## ASX Announcement

## LKI: Another Compelling Carbonatite Target

High tenor REE surface geochemistry anomalies associated with newly identified carbonatite pipe targets at the large LKl prospect.

## Highlights

- Several large Rare Earth Elements (REE) anomalies defined at LK1 from surface geochemistry survey, with peak LREO (Light Rare Earth Oxides) value of $0.21 \%$.
- Anomalies coincide with the new carbonatite pipe targets delineated from the recently completed ground gravity survey and airborne magnetics.
- Prospectivity of new carbonatite pipe targets also confirmed from highly anomalous rock chip assays, which included $0.12 \%$ and $0.10 \%$ TREO (Total Rare Earth Oxides).
- LKI whilst being largely undercover shares many similarities with the Company's exciting large high grade carbonatite discovery at Mick Well, which is located 30km east of LK1.
- Planning underway for maiden drilling at LK1 at the commencement of the 2024 field season as part of a broader drilling program which includes Mick Well.

Kingfisher Mining Limited (ASX:KFM) ("Kingfisher" or the "Company") is pleased to announce the definition of exciting carbonatite targets at the large LKI REE target in the highly prospective Gascoyne Province.

Kingfisher's Executive Director and CEO James Farrell commented: "Our early-stage exploration at LKl is


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progressively revealing another area of extensive carbonatite targets; a very large and exciting target that is 30 km west of our well-defined high grade Mick Well Project and has all the right credentials to add a new area of discoveries to the Company's REE portfolio.

All of our experience with on-going discoveries at Mick Well has been put into action at LK1. As we successfully applied at Mick Well, we have used the geophysics to identify dense, magnetic pipe-like features which appear very-much like carbonatite intrusion centres. We have also completed a soil geochemistry survey to help us target below the thin surficial cover that is present across the LKI area. The soil geochemistry has revealed several REE anomalies, including a large anomaly with an outstanding peak value of $0.21 \%$ LREO that is coincident with one of our high-priority radiometric targets".

## LKI Carbonatite Pipe Targets

Four large carbonatite pipe targets have been identified at the large-scale LKl prospect. The carbonatite pipe targets were generated through three-dimensional modelling of the gravity and magnetics data, with areas with more dense and more magnetic rocks identified from the geophysics (Figure 2).


Figure 2: LKI surface REE geochemistry and carbonatite pipe targets. The REE geochemistry has been calculated from a suite consisting of $\mathrm{CeO}_{2}, \mathrm{La}_{2} \mathrm{O}_{3}, \mathrm{Nd}_{2} \mathrm{O}_{3}$ and $\mathrm{Pr}_{6} \mathrm{O}_{11}$. The carbonatite pipe targets were derived from three-dimensional modelling of the combined magnetics and gravity geophysics data. Anomalous rock chip results associated with the southwestern carbonatite pipe target as well as the peak soil geochemistry value of $0.21 \%$ LREO are also shown.

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The geophysics modelling method is also the same that was applied by the Company to identify the carbonatite pipe targets at the Mick Well project (see ASX:KFM 23 October 2023), where discovery of highgrade REEs is continuing (see ASX:KFM 23 November 2023).

The two larger pipe targets are both more than $1,000 \mathrm{~m}$ in diameter, extending from the near surface to depths of more than $1,000 \mathrm{~m}$ below the ground surface. Surface mapping around the targets has confirmed the presence of ironstones, which have returned anomalous rock chip results of $0.12 \%$ and $0.10 \%$ TREO. The mapping, geophysics and geochemistry also indicate there are other rock types under cover which are yet to be fully identified.

## LK1 Soil Geochemistry Survey

The results from soil geochemistry survey have highlighted several areas with highly anomalous REEs, including a large area with a diameter which extends for more than 2 km . The anomalies are based on an LREO suite consisting of $\mathrm{CeO}_{2}, \mathrm{La}_{2} \mathrm{O}_{3}, \mathrm{Nd}_{2} \mathrm{O}_{3}$ and $\mathrm{Pr}_{6} \mathrm{O}_{11}$. The high magnitude surface geochemistry results which include a peak value of $0.21 \%$ TREO are spatially associated with the carbonatite pipe targets identified from the LKl geophysical surveys (Figure 2). The broad soil anomaly in the northeast of the target area is also coincident with a circular radiometric feature, a highly significant occurrence and one of the key features recognised during the early-stage target identification at Lkl (Figure 3).


Figure 3: Total magnetic intensity ( $A$ ) and thorium responses coincident with anomalous REE soil geochemistry (B). Anomalous rock chips (blue boxes) and historical drill hole locations (grey boxes) described in Table 1 are also shown.

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Table 1: Previous historical drilling results from the LKI target area by Rio Tinto and Barranco (see ASX:KFM 3 April 2023).

| Rio Tinto Drill Hole | Pathfinder elements: highest from $\mathbf{2 m}$ samples ${ }^{1}$ |
| :---: | :---: |
| ARCOIAROI | 340 ppm Ce, 195 ppm La, 1100 ppm Ba and 1150 ppm P |
| ARCOIARO2 | 280 ppm Ce, 165 ppm La, 125 ppm Y, 2600 ppm Ba and 3100 ppm P |
| ARCOIARO3 | 8900 ppm P |
| ARCOIAR04 | 1250 ppm Ba and 1400 ppm P |
| Barranco Drill Hole | Geology and elevated metals ${ }^{2}$ |
| RCl | Ironstone with 7 m at $0.25 \% \mathrm{Zn}$ from 20 m |
| RC5 | Ironstone with 25 m at $0.29 \% \mathrm{Zn}$ from surface |
| RC8 | Ironstone with 5 m at $0.17 \% \mathrm{Zn}$ from 20 m |
| RC18 | Ironstone with 30 m at $0.13 \% \mathrm{Zn}$ from 10 m |
| RC24 | Ironstone with 22 m at $0.29 \% \mathrm{Zn}$ from lm |

${ }^{1}$ Pathfinder elements in the reporting range are associated with REE mineralisation at MW2.
${ }^{2}$ Zinc is associated with the REE mineralisation at MW2. Drill holes not analysed for REEs.

## The Carbonatite Exploration Model

The carbonatite intrusion model has a central carbonatite pipe which is comprised of multiple phases of carbonatite intrusion that is surrounded by ring dykes which form around and radial dykes which radiate out from the central intrusion (Figure 4). The carbonatite exploration model envisages alteration of the host country rock into which the carbonatites intrude, with development of sodic ( Na ) and potassic ( K ) fenites around the intrusions which often hosts the REE mineralisation (Figure 5).


Figure 4: 3D schematic of a carbonatite intrusion+

Each part of the carbonatite system has characteristics which can be detected by modern exploration techniques, for example:

- Thorium associated with the REE mineralisation is apparent in the radiometrics.
- Potassium fenites, the alteration which forms around carbonatites intrusions, is also apparent in the radiometrics.
- Ferrocarbonatites have high iron content and can appear as magnetic highs in the geophysics.
- Carbonatites typically have high density and can be distinguished from the country rocks by gravity surveys.
- ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) remote sensing can detect various minerals and elements, including carbonates, ferrous and ferric iron as well as alumina and magnesium and can assist with of carbonatites and associated alteration.

The combination of these geophysical responses to the carbonatite geology provide a very powerful combination of exploration tools for early stage targeting and project generation.

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Figure 5: LKl carbonatite pipe targets and the carbonatite associated rare earth element mineralisation model*. The model shows carbonatite intrusions and dykes, areas of potassic fenitisation as well as the late stage REE-bearing dykes and veins.

## Gascoyne Exploration Program

Kingfisher is undertaking high impact and value building exploration programs targeting large-scale carbonatite targets along its 54 km Chalba target corridor and its 30 km long Lockier target corridor. The program will test high priority carbonatite targets across the Company's belt-scale tenement holding, building upon the significant carbonatite discoveries, which confirmed the presence of high grade REE mineralisation along the Chalba target corridor. In addition, the Company is undertaking exploration for lithium associated with various pegmatite outcrops within its tenements at Chalby Chalby.

The exploration work planned for the 2023 field season will include:

- Significant on-ground mapping and sampling targeting interpreted "Mt Weld style" carbonatite plugs as well as dyke mineralisation and alteration which can be used to vector towards the large-scale source of intrusions. The results will be used for drill planning of the high priority targets.
- RC drilling to test carbonatite targets at Mick Well, Kingfisher and Arthur River.
- Ground-based gravity at LKl and Mick Well. The gravity survey will be used to model higher density rocks (potential mineralised carbonatites) at depth.
- Surface geochemical survey over the large-scale high priority LKl target at Arthur River, where mapping is restricted by deep weathering associated with the highly altered rocks and cover.


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- Surface geochemistry at Chalby Chalby to define additional lithium-bearing pegmatite drill targets.
- Further airborne geophysics to incorporate Mooloo and North Chalba Projects to our early-stage target generation. Magnetics and radiometrics are highly effective for identifying carbonatite mineralisation.

The timeline for the planned and completed activities for 2023 for Kingfisher's projects are shown below.


* RC drilling to commence in early 2024 to allow time for access and heritage approvals for newly identified targets at Mick Well and LK1.


## Upcoming News

- December 2023: Further results from ongoing mapping and rock chip sampling of the high grade REE system at Mick Well.


## About the Kingfisher's Gascoyne Projects

Kingfisher's Mick Well REE Project and Chalby Chalby Lithium Project are located in the Gascoyne region of Western Australia where the Company holds exploration licences covering $969 \mathrm{~km}^{2}$. The tenure is prospective for carbonatite REE mineralisation similar to Hastings Technology Metals' world-class Yangibana Deposit which includes 29.93Mt at 0.93\% TREO\# as well as the recent Yin and C3 discoveries of Dreadnought Resources which include mineral resources of 40.82 Mt at $1.03 \%$ TREO^ (Figure 6). The Company's Gascoyne tenure is also prospective for lithium-bearing Thirty Three Suite Pegmatites which hosts Delta Lithium's Yinnetharra Project and has returned drill results of 33m at $1.9 \% \mathrm{Li}_{2} \mathrm{O}^{*}$ from Delta's Malinda Prospect and rock chips results of $4.2 \% \mathrm{Li}_{2} \mathrm{O}^{+}$from Delta's Jamesons Prospect.

Kingfisher recently made discoveries of hard rock and clay rare earth elements mineralisation at Mick Well. Both styles of mineralisation are associated with carbonatites that intruded along a crustal-scale structural corridor, the Chalba Shear, which extends over a strike length of 54 km within the Company's

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tenure. The Company has also identified a second structural corridor along the Lockier Shear which extends for 18 km across the Company's Mooloo Project and 12 km across the Arthur River Project.

Drilling at the MW2 Prospect has intersected five parallel ferrocarbonatite lodes and associated monazite mineralisation within a 300 m wide zone and has returned high-grade REE results with 5 m at $2.63 \%$ TREO with $0.54 \% \mathrm{Nd}_{2} \mathrm{O}_{3}+\mathrm{Pr}_{6} \mathrm{O}_{11}, 4 \mathrm{~m}$ at $3.24 \%$ TREO with $0.54 \% \mathrm{Nd}_{2} \mathrm{O}_{3}+\mathrm{Pr}_{6} \mathrm{O}_{11}, 5 \mathrm{~m}$ at $1.54 \%$ TREO with $0.30 \% \mathrm{Nd}_{2} \mathrm{O}_{3}+$ $\mathrm{Pr}_{6} \mathrm{O}_{11}, 4 \mathrm{~m}$ at $1.90 \%$ TREO with $0.34 \% \mathrm{Nd}_{2} \mathrm{O}_{3}+\mathrm{Pr}_{6} \mathrm{O}_{11}$ and 3 m at $2.52 \%$ TREO with $0.41 \% \mathrm{Nd}_{2} \mathrm{O}_{3}+\mathrm{Pr}_{6} \mathrm{O}_{11}$. The results from the ferrocarbonatite mineralisation is 500 m northwest of Kingfisher's breakthrough REE discovery where maiden drilling returned 5 m at $3.45 \%$ TREO with $0.65 \% \mathrm{Nd}_{2} \mathrm{O}_{3}+\mathrm{Pr}_{6} \mathrm{O}_{11}$ as well as 12 m at $1.12 \%$ TREO with $0.21 \% \mathrm{Nd}_{2} \mathrm{O}_{3}+\mathrm{Pr}_{6} \mathrm{O}_{11}$ from a separate mineralised lode.

Kingfisher is also advancing its Chalby Chalby Lithium Project with mapping and sampling at Chalby Chalby delineating an area of 3.3 km by 3 km that includes multiple stacked pegmatites with a cumulative strike length of over 13 km and with surface sample results up to $0.61 \% \mathrm{Li}_{2} \mathrm{O}$.


Figure 6: Location of the Mick Well Project in the Gascoyne Mineral Field showing the extents of the Durlacher Suite and Halfway Gneiss. The location of the Yangibana Deposit and Yin and Lyons Projects 100km north of Kingfisher's projects are also shown.

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This announcement has been authorised by the Board of Directors of the Company.

## Ends

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## About Kingfisher Mining Limited

Kingfisher Mining Limited (ASX:KFM) is a mineral exploration company committed to increasing value for shareholders through the acquisition, exploration and development of mineral resource projects throughout Western Australia. The Company's tenements and tenement applications cover $1,676 \mathrm{~km}^{2}$ in the underexplored Gascoyne Mineral Fields.

The Company has made a number of breakthrough high grade rare earth elements discoveries in the Gascoyne region where it holds a target strike lengths of more than 54 km along the Chalba mineralised corridor and more than 30 km along the Lockier mineralised corridor.

To learn more please visit: www.kingfishermining.com.au

## Previous ASX Announcements

ASX:KFM: High Grade Discoveries Further Expand REE Carbonatites at Mick Well 23 November 2023.
ASX:KFM: Significant Additional Carbonatites and REE Mineralisation Identified at Mick Well 14 November 2023.
ASX:KFM: Broad Lithium Anomalies Identified from Chalby Chalby Soil Geochemistry Survey 26 October 2023.
ASX:KFM: Gravity Survey Confirms Carbonatite Pipe Targets at Mick Well 23 October 2023.
ASX:KFM: Further High Grade REE Mineralisation Discovered at Mick Well 3 October 2023.
ASX:KFM: Multiple Stacked Lithium-Bearing Pegmatites Mapped at Chalby Chalby 11 September 2023.
ASX:KFM: Lithium-Bearing Pegmatites Confirmed at Highly Prospective Gascoyne Tenure 7 August 2023.
ASX:KFM: Carbonatite Intrusions Confirmed at Large-Scale Chalba Targets 10 July 2023.
ASX:KFM: Significant Exploration Program Targets Large-Scale Carbonatites 4 April 2023.
ASX:KFM: High Grade Drilling Results Confirm New MW2 REE Discovery 7 February 2023.
ASX:KFM: MW2 and MW7 Continue to Expand on Latest Surface Sample Results 23 January 2023.
ASX:KFM: Assays from MW7 Confirm Another High Grade REE Discovery 29 November 2022.
ASX:KFM: New REE Discoveries along Kingfisher's 54km Target Corridor - MW7 and MW8 24 October 2022.
ASX:KFM: Further Exceptional REE Results Extends MW2 Strike Length to 3km 4 October 2022.
ASX:KFM: 40\% REE Returned from Mick Well 30 August 2022.
ASX:KFM: Latest Drilling Returns High Grade REEs with 5m at 3.45\% TREO, including 3m at 5.21\% TREO 5 July 2022.

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ASX:KFM: Surface Assays up to 21\% TREO Define a Further 800m of Outcropping Mineralisation 20 June 2022.
ASX:KFM: High Grade Rare Earths Returned from Discovery Drill Hole: 4 m at $1.84 \%$ TREO, including 1 m at $3.87 \%$ TREO 24 March 2022.

ASX:KFM: Significant Rare Earths Discovery: 12m at 1.12\% TREO 10 January 2022.
${ }^{\wedge}$ ASX Announcement ‘Large, High Confidence Yin Ironstone Resource - Mangaroon (100\%)'. Dreadnought Resources Limited (ASX:DRE), 30 November 2023.
\# ASX Announcement 'Drilling along 8km long Bald Hill - Fraser's trend Increases Indicated Mineral Resources by 50\%'. Hastings Technology Metals Limited (ASX:HAS), ll October 2022.

* ASX Announcement ‘Stunning new drilling results from Yinnetharra'. Delta Lithium Limited (ASX:DLI), 23 June 2023.
${ }^{+}$ASX Announcement ‘Yinnetharra Lithium Project Continues to Deliver'. Red Dirt Metals Limited (ASX:RDT), 14 April 2023.


## Technical Exploration Papers

+ Simandl, G.J. and Paradis, S. 2018. Carbonatites: related ore deposits, resources, footprint, and exploration methods, Applied Earth Science, 127:4, 123-152
*Elliott, H.A.L., Wall, F., Chakhmouradian, A.R., P.R.Siegfried, Dahlgrend, S., Weatherley, S., Finch, A.A., Marks, M.A.W., Dowman, E. and Deady, F. 2018. Fenites associated with carbonatite complexes: A review. Ore Geology Reviews, Volume 93, February 2018, Pages 38-59.


## 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 ).

## Forward-Looking Statements

This announcement may contain forward-looking statements which involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.

## Competent Persons Statements

The information in this report that relates to Exploration Results is based on information compiled by Mr James Farrell, a geologist and Executive Director / CEO employed by Kingfisher Mining Limited. Mr Farrell is a Member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to this style of mineralisation and type of deposit under consideration and to the activity that is being reported on to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Farrell consents to the inclusion in the report of the matters in the form and context in which it appears.

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## Annexure 1: Rock Chip Sample Information

| Sample ID | Easting | Northing | $\mathrm{CeO}_{2}$ | Dy $\mathbf{2} \mathrm{O}_{3}$ | $\mathrm{Er}_{2} \mathrm{O}_{3}$ | $\mathrm{Eu}_{2} \mathrm{O}_{3}$ | $\mathbf{G d}_{2} \mathbf{O}_{3}$ | $\mathrm{Ho}_{2} \mathrm{O}_{3}$ | $\mathrm{La}_{2} \mathrm{O}_{3}$ | $\mathrm{Lu}_{2} \mathrm{O}_{3}$ | $\mathrm{Nd}_{2} \mathrm{O}_{3}$ | $\mathrm{Pr}_{6} \mathrm{O}_{11}$ | $\mathbf{S m}_{2} \mathrm{O}_{3}$ | $\mathrm{Tb}_{2} \mathrm{O}_{3}$ | Tm ${ }_{2} \mathrm{O}_{3}$ | $\mathrm{Y}_{2} \mathrm{O}_{3}$ | $\mathrm{Yb}_{2} \mathrm{O}_{\mathbf{3}}$ | TREO |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MWGS2382 | 369558 | 7247246 | 446 | 34.4 | 15.8 | 10.1 | 38.4 | 5.8 | 194 | 1.71 | 184 | 53 | 43 | 6.45 | 2.17 | 182 | 13.21 | 1229 |
| MWGS2666 | 369805 | 7246667 | 223 | 33.5 | 20.4 | 8.2 | 38.5 | 6.8 | 201 | 2.50 | 152 | 42 | 33 | 5.41 | 2.74 | 253 | 16.28 | 1038 |

Rock chips reported above a 1000ppm ( $0.1 \%$ ) TREO cut-off grade. All sample information is parts per million (ppm).

## Annexure 2: Soil Sample Information

| Sample ID | Easting | Northing | $\mathrm{CeO}_{2}$ | $\mathbf{L a}_{2} \mathrm{O}_{3}$ | $\mathrm{Nd}_{2} \mathrm{O}_{3}$ | $\mathrm{Pr}_{6} \mathrm{O}_{11}$ | LREO | Sample ID | Easting | Northing | $\mathrm{CeO}_{2}$ | $\mathbf{L a}_{2} \mathrm{O}_{3}$ | $\mathrm{Nd}_{2} \mathrm{O}_{3}$ | $\mathrm{Pr}_{6} \mathrm{O}_{\mathbf{1 1}}$ | LREO |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ARSS0001 | 367800 | 7246701 | 172 | 86 | 70 | 20 | 348 | ARSS0182 | 370008 | 7249303 | 126 | 80 | 68 | 19 | 293 |
| ARSS0022 | 368402 | 7247692 | 151 | 69 | 57 | 16 | 293 | ARSS0183 | 370005 | 7249098 | 162 | 77 | 63 | 18 | 320 |
| ARSS0025 | 368409 | 7247097 | 484 | 215 | 152 | 47 | 898 | ARSSO204 | 370194 | 7248102 | 217 | 96 | 78 | 23 | 414 |
| ARSS0027 | 368406 | 7246695 | 100 | 92 | 83 | 22 | 297 | ARSSO211 | 370190 | 7249496 | 175 | 147 | 121 | 34 | 478 |
| ARSS0038 | 367998 | 7247693 | 368 | 179 | 146 | 45 | 739 | ARSSO212 | 370193 | 7249696 | 148 | 71 | 61 | 17 | 297 |
| ARSS0044 | 368595 | 7247492 | 145 | 98 | 41 | 13 | 298 | ARSS0218 | 370394 | 7250708 | 203 | 122 | 109 | 33 | 466 |
| ARSS0049 | 368840 | 7246332 | 186 | 97 | 70 | 20 | 373 | ARSSO224 | 370417 | 7249526 | 501 | 222 | 232 | 65 | 1020 |
| ARSS0063 | 368600 | 7248496 | 225 | 104 | 82 | 24 | 434 | ARSS0225 | 370410 | 7249306 | 416 | 67 | 66 | 19 | 567 |
| ARSS0069 | 368996 | 7247896 | 107 | 87 | 78 | 22 | 294 | ARSSO238 | 370409 | 7246709 | 151 | 65 | 54 | 15 | 286 |
| ARSS0076 | 369210 | 7248510 | 153 | 74 | 55 | 16 | 298 | ARSS0252 | 370590 | 7249301 | 184 | 88 | 73 | 21 | 367 |
| ARSS0077 | 369203 | 7248306 | 179 | 98 | 64 | 20 | 361 | ARSS0257 | 370591 | 7250300 | 165 | 78 | 72 | 19 | 334 |
| ARSS0082 | 369208 | 7247310 | 221 | 74 | 79 | 21 | 394 | ARSS0260 | 370797 | 7250897 | 312 | 47 | 43 | 12 | 413 |
| ARSS0092 | 368994 | 7247110 | 165 | 66 | 56 | 16 | 303 | ARSSO261 | 370809 | 7250698 | 156 | 85 | 71 | 20 | 333 |
| ARSSOIOI | 369391 | 7247103 | 316 | 136 | 125 | 34 | 611 | ARSS0263 | 370810 | 7250296 | 278 | 124 | 123 | 36 | 561 |
| ARSSO104 | 369405 | 7247702 | 204 | 95 | 83 | 23 | 404 | ARSS0267 | 370804 | 7249502 | 192 | 89 | 67 | 21 | 369 |
| ARSS0105 | 369392 | 7247895 | 194 | 95 | 71 | 21 | 382 | ARSS0272 | 370990 | 7249497 | 303 | 121 | 108 | 31 | 563 |
| ARSS0108 | 369397 | 7248501 | 417 | 182 | 163 | 47 | 809 | ARSS0274 | 370992 | 7249895 | 250 | 144 | 105 | 31 | 529 |
| ARSSO109 | 369387 | 7248717 | 208 | 99 | 79 | 23 | 407 | ARSS0278 | 370993 | 725071 | 345 | 174 | 143 | 42 | 704 |
| ARSSO114 | 369601 | 7248305 | 216 | 131 | 47 | 19 | 413 | ARSS0279 | 370996 | 7250906 | 149 | 78 | 59 | 17 | 302 |
| ARSSO120 | 369604 | 7247090 | 198 | 95 | 75 | 22 | 390 | ARSSO281 | 371194 | 7250691 | 227 | 32 | 33 | 9 | 301 |
| ARSSO122 | 369597 | 7246700 | 298 | 141 | 139 | 36 | 614 | ARSS0297 | 370806 | 7248107 | 267 | 141 | 89 | 27 | 524 |
| ARSSO123 | 369601 | 7246494 | 155 | 83 | 70 | 19 | 327 | ARSSO299 | 370810 | 7247703 | 153 | 70 | 59 | 16 | 298 |
| ARSSO124 | 369798 | 7246492 | 172 | 69 | 86 | 22 | 349 | ARSSO306 | 370990 | 7247695 | 290 | 179 | 87 | 28 | 584 |
| ARSSO125 | 369596 | 7246296 | 177 | 91 | 69 | 20 | 356 | ARSS0312 | 371391 | 7248492 | 391 | 91 | 85 | 24 | 591 |
| ARSSO129 | 369798 | 7246699 | 192 | 79 | 89 | 24 | 383 | ARSSO313 | 371390 | 7248690 | 508 | 98 | 98 | 27 | 730 |
| ARSSO134 | 369790 | 7247697 | 147 | 138 | 45 | 15 | 345 | ARSSO320 | 371402 | 7250900 | 144 | 85 | 62 | 17 | 308 |
| ARSS0135 | 369796 | 7247895 | 155 | 66 | 69 | 19 | 309 | ARSSO321 | 371601 | 7250905 | 156 | 78 | 61 | 18 | 314 |
| ARSS0142 | 369793 | 7249299 | 931 | 453 | 343 | 102 | 1828 | ARSSO324 | 371609 | 7250301 | 142 | 70 | 66 | 19 | 298 |
| ARSS0148 | 369795 | 7250510 | 328 | 272 | 198 | 54 | 852 | ARSSO325 | 371603 | 7250107 | 244 | 92 | 97 | 27 | 460 |
| ARSSO149 | 369796 | 7250705 | 155 | 65 | 58 | 16 | 294 | ARSSO326 | 371606 | 7249909 | 195 | 146 | 165 | 41 | 547 |
| ARSSO150 | 369794 | 7250908 | 173 | 85 | 72 | 20 | 349 | ARSS0327 | 371598 | 7249703 | 149 | 75 | 72 | 19 | 314 |
| ARSS0156 | 369608 | 7249902 | 780 | 185 | 165 | 46 | 1176 | ARSS0333 | 371397 | 7249897 | 364 | 184 | 211 | 56 | 815 |
| ARSS0157 | 369605 | 7249709 | 303 | 168 | 105 | 32 | 608 | ARSSO334 | 371609 | 7249100 | 300 | 142 | 124 | 35 | 600 |
| ARSS0163 | 369390 | 7250703 | 188 | 107 | 101 | 24 | 420 | ARSS0357 | 371790 | 7249500 | 169 | 76 | 67 | 19 | 332 |
| ARSSO164 | 369391 | 7250906 | 148 | 78 | 66 | 18 | 310 | ARSS0360 | 371793 | 7250100 | 130 | 98 | 75 | 22 | 326 |
| ARSS0167 | 369199 | 7250497 | 180 | 84 | 76 | 21 | 360 | ARSS0361 | 371798 | 7250307 | 147 | 61 | 57 | 16 | 281 |
| ARSSOI70 | 369204 | 7249902 | 401 | 238 | 218 | 62 | 918 | ARSS0366 | 372003 | 7250706 | 157 | 66 | 55 | 16 | 295 |


| Sample ID | Easting | Northing | $\mathrm{CeO}_{2}$ | $\mathrm{La}_{2} \mathrm{O}_{3}$ | $\mathrm{Nd}_{2} \mathrm{O}_{3}$ | PriOn | LREO | Sample ID | Easting | Northing | $\mathrm{CeO}_{2}$ | $\mathrm{La}_{2} \mathrm{O}_{3}$ | $\mathrm{Nd}_{2} \mathrm{O}_{3}$ | PriOn | LREO |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ARSS0368 | 372004 | 7250295 | 180 | 57 | 51 | 14 | 302 | ARSSO425 | 372806 | 7250505 | 142 | 126 | 100 | 28 | 397 |
| ARSS0374 | 372013 | 7249115 | 206 | 87 | 80 | 22 | 394 | ARSSO427 | 372824 | 7250106 | 190 | 90 | 70 | 20 | 371 |
| ARSS0387 | 372194 | 7249305 | 207 | 96 | 97 | 25 | 425 | ARSS0428 | 372810 | 7249910 | 167 | 76 | 62 | 18 | 323 |
| ARSS0388 | 372197 | 7249502 | 165 | 70 | 58 | 17 | 309 | ARSS0432 | 372801 | 7249107 | 259 | 153 | 146 | 40 | 598 |
| ARSS0389 | 372190 | 7249699 | 234 | 103 | 91 | 26 | 453 | ARSS0434 | 372808 | 7248711 | 1157 | 438 | 388 | 113 | 2097 |
| ARSS0391 | 372198 | 7250100 | 236 | 120 | 114 | 32 | 502 | ARSS0437 | 372995 | 7248904 | 274 | 137 | 117 | 33 | 561 |
| ARSS0395 | 372196 | 7250892 | 156 | 79 | 62 | 18 | 315 | ARSS0439 | 373008 | 7249292 | 171 | 87 | 76 | 21 | 355 |
| ARSSO396 | 372401 | 7250700 | 181 | 94 | 72 | 20 | 367 | ARSS0440 | 372991 | 7249498 | 263 | 127 | 108 | 31 | 529 |
| ARSS0399 | 372402 | 7250095 | 282 | 127 | 112 | 32 | 552 | ARSS0442 | 373001 | 7249904 | 254 | 102 | 96 | 27 | 480 |
| ARSS0400 | 372410 | 7249896 | 245 | 110 | 100 | 29 | 484 | ARSS0445 | 373002 | 7250499 | 131 | 99 | 73 | 20 | 323 |
| ARSS0401 | 372402 | 7249698 | 170 | 79 | 66 | 19 | 333 | ARSS0447 | 372997 | 7250908 | 207 | 91 | 71 | 21 | 390 |
| ARSSO402 | 372404 | 7249508 | 301 | 265 | 251 | 70 | 887 | ARSS0448 | 373196 | 7250907 | 174 | 82 | 67 | 19 | 342 |
| ARSSO403 | 372395 | 7249308 | 304 | 167 | 128 | 37 | 636 | ARSS0452 | 373399 | 7250898 | 154 | 76 | 56 | 16 | 303 |
| ARSSO404 | 372401 | 7249110 | 147 | 99 | 81 | 22 | 348 | ARSS0454 | 373610 | 7250709 | 250 | 107 | 92 | 26 | 475 |
| ARSS0406 | 372408 | 7248706 | 270 | 137 | 124 | 36 | 566 | ARSSO455 | 373610 | 7250503 | 218 | 104 | 90 | 26 | 437 |
| ARSS0407 | 372397 | 7248506 | 159 | 70 | 72 | 20 | 321 | ARSS0460 | 373206 | 7249906 | 219 | 111 | 89 | 26 | 444 |
| ARSSO409 | 372590 | 7248504 | 274 | 56 | 53 | 15 | 398 | ARSS0461 | 373205 | 7249698 | 120 | 114 | 90 | 25 | 348 |
| ARSSO410 | 372590 | 7248702 | 165 | 79 | 67 | 19 | 330 | ARSS0465 | 373209 | 7248890 | 182 | 72 | 62 | 18 | 334 |
| ARSSO411 | 372590 | 7248901 | 178 | 106 | 95 | 25 | 404 | ARSS0466 | 373203 | 7248710 | 263 | 77 | 77 | 21 | 438 |
| ARSSO412 | 372597 | 7249102 | 427 | 184 | 143 | 41 | 794 | ARSS0469 | 373395 | 7249308 | 291 | 181 | 154 | 46 | 672 |
| ARSSO413 | 372610 | 7249294 | 186 | 181 | 180 | 44 | 591 | ARSS0470 | 373391 | 7249502 | 197 | 94 | 80 | 23 | 393 |
| ARSSO414 | 372590 | 7249496 | 168 | 87 | 78 | 21 | 355 | ARSS0471 | 373397 | 7249700 | 115 | 109 | 92 | 26 | 342 |
| ARSS0417 | 372592 | 7250098 | 141 | 74 | 65 | 18 | 298 | ARSS0472 | 373398 | 7249903 | 251 | 57 | 57 | 16 | 381 |
| ARSS0418 | 372594 | 7250298 | 154 | 83 | 67 | 19 | 323 | ARSS0473 | 373393 | 7250126 | 151 | 65 | 60 | 17 | 293 |
| ARSS0419 | 372590 | 7250501 | 267 | 11 | 84 | 24 | 486 | ARSS0476 | 373601 | 7249902 | 344 | 14 | 14 | 3 | 375 |
| ARSSO422 | 372399 | 7250896 | 266 | 46 | 45 | 13 | 369 | ARSS0479 | 373592 | 7249306 | 569 | 64 | 57 | 16 | 707 |

[^0]
## Criteria

Drilling

## techniques

## Drill sample

 recoveryLogging

## JORC Code explanation

- 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.
- Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.
- 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.
- 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).
- 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.
- 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.


## Commentary

- Rock chip samples were taken as individual rocks representing an outcrop to give an indication of possible grades and widths that can be expected from drilling. Individual rock samples can be biased towards higher grade mineralisation.
- Rock chip samples were typically between 1 and 2 kg . The entire sample received by the laboratory was crushed and pulverised to $85 \%$ passing 75 micron.
- A duplicate sample of between 0.1 and 0.2 kg was retained by the Company for some of the samples reported.
- Soil samples were collected on a nominal 200 m by 200 m grid, the entire sample retained for analysis.
- The soil samples were placed in prenumbered sample bags, and packed in sample boxes for transport to the laboratory.
- The LKl gravity survey was completed using a CG5 Autograv gravity meter. The station locations were recorded using a CHCi70+ GNSS survey system. The expected accuracy of the gravity survey is better than 0.02 mGal with station location accuracy being $+/-0.02 \mathrm{~m}$.
- The LKl gravity survey includes 1210 stations and covers an area of $39 \mathrm{~km}^{2}$. The survey was completed on a 200 m by 200 m grid, with infilling to 100 m by 100 m centres in high priority areas.
- No new drilling results are included in this report.
- No new drilling results are included in this report.
- Whether logging is qualitative or quantitative in nature. Core (or costean channel, etc) photography.
- The total length and percentage of the relevant intersections logged.

Sub-sampling
techniques and sample preparation

- If core, whether cut or sawn and whether quarter, half or all core taken.
- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.
- 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.
- Whether sample sizes are appropriate to the grain size of the material being sampled.


## Quality of

 assay data and laboratory testsVerification of sampling and assaying

## Location of

 data points- 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.
- 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.
- Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
- Specification of the grid system used.
- Quality and adequacy of topographic control.
- The entire sample received by the laboratory was crushed and pulverised to $85 \%$ passing 75 micron.
- Samples were analysed by Intertek Genalysis in Perth. The sample analysis uses a sodium peroxide fusion with an Inductively Coupled Plasma Mass Spectrometry and Inductively Coupled Plasma (ICP) Mass Spectrometry (MS) and Optical Emission Spectrometry (OES) finish.
- The quality of the gravity data was monitored during the survey by the contractor. Any stations that did not conform with the quoted specifications were repeated. A daily report which included the QC was provided to Kingfisher for monitoring.
- Independent checks or field duplicates were not conducted for rock chips and are not considered necessary for that type of sample.
- Rock chip and soil sample locations were surveyed using a handheld GPS using the UTM coordinate system, with an accuracy of $+/-5 m$.
- Gravity survey station locations were recorded using a CHCi70+ GNSS survey tool with accuracy of $+/-0.02 \mathrm{~m}$.


## Criteria

Data spacing
and
distribution

Orientation of
data in
relation to geological structure

Sample
security

## JORC Code explanation

- 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.
- Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.
- 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.
- The measures taken to ensure sample security.

Audits or reviews

- The results of any audits or reviews of sampling techniques and data


## Commentary

- No new drilling results are included in this report
- Rock chip samples are collected to represent the outcrop.
- The nature of the surface outcrops of mineralisation appears to be similar to the mineralisation intersected in drilling, where the interpreted orientation indicates a true width for the mineralised zone of between 3 m and 5 m .
- Samples were given individual samples numbers for tracking
- The sample chain of custody was overseen by the Company's geologists. Samples were transported to the laboratory in Perth sealed bulka bags.
- The digital gravity data is stored in a secure portal be the by the contractor. Access to the digital portal is provided to the Company and its consultants.
- The sampling techniques and analytical data are monitored by the Company's geologists.
- External audits of the data have not been completed.
- The gravity data was reviewed by external geophysical consultants Mira Geoscience to evaluate the validity of the data and model the results.


## Commentary

- The project area is located 80km northeast of the Gascoyne Junction and 230 km east of Carnarvon.
- The project includes 12 granted Exploration Licences, E09/2242, E09/2349, E09/2319, E09/2320, E09/2481, E09/2494, E09/2495, E09/2653, E09/2654, $E 09 / 2655, E 09 / 2660$ and E09/2661.
- The tenements are held by Kingfisher Mining Ltd.
- The tenements lie within Native Title Determined Areas of the Wajarri Yamatji People and Gnulli People.
- All the tenements are in good standing with no known impediments.

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## Investor Centre

## JORC Code explanation

- Acknowledgment and appraisal of exploration by other parties.

Geology

## Drill hole

Information

## Data aggregation

methods

- 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
- 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.
- 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.
- 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.
- The assumptions used for any reporting of metal equivalent values should be clearly stated.


## Commentary

- No previous systematic exploration for carbonatite-associated mineralisation had been previously completed.
- Exploration for base metals at Kingfisher undertaken was by Pasminco Ltd in 1994, Mt Phillips Exploration Pty Ltd in 2006 and WCP Resources in 2007.
- Exploration for base metals at Mick Well was completed by Helix Resources Ltd in 1994, WA Exploration Services Pty Ltd in 1996, Mt Phillips Exploration Pty Ltd in 2006 and WCP Resources in 2007.
- The Company's tenements in the Gascoyne Mineral Field are prospective for rare earth mineralisation associated with carbonatite intrusions and associated fenitic alteration.
- The geological models were generated from three-dimensional inversion models of the total magnetic intensity and gravity data using thresholds of 0.009 mgal and $0.02 \mathrm{~g} / \mathrm{cc}$.
- No new drilling results are included in this report.
- No new drilling results are included in this report and no data aggregation has been applied

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## Investor Centre

## Criteria

Relationship
between mineralisation widths and
intercept lengths

Diagrams

## Balanced <br> reporting

## Othe <br> substantive exploration data

## Further work

## JORC Code explanation

- These relationships are particularly important in the reporting of Exploration Results.
- If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported
- 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').
- 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.
- 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.
- 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.
- The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out 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.


## Commentary

- No new drilling results are included in this report
- True width is obscured by thin cover and appears to be similar to intervals intersected in drilling, 3 to 5 m .
- A map showing relevant data has been included in the report.
- All rock chip samples of REE mineralisation have been reported. The reported sample batches also included some samples collected as part of ongoing evaluation of the geology of the area.
- A mask was applied to soil survey data to remove samples of transported cover ( $\sim 5 \%$ of data) prior to use in modelling and interpretation. Masking of transported cover samples is considered to be standard practice for assessing surface geochemical anomalies.
- All of the relevant historical exploration data has been included in this report.
- All historical exploration information is available via WAMEX.
- On-going exploration in the area is a high priority for the Company.
- Exploration to include target-scale acquisition of geochemistry and geophysics data to define the extents of carbonatites, mapping and rock chip sampling as well as additional RC drilling.


[^0]:    LREO is calculated from $\mathrm{CeO}_{2}, \mathrm{La}_{2} \mathrm{O}_{3}, \mathrm{Nd}_{2} \mathrm{O}_{3}$ and $\mathrm{Pr}_{6} \mathrm{O}_{\text {II }}$. Soil samples reported above a 288ppm LREO cut-off grade. All sample information is parts per million (ppm).

