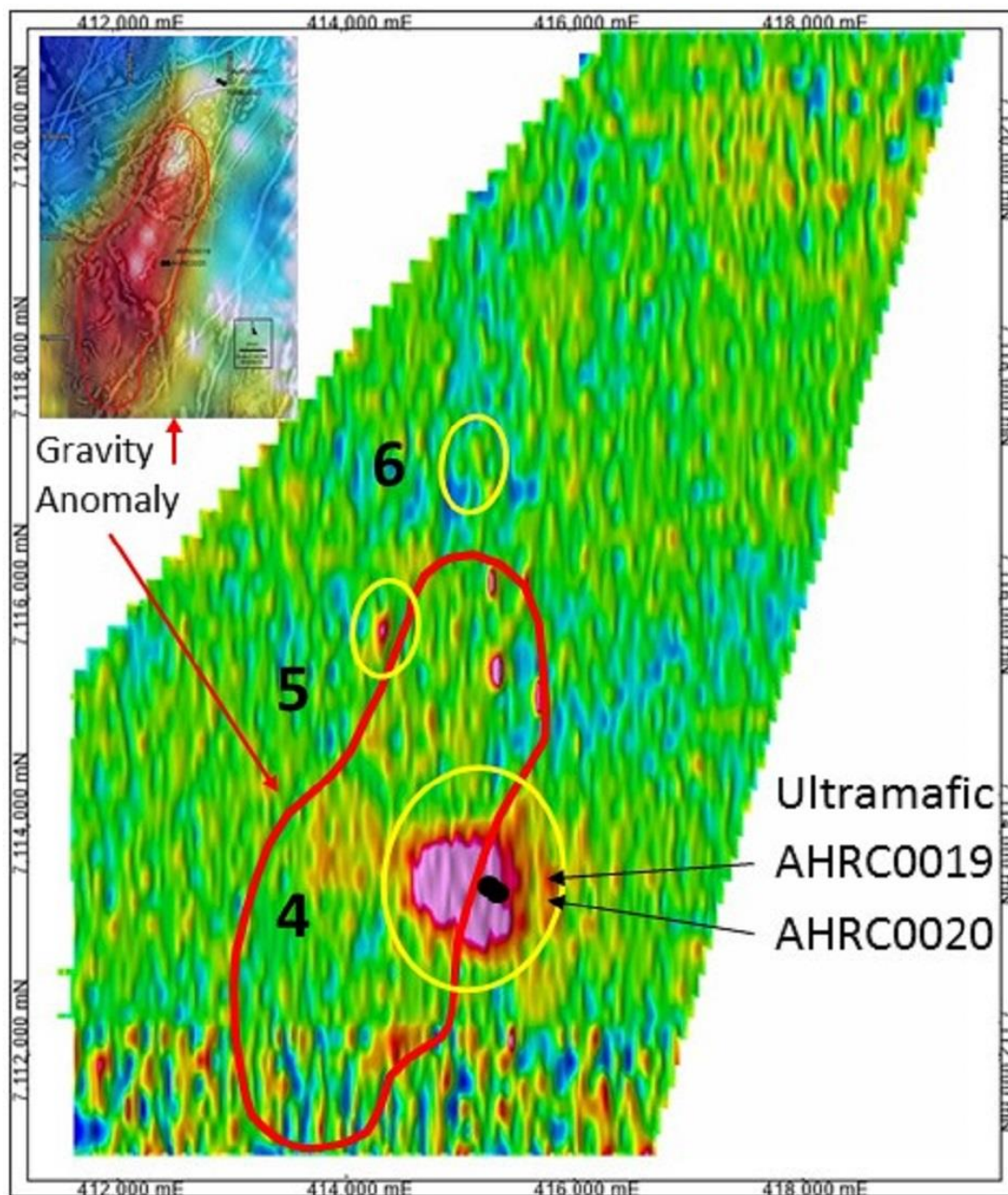


Figure 8. Moonborough VTEM B-field anomalies, Z component channel 45 (VTEM anomalies-yellow circles, gravity anomaly - red outline and insert top left).

Target 4. Target 4 is a discrete conductive anomaly from VTEM coincident with the local high amplitude gravity anomaly. The VTEM anomaly is within a high noise IP/SPM

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conductive paleochannel. VTEM was affected due to noise from the conductive paleochannel.

The B field channel 40 data, (Insert - Figure 9), shows the conductive paleochannel masking the high conductivity response below. This target was drill tested with two shallow drill holes to the base of the paleochannel. Hole AHRC0020 intersecting 13m of ultramafic to the end of hole at 140m and AHRC0019 intersecting 48m of ultramafic rock type with moderate MgO to end of hole. The central circular red outline, (Figure 9), is clearly discrete to the paleochannel seen in the Channel 45 response. This area has been recommended as a priority to have HP MLTEM coverage to ensure effective resolution of the bedrock conductors.

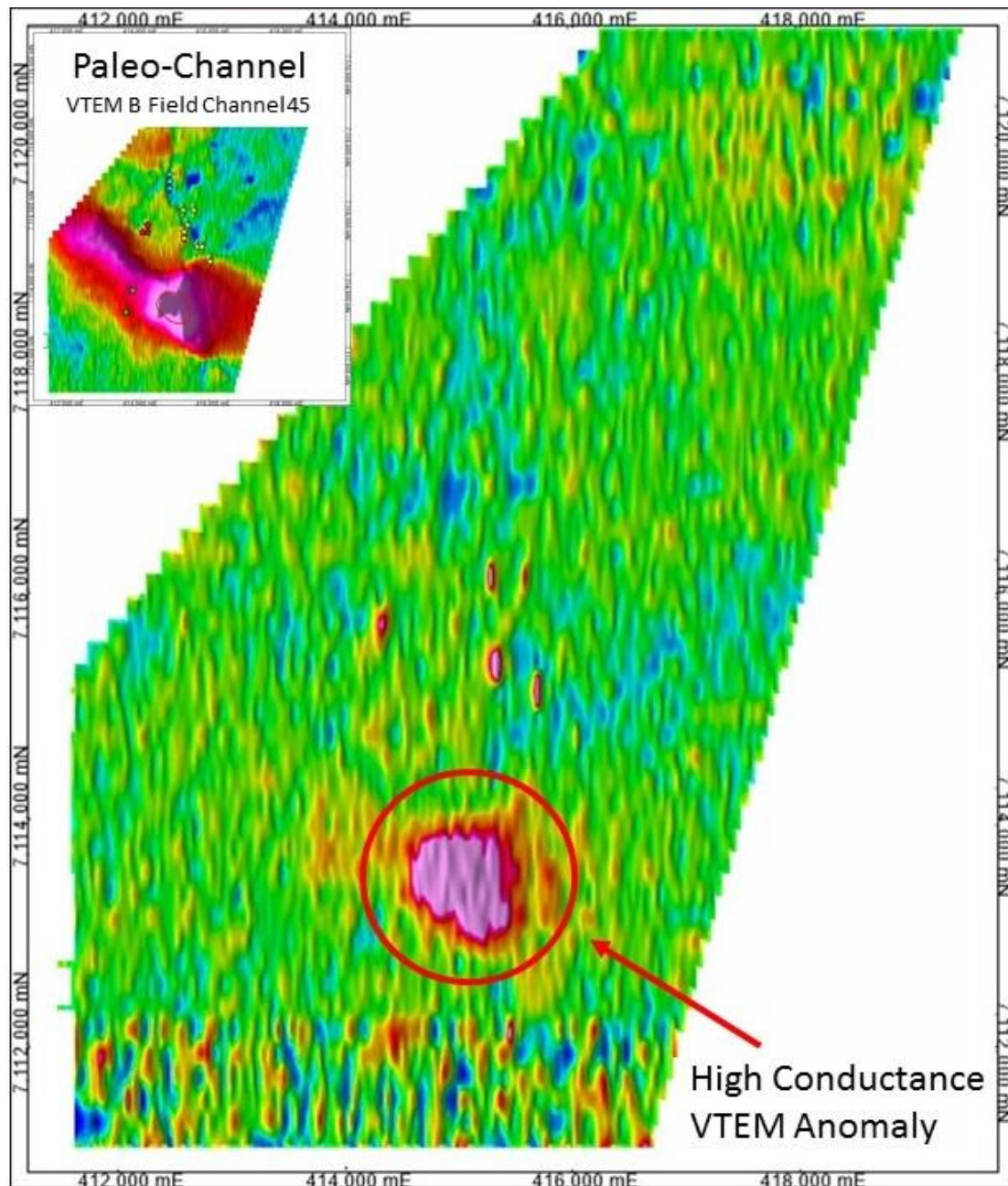


Figure 9. Target 4 - VTEM B-field anomaly Z component channel 45 and insert showing paleochannel VTEM B-field anomaly Z component channel 40.

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Target 5. A, VTEM anomaly. Mid and late time VTEM responses have identified this discrete short strike length, untested target.

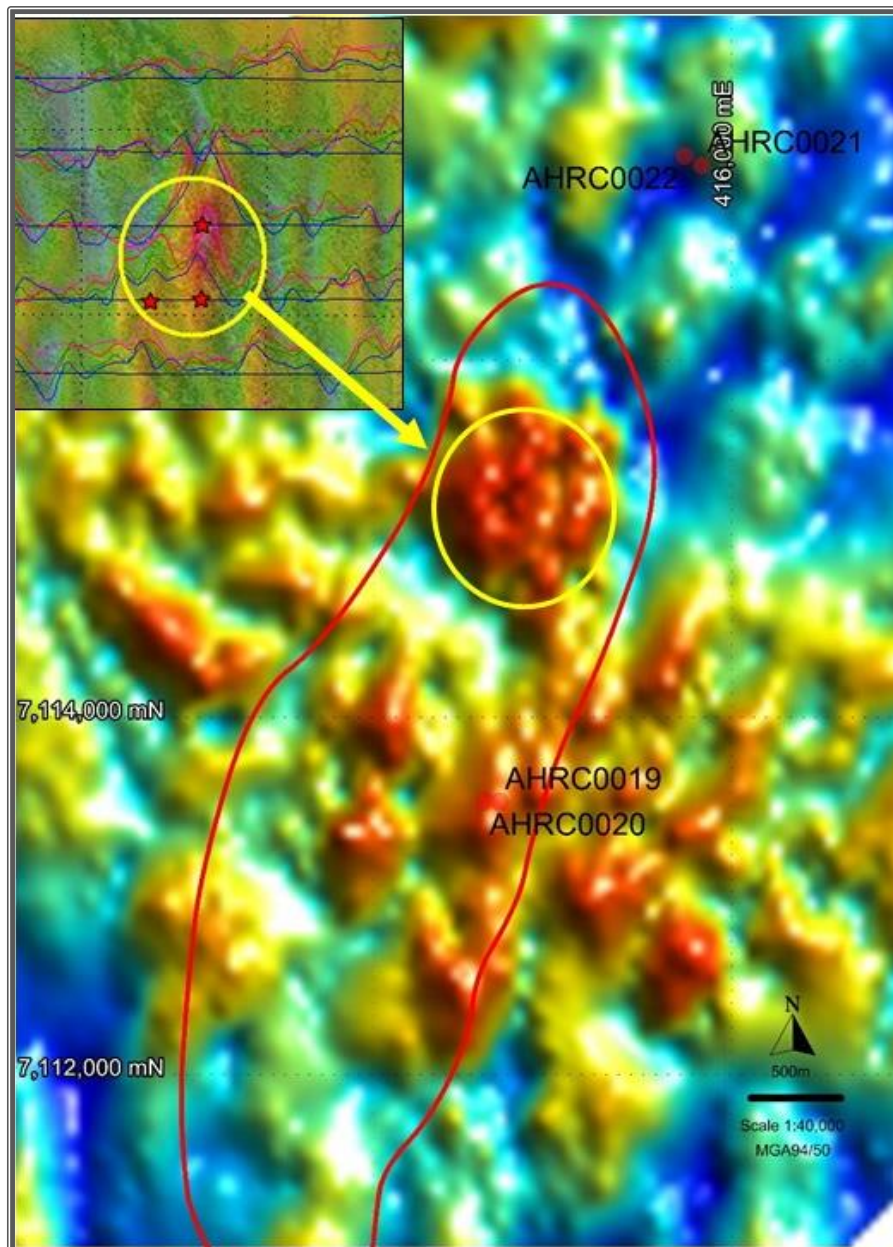


Figure 10. Target 5 - VTEM channel, Tau 25 B Field, mid time response with the gravity anomaly (red outline) and insert showing VTEM channel Tau 37 B Field, late time response.

In this location the anomalous VTEM response is promising because the anomaly is outside the paleochannel and not subject to background conductive masking. The response also holds up in both mid and late time data.

Ground checks have been completed to investigate access and cover over the anomaly. The area is within 1.5km from the Station homestead and the possibility that the anomaly could be associated with human or cultural activity was eliminated.

Target 6. A short strike length IP anomaly was identified trending parallel with local geology and magnetic signatures, coincident and down strike of gabbro/dolerite units drilled in holes AHRC0021 and AHRC0022, (Figure 11 – blue stars).

Assay results from drilling AHDH0021 and AHDH0022, drilled northeast of the IP anomaly, show anomalous path finder elements in the gabbro/dolerite units. The gabbro unit also hosts elevated copper while copper carbonate accumulation is recorded in outcropping laterite. Down hole path finder elements include;

AHRC0021 17 ppb Au - 80ppb Pd - 5ppb Pt - 40ppm Co 620ppm Cu
 AHRC0022 199 ppb Au - 60ppb Pd - 30ppb Pt - 240ppm Co - 2700ppm Cu.

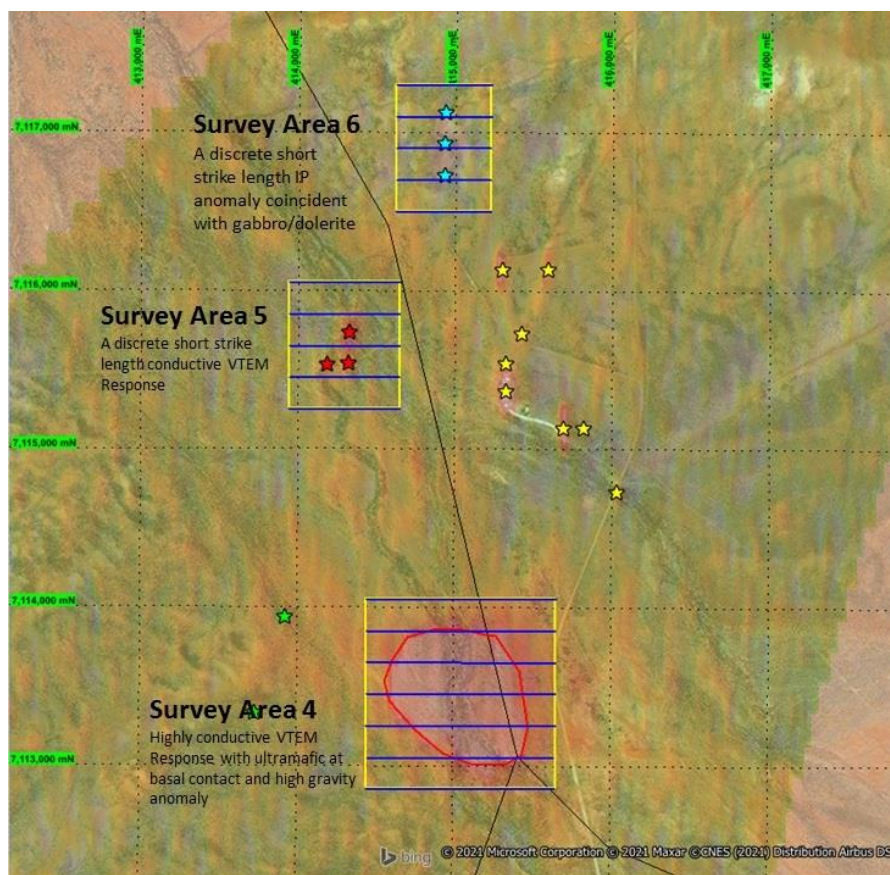


Figure 11. Moonborough HP MLTEM Targets and Survey Locations

In the regional context, Targets 1-3 at the Milly Milly Intrusion and targets 4-6 at the Moonborough intrusion are all close to the Yilgarn margin. The layered intrusive systems show prospective Cu/Ni/Cr/MgO geochemistry, the signatures, a whiff of the right type of smoke. Also, in a regional context sulphur is available for assimilation during development of the intrusive complexes for the production of metal sulphides. The six target areas have been prioritised for HP MLTEM survey in late April 2021.

Athena Resources is very excited about the outcome of this review and looking forward to the HP MLTEM results.

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 Review Report to the ASX.

Yours faithfully

Ed Edwards
Executive Director
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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	

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

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