



# ASX ANNOUNCEMENT

## GEOCHEMICAL SOIL SAMPLING PROGRAM

Athena Resources Limited (“Athena” or “the Company”) (ASX:AHN) advises of a targeted Works Programme scheduled to commence at its 100% owned Byro Project. The programme consists of geochemical soil sampling and mapping of high priority base metal and Rare Earth Element (REE) targets.

### HIGHLIGHTS:

- Following encouraging interpretive work, Athena will commence an extensive surface geochemical soils program at the Milly Milly Intrusion and surrounding area within E09/1637-I.
- An initial program to include approximately 1,100 samples taken from a nominal 400m by 100m grid.
- Follow-up sampling, pending results, to include infill sampling of anomalous zones, and sample lines across residual regolith regimes within E09/1781-I.

The attached map shows proposed soil sample locations over TMI aeromagnetic image.

The works program consists primarily of geochemical soil sampling and will also include regolith and lithological mapping. The target is the Milly Milly ultramafic intrusion, surrounding metasediments, and also lithologies that are part of a larger but poorly defined layered mafic and ultramafic intrusion, which outcrops intermittently in the surrounding areas.

E09/1637-I is the easternmost tenement of the Byro Project, within the Murchison Province of Western Australia. The Byro project is wholly within the Narryer Terrane, which forms the north-westernmost region of the Archaean Yilgarn Craton. The Narryer Terrane has been interpreted as the northern extent of the Western Yilgarn Ni-Cu-PGE Province.

---

**About Athena Resources:** AHN is an Australian ASX listed explorer and developer of highgrade iron ore assets in Western Australia. The Company is focused on its Byro Project, strategically located in the Mid-West region 410km from the Port of Geraldton. The Byro Iron Ore Project has potential to mine and supply premium grade, low impurity magnetite (>70% Iron Content) for the production of Dense Media Separation material, Green Steel and other Industrial Mineral applications. The Byro Project also contains exciting base metal potential.

**Directors:** Ed Edwards, Peter Newcomb, Hau Wan Wai, Terry Weston, Jeff Swingler • **Company Secretary:** Peter Newcomb • **Athena Resources Limited** ACN 113 758 900

21 Millstream Rise | Hillarys | WA | 6025  +61 448 895 664  [ahn@athenaresources.com.au](mailto:ahn@athenaresources.com.au)  [athenaresources.com.au](http://athenaresources.com.au)

The program includes approximately 1,100 samples to be taken from a 400m by 100m exploration grid, with samples taken of residual soil horizons. Samples are to be analysed for a broad suite of elements and include Rare Earth Elements.

The targeted areas were identified in regional and detailed airborne magnetic data, and bouguer gravity data, which is suggestive of widespread occurrences of intrusive mafic and ultramafic lithologies.

Athena have comprehensively reviewed all previous drilling and surface sampling data, including historic company geochemical datasets from WAMEX, and historic data from GSWA regional surface geochemistry database.

Elevated REE mineralisation from previous drilling includes  $Ce_2O_3$  (Cerium Oxide) to 762.7ppm (AHRC093),  $La_2O_3$  (Lanthanum Oxide) to 306ppm (AHRC094), and strongly anomalous  $Sc_2O_3$  (Scandium Oxide) to 197.4ppm (AHRC099).

(ASX: [AHN announcement 9/3/2022](#))

These anomalies are hosted within ultramafic saprolitic clays of depths no greater than 15m overlying the Milly Milly ultramafic intrusion. Further, the intrusion has a coincident thorium anomaly, evident from regional radiometric imagery, which has a strong association with REE mineralisation in nearby projects within the Narryer Terrane.

Previous exploration has been focussed on the nickel-copper-PGE prospectivity, although historic surface sampling datasets, while reasonably dense, are very limited in the number of elements assayed, being limited to Cu, Ni, and Zn. In order to “cast the net wide,” Athena are embarking on a broader 400m by 100m soils grid, with samples to be assayed for an extensive elemental suite, including Rare Earth Elements.

Sampling will be by conventional soil geochemistry methodology, with scope for shallow auger drilling to be later carried out in areas where geophysical targets are concealed by depositional regolith type. The above anomalies are the first indications of REE mineralisation identified within Athena’s Byro Project tenure. The Company anticipates the commencing soil geochemistry survey to reveal further anomalies with greater lateral extent.



## Narryer Terrane

The Milly Milly Intrusion, part of the Byro Project, is geologically located within the north-west margin of the Yilgarn Craton within the underexplored Narryer Terrane.

Previously mapped as predominantly granitic gneiss and migmatites, more recent exploration by Athena, and surrounding tenure holders, has shown more extensive mafic and ultramafic intrusive signatures prospective for Ni-Cu-PGE and REE mineralisation.

## Milly Milly Intrusion

Athena has been exploring within the Narryer Terrane and through geophysical surveys, drilling and sampling, has identified extensive mafic and ultramafic intrusive units within the project tenements.

The primary base metal targets occur at the Milly Milly Intrusion - a large peridotite Intrusion - which hosts disseminated nickel-copper sulphide and elevated PGE's. In 2021, RC drilling also identified high grade graphite mineralisation. Historic drilling by Athena includes the below intersections:

### Nickel intersections include:

AHDH001 62.7m @ 0.29% Ni from 149.7m

AHRC0025 36m @ 0.34% Ni from surface

(ASX: [AHN Announcement 10/11/2010](#))

### Graphite intersections include:

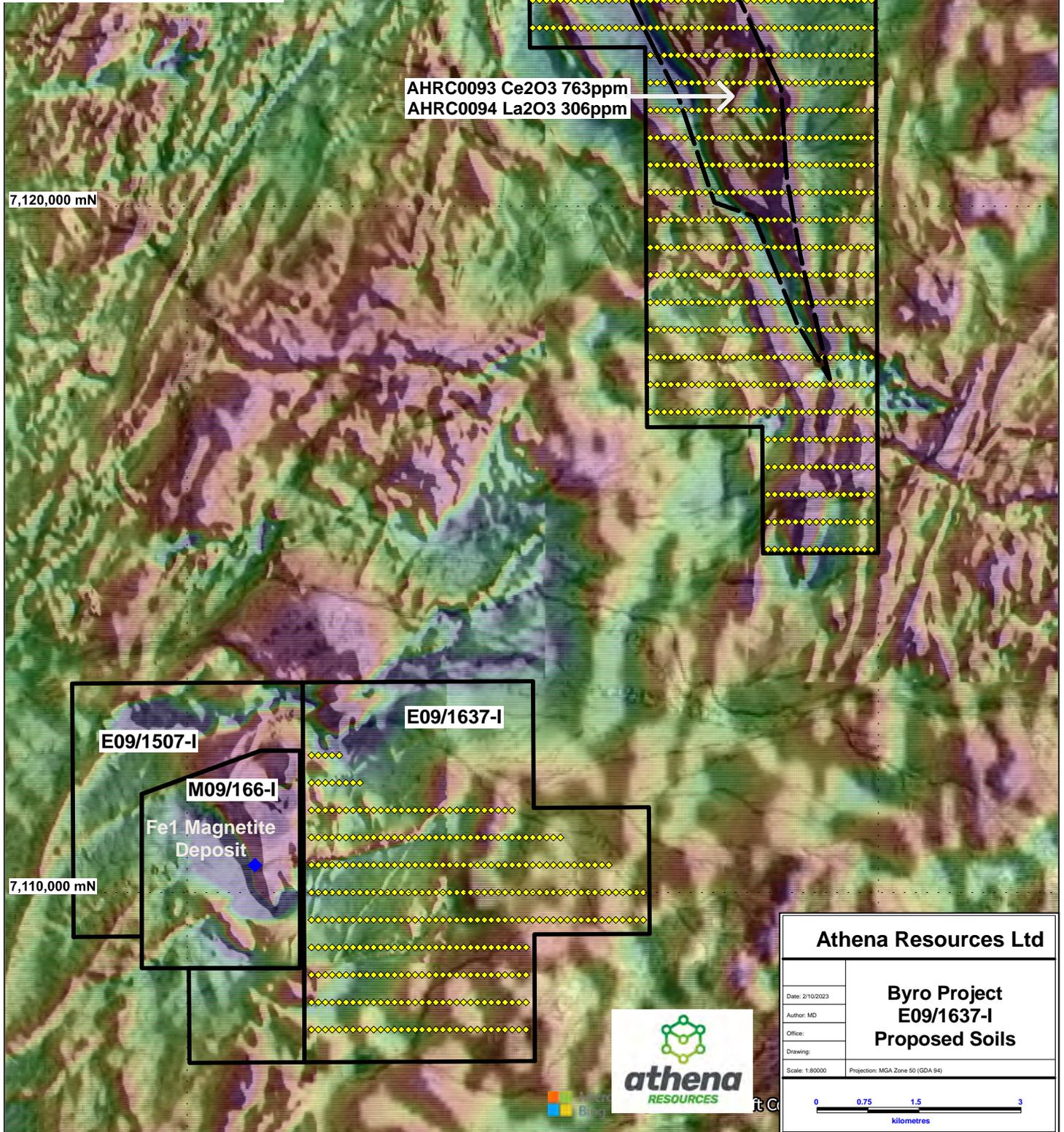
AHRC0096 3m @ 4.83% TGC from 102m, including 1m @ 13.02% TGC from 103m

AHRC0096 3m @ 3.13% TGC from 107m, including 1m @ 5.28% TGC from 108m

(ASX: [AHN Announcement 9/03/2022](#))

This announcement is Authorised by the Board

Ed Edwards  
Managing Director  
5 October 2023



<b>Athena Resources Ltd</b>	
Date: 2/10/2023 Author: MD Office: Drawing: Scale: 1:80000 Projection: MGA Zone 50 (GDA 94)	<b>Byro Project</b> <b>E09/1637-I</b> <b>Proposed Soils</b>
	
	