

ASX ANNOUNCEMENT

REE AND NI-CU ANOMALIES IDENTIFIED AT BYRO

HIGHLIGHTS: -

Rare Earth Elements

- Surface sampling at Milly Milly Prospect has identified multiple high priority REE anomalies warranting further exploration.
- REE anomalies include a peak value of **888ppm TREO** with high percentage of valuable magnetic rare earth elements **37% MREO/TREO**, and **29% NdPr/TREO**
- **Three +300ppm TREO soil anomalies have strike lengths >2km.**

Base Metals

- Multiple new significant copper and nickel anomalies confirmed.
- **Nickel values to 1,300ppm and Copper to 152ppm.**

Athena Resources Limited (ASX: AHN) ("Athena", or the "Company") is pleased to report the recently completed geochemical soil sampling programme at the Company's Milly Milly Prospect, within the Byro Project. Highly significant results revealed Rare Earth Element (REE) anomalies, and additional base metal anomalies providing high priority targets for further exploration.

A total of 1,020 samples were sent to Australian Laboratory Services (ALS) in Malaga for multi-element (61 element) analysis, including the REE suite. The areas targeted were the ultramafic and mafic intrusive units of the Milly Milly intrusion and surrounding lithologies where possible carbonatites may occur.

Sampling was carried out on a 400m by 100m grid spacing covering the majority of E09/1607. The sampling followed a 2023 assessment of drilling at the project, which identified a several zones of strongly elevated REE pathfinder elements (Ce, Y, La, Sc) in the shallow, clay zones. The recent soil sampling programme was the first time systematic geochemical work was carried out targeting REEs along with other elements, particularly base metals.

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 • **Company Secretary:** Peter Newcomb • **Athena Resources Limited** ACN 113 758 900

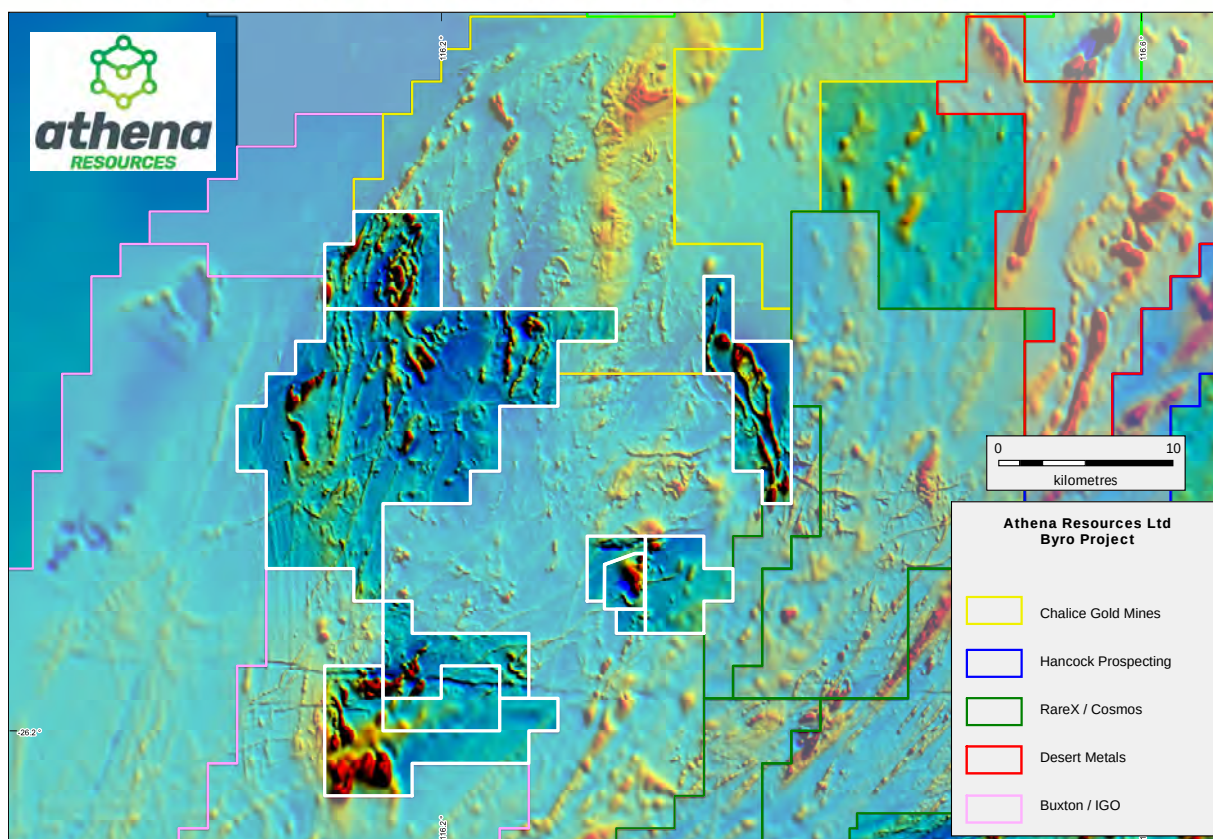


Figure 1: Byro Project. Surrounding tenure on TMI RTP aeromagnetic image

New REE Anomalies Identified

The soil sampling at Milly Milly is the first geochemical sampling program targeting REE mineralisation in the history of the project. This first pass soil survey utilised a relatively broad spaced grid that has outlined several anomalies requiring further work, including infill sampling. Covering an area of approximately 52 km², this work has been highly successful in the first pass identification and broad delineation of many new targets.

The Milly Milly REE contain high amplitude TREO peaks, with a maximum value of 888ppm. Table 1 below demonstrates that top 33 sample results (TREO<350ppm) average percentage of the more valuable magnetic rare earth oxides (MREO) averages 37%. Further, the ratio of neodymium (Nd) + Praseodymium (Pr) to TREO averages a high 32%. These credentials are highly encouraging and indicate the potential for the Milly Milly Prospect to yield even more significant anomalies as targets for drilling.

Two of the anomalies identified are oriented north-south, with strike lengths of approximately 2km each. These anomalies, along the south-eastern edge of the sampling area, have average TREO values of >300ppm, each with widths of between 200m and 300m. These, and several of the anomalies, are adjacent to contact zones with the “tail” of the ultramafic intrusion and is in close proximity to major fault zones. This represents a prime location for REE mineralisation and associated carbonatites. In addition, the area is very weathered with the potential for REE ionic clay style mineral deposits.

Nickel-Copper anomalies

The Milly Milly Intrusion has previously shown to have significant nickel and copper mineralisation that has been previously targeted by both the Company, and by previous explorers. The recent sampling has shown extensions to previous base metal soil anomalies, and their special relationship with the ultramafic body. Of significance, is the southern “tail” region, which may represent the feeder zone to the system, although this has undergone significant deformation post its formation.

In addition to the high grade REE mineralisation in this area, are strong nickel anomalies occurring in a linear trend along the southeastern contact with the surrounding metasediments and granitoids. Copper anomalies appear more widely dispersed and sporadic, with a peak value of 152ppm, interestingly in the same location as one of the TREO peak anomalies.

Next Steps

- Field verification and detailed mapping of anomalous targets
- Infill geochemical soil sampling and rock chip sampling where outcrop is available
- Continue analysis of all available data
- Preparation for Athena’s maiden REE targeted drilling campaign.

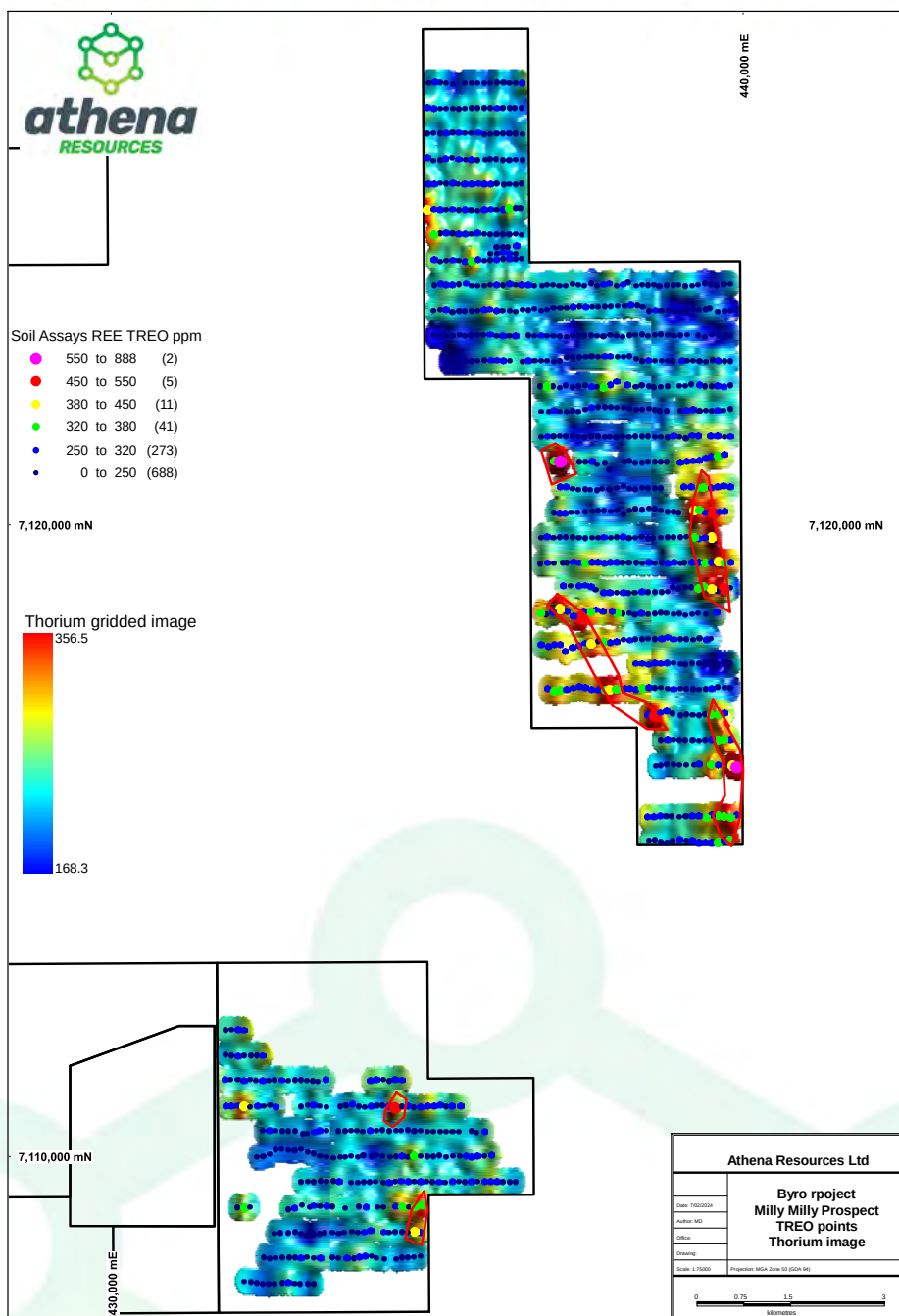


Figure 2: Milly Milly soil assays. TREO on Thorium gridded image.

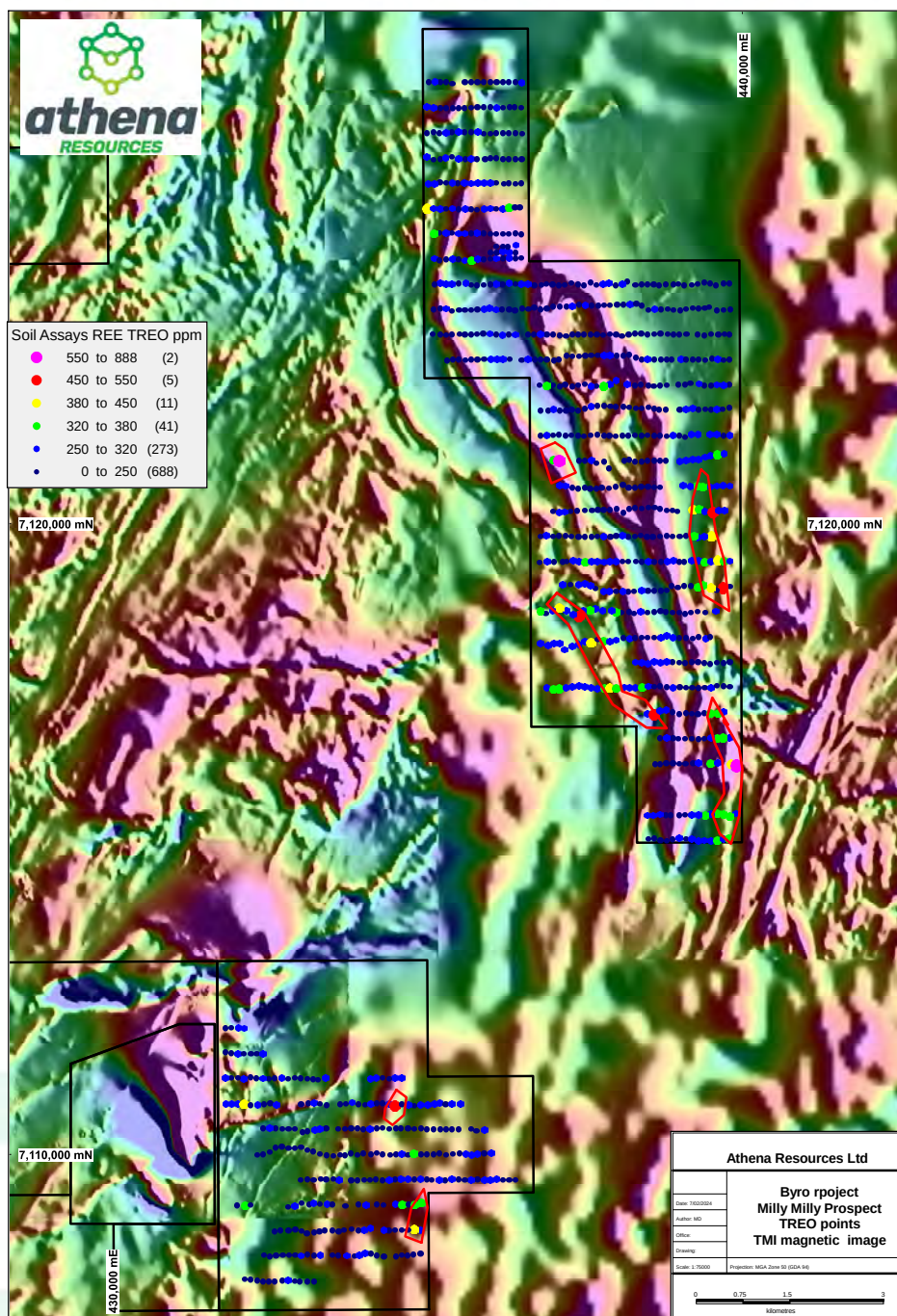


Figure 3: Milly Milly soil assays. TREO on TMI magnetic image.

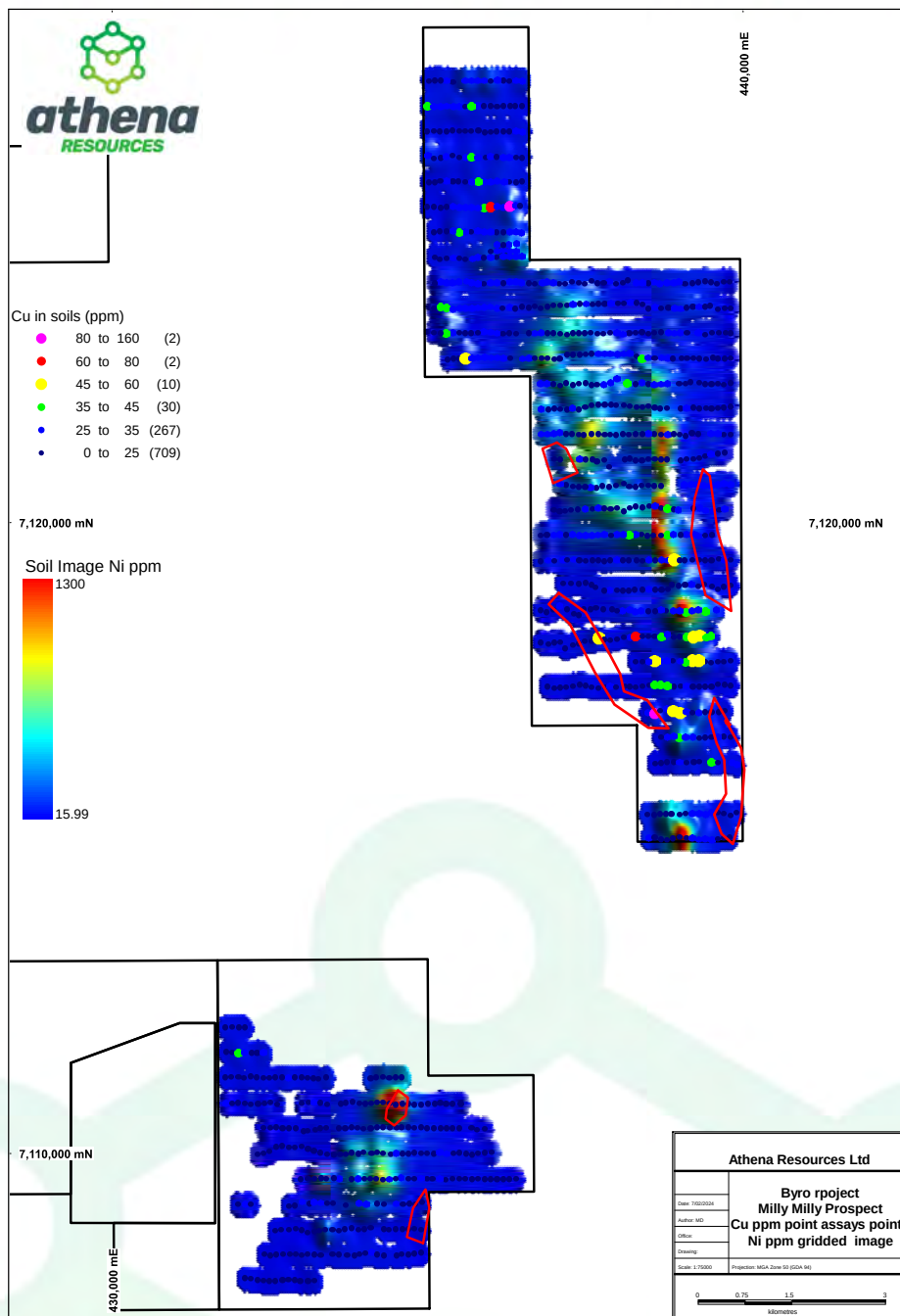


Figure 4: Milly Milly soil assays. Cu ppm on Ni ppm gridded image.

Table 1: Milly Milly soil sampling significant assay results (TREO>350ppm)

Sample	East (m)	North (m)	TREO ppm	LREO ppm	HREO ppm	MREO ppm	NdPr ppm	HREO/ TREO %	MREO/ TREO %	NdPr/ TREO %	Y2O3/ TREO %
23MM0393	437100	7121000	888	804	84	329	285	9	37	32	3.7
23MM0701	439901	7116164	689	610	80	267	233	12	39	34	5.3
23MM0670	438598	7116977	522	414	108	199	161	21	38	31	10.6
23MM0580	437405	7118533	490	432	58	176	152	12	36	31	5.5
23MM0466	439534	7120179	472	414	59	175	149	12	37	32	5.5
23MM0478	439695	7118984	462	417	45	180	156	10	39	34	3.4
23MM0806	434490	7110771	451	402	49	156	135	11	35	30	4.7
23MM0583	437094	7118671	444	386	58	155	132	13	35	30	6.0
23MM0556	439506	7119803	430	375	55	163	141	13	38	33	6.0
23MM0700	439822	7116188	422	368	54	161	138	13	38	33	5.9
23MM0463	439218	7120226	419	369	50	155	132	12	37	31	5.1
23MM0786	432099	7110796	414	364	50	143	121	12	34	29	5.3
23MM0480	439504	7118991	408	355	53	144	122	13	35	30	6.0
23MM0959	434796	7108812	401	345	56	148	124	14	37	31	6.3
23MM0595	437598	7118119	400	345	55	146	124	14	36	31	6.3
23MM0087	435000	7125000	390	340	49	149	129	13	38	33	6.0
23MM0553	439613	7119423	382	332	50	141	121	13	37	32	6.4
23MM0655	437893	7117397	381	333	47	142	122	12	37	32	5.5
23MM0654	437815	7117392	380	335	44	135	116	12	36	30	5.0
23MM0934	434807	7109201	380	329	50	134	114	13	35	30	6.2
23MM0574	438002	7118604	379	330	48	139	119	13	37	31	5.8
23MM0703	439799	7115360	377	327	50	144	123	13	38	33	6.1
23MM0554	439705	7119406	372	322	50	143	122	13	38	33	6.3
23MM0327	436896	7122196	370	311	59	133	112	16	36	30	7.8
23MM0656	437994	7117395	370	324	46	132	112	13	36	30	5.6
23MM0481	439380	7119024	367	312	55	141	119	15	38	33	7.3
23MM0704	439700	7115389	363	314	49	138	118	14	38	33	6.3
23MM0683	439697	7116607	359	316	42	130	112	12	36	31	5.3
23MM0318	437793	7122183	359	298	61	139	117	17	39	33	8.7
23MM0932	434610	7109201	353	304	49	130	111	14	37	32	6.7
23MM0698	439500	7116200	352	295	57	136	115	16	39	33	7.8
23MM0473	439377	7120587	351	298	53	131	109	15	37	31	7.0
23MM0578	437580	7118625	350	302	48	132	111	14	38	32	5.9

Total Rare Earth Oxide Calculation

Total Rare Earths Oxides (TREO) is the sum of the oxides of the light rare earth elements lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), and samarium (Sm) and the heavy rare earth elements europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb), lutetium (Lu), and yttrium (Y).

- TREO is the sum of all the rare earth oxides.
- HREO is the sum of the oxides of the heavy rare earth elements: Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu and Y. The HREO are less common than the LREO and are generally of higher value.
- LREO is the sum of the oxides of the light rare earth elements: La, Ce, Pr and Nd.
- MREO is a set of oxides that are referred to as the Magnetic Rare Earth Oxides. They are Nd, Pr, Dy, Tb, Gd, Ho and Sm. These are generally considered to be of higher value than the non-MREO.
- NdPr is neodymium and praseodymium.



Figure 5: Soil sampling at Milly Milly

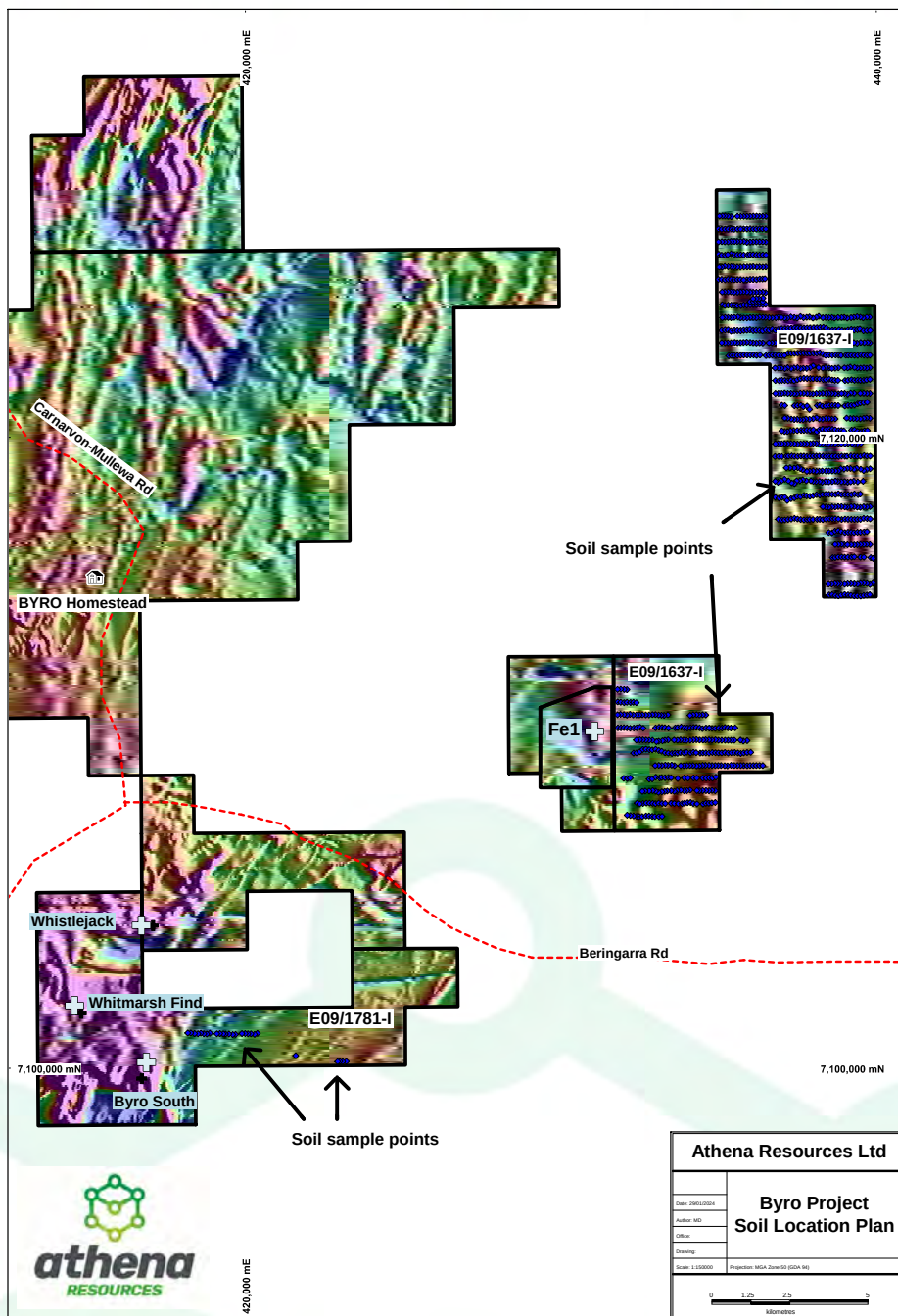


Figure 6: Milly Milly soil sample locations on TMI magnetic image.



Narryer Terrane

The Milly Milly, and Moonborough Intrusions together form part of the mafic/ultramafic intrusions that underly the Byro Project. The Byro Project is located within the Narryer Terrane, along the northwest margin of the Yilgarn Craton. This highly prospective and underexplored region has become the focus of companies searching for intrusion hosted Ni-Cu-PGE-REE mineralisation.

Athena has been exploring within the Narryer Terrane and through geophysical surveys, drilling, and sampling, having 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, with strong indicators for REE mineralisation. Exploration by Athena has previously yielded the following results:

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 was authorised by the Board.

Yours faithfully

Ed Edwards
Managing Director
13 February 2024

CAUTIONARY NOTES AND DISCLOSURES

Disclosures

All data and Information of material nature referred to within this Report with reference to the Byro FE1 ore body have previously been reported on the ASX platform to meet the guidelines of the relevant JORC compliance reporting format at the time of data acquisition.

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.

The Byro South, Whistlejack and the Mt Narryer ore bodies have had extensive drilling and metallurgical studies, drilling to date at the ore bodies supports aspects of the forward looking statement above. The quantity and grade reported for Byro South, Whistlejack and the Mt Narryer ore bodies are conceptual in nature. There has been insufficient exploration to define a mineral resource for each of the ore bodies. Further exploration is warranted to improve understanding and reduce uncertainty.

JORC Code Compliance Statement

Some of the information contained in this announcement is historic data that have not been updated to meet the 2012 JORC Code guidelines. Some 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 Martin Dormer is an employee of Athena Resources and currently holds securities in the company. Mr Terry Weston is a Director of Athena Resources and currently holds securities in the company

Competent Person Statement – Martin Dormer - Geology

The geological information included in the report is based on information compiled by Mr Martin Dormer, a consultant to Athena Resources Limited. Mr Dormer is a Member of the Australasian Institute of Mining and Metallurgy (Member ID 304615), and the Australian Institute of Geoscientists (Member ID 7370). Mr Dormer has sufficient relevant experience in the styles of mineralisation and deposit type under consideration, and to the activity which he is undertaking, 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)”.

Mr Dormer consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Competent Person Statement – Terry Weston - Metallurgy

The metallurgical information included in the report was compiled by Mr Terence Weston, a consultant to Athena Resources Limited. Mr Weston has sufficient experience as a metallurgist in mining and processing and is a Member of the Australasian Institute of Mining and Metallurgy (#106114).

Mr Weston consents to the inclusion of the information in the report in the context and format in which it appears.

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	
Byro Project Water	
L09/112	L – Miscellaneous Licence

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	Soil samples were approx. 200g to 300g taken from depth of 0.2m to 0.4m from surface. They were sieved to 0.1mm in the field and transported to the laboratory.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Soil samples were taken on a 400m by 100m grid spacing covering approximately 52 square kilometres. Enough samples were taken to establish background values for elements and to therefore determine levels of anomalism
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	No drilling was undertaken.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	No drilling undertaken
Drill sample recovery	- Method of recording and assessing core and chip sample recoveries and results assessed. - Measures taken to maximise sample recovery and ensure representative nature of the samples. - Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	- No drilling undertaken. All soil samples logged, described, and coded in field note books. - Standard field procedures were used. - No bias was observed or established.

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Logging	- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. - Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. - The total length and percentage of the relevant intersections logged.	- Sample lines were geologically mapped and logged by a qualified geologist. - No drilling was undertaken.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	No drilling was undertaken.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	No drilling was undertaken.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample size, fraction size, and distribution of the soil samples is considered appropriate for regional exploration.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Laboratory QC procedures for soil samples involve the use of internal certified reference material as assay standards, along with blanks, duplicates and replicates.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	No field duplicates were taken as this was not warranted at this early stage of exploration.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate for this methodology.
Quality of assay data and laboratory tests	- The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. - For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. - Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	- Samples were submitted to ALS Laboratories in Perth for analysis by the four-acid mixed digest with ICPMS finish for 61 elements including the REE suite. These include Ag, Au, Bi, Cd, Co, Cr, Cs, Cu, Li, Mo, Ni, Pb, Pd, Pt, Sn, Ta, W, Zn and REE Ce, La, Tb, Dy, Pm, Pr, Nd, Sm, Gd, Eu, Ho, Er, Tm, Lu, Yb and Rb. Sample preparation involved weighing out of 50 g of the soil sample and adding a fixed aliquot of the digest. - No geophysical tools used. - Duplicate samples not required at this early stage of exploration.

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	- The verification of significant intersections by either independent or alternative company personnel. - The use of twinned holes. - Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. - Discuss any adjustment to assay data.	- Sampling and analysis by company geologist. - No drilling was undertaken. - Samples and assays verified using standard QA QC methods. - All primary data from sampling and assaying is recorded in the Company data base. - Documentation and QA QC review completed prior to final entry into database. - No adjustments to the assay data has been made.
Location of data points	- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. - Specification of the grid system used. - Quality and adequacy of topographic control.	- GPS +/- 5m. Sample locations were measured with Garmin handheld GPS. - MGA_GDA94 Zone 50 - Topographic surface recorded with handheld Garmin.
Data spacing and distribution	- Data spacing for reporting of Exploration Results. - Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. - Whether sample compositing has been applied.	- Samples were taken at 100m spacings along east-west traverses. - Sample traverses were 400m apart (north-south) - No sample compositing was applied.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Not relevant to soil sampling results.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Not relevant to soil sampling results.
Sample security	The measures taken to ensure sample security.	Chain of custody is being maintained from sample site to lab
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No reviews of data management systems have been carried out and are not warranted at this early stage.

Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The tenements referred to in this report, E09/1637-I, and E09/1781-I are both 100% Athena owned and operated within native title determined claim WAD 6033/98, made on behalf of the Wajarri Yamatji People.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	- The tenement is in good standing and no known impediments exist. - See tenement listing attached.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Historic exploration within the greater project area largely confined to south of a line extending from Imagi Well to the Byro East intrusion (Melun Bore). The earliest work with any bearing on Athena's activities is that of Electrolic Zinc Co (1969) exploring for chromatite at Imagi Well, followed closely by Jododex Australia (1970-1974) at Byro East. Much of the exploration of a more regional nature is of limited use either because of the vagaries of the accuracy of positional information and the limited range of elements analysed. More recent surveys pertinent to Athena's current investigations include that of Redback Mining (1996-2002), Yilgarn Mining Limited (2003-2008) and Mithril (2007, JV with Yilgarn) at Byro East, and Western Mining Corporation (1976-1979) and Precious Metals Australia at Imagi Well.
Geology	Deposit type, geological setting and style of mineralisation.	Upper amphibolite to granulite metamorphic facies with mafic to ultramafic intrusive. Granite and migmatite are common

Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Drill hole Information	- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length.	No drilling was undertaken.
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	No drilling was undertaken.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	REE elements were converted to oxide values using standard oxide conversion factor tables.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	No drilling was undertaken.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Not applicable
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	Not applicable
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported	Not applicable.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’).	Not applicable

Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	See maps and tables within the body of this report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	The reporting of soil sample results is considered to be representative.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	All meaningful data and relevant information are contained within this report.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work is on-going and will include field verification of anomalies, further detailed mapping of areas of interest, infill soil sampling, and possibly drilling.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	- Planned drilling information is not complete. - Maps within this report show the main anomalies and areas of interest.