# ASX RELEASE

4 May 2023

CASPIN

# Ground Breaking Rare Earth Discovery, Mount Squires

## HIGHLIGHTS

- Recent-assaying of Duchess aircore holes identifies significant shallow Rare Earth Elements (REE)
  - **46m @ 0.71% TREO from 32m** (1,254ppm NdPr, 216ppm $Dy_2O_3$, 36ppm $Tb_2O_3$)
    Including 22m @ 1.25% TREO from 48m (MSAC0141)
  - **19m @ 0.41% TREO from surface** (809ppm NdPr, 101ppm $Dy_2O_3$, 18ppm $Tb_2O_3$)
    Including 4m @ 0.80% TREO from 8m (MSAC0224)
  - **7m @ 0.32% TREO from** surface (687ppm NdPr, 75ppm $Dy_2O_3$, 13ppm $Tb_2O_3$)
    Including 2m @ 0.57% TREO from 5m to EOH (MSAC0130)
  - **10m @ 0.14% TREO from 36m** (296ppm NdPr, 47ppm $Dy_2O_3$, 8ppm $Tb_2O_3$) (MSAC0139)
- Significant proportion of high value light (LREE) and heavy REE (HREE) in TREO
  - **NdPr:TREO averaging ~19%**
  - **HREE:TREO averaging~28%**
  - **$Dy_2O_3$:TREO averaging ~2.9%, with significant contribution of $Tb_2O_3$ (both HREE)**
  - **Potential credits from accessory base metals**
- Strongly REE-enriched rhyolite volcanic host rock with likely secondary enrichment through weathering and hydrothermal processes
- Only 37 samples from just 4 holes assayed to date, with additional assays pending
- Discovery highlights the potential to identify significant deposits of REE elsewhere in the project with REE focussed targeting; geological review underway
- Upcoming RC drill program to test extensions and obtain samples for metallurgical test work

Caspin Resources Limited **(ASX: CPN) ("Caspin" or "the Company")** is pleased to announce the discovery of significant Rare Earth Element (REE) mineralisation at the Company's wholly owned Mount Squires Project in Western Australia. To the Company's knowledge this is the first discovery of significant REE mineralisation in the West Musgrave Province although previous academic studies have highlighted the high REE background contents of the rhyolite volcanics in the Mount Squires region.

**Caspin's Chief Executive Officer, Mr Greg Miles, commented** *"This is a sensational discovery given the tiny scale of the assay program. The Company has long recognised the conceptual potential for rare earth mineralisation at the Mount Squires Project, but given the more obvious prospectivity for nickel, copper and gold this potential had not been investigated until now. We've now made a significant rare earth discovery, of a relatively unique style in Australia, in a province with no previous systematic exploration for rare earths.*

*"An important aspect of these results is that it highlights the potential for rare earth mineralisation throughout the project. We are barely past the start line on assessing this opportunity. The result from MSAC0141 is exceptional and may already represent a discovery hole in a new rare earth oxide deposit, but there are also potentially more targets beyond the Duchess Prospect.*

*"I commend our team for an exceptional piece of exploration geoscience and look forward to the upcoming drilling, further re-assaying, and the next success."*

**A Significant Rare Earth Discovery**

The Company drilled over 4,000m of aircore at the Duchess Prospect in 2022, testing a large, discrete Mo-Cu-Au soil geochemical anomaly. The program identified gold mineralisation hosted by quartz veins at Duchess West and highly anomalous molybdenum mineralisation, with lesser copper and lead, at what became known as the Duchess East Prospect. The Company routinely assays for lanthanum (La, a light REE or LREE) as part of our standard 45 element assay suite, which led to the recognition of some highly anomalous values in the Duchess East drilling. These La assays were used as a guide for a selected program of comprehensive REE re-assaying.

The results from the program of only 37 re-assays has demonstrated excellent potential for deposits of REE at the Mount Squires Project. Drill hole MSAC0141 is a standout intersection, returning 46m @ 7,102ppm TREO with a higher-grade zone of 22m @ 12,545ppm (or 1.25%) TREO. Drill holes also returned significant levels of scandium up to 53ppm, molybdenum up to 0.32%, lead up to 1.2% and zinc up to 838ppm (Tables 1 & 2, refer also to ASX release of 29 November 2022).

Of note is the high proportion of HREE to LREE, averaging approximately 28% across all intersections and locally up to 40%. Important HREEs are dysprosium (Dy) and terbium (Te) which are used in magnets alongside LREEs neodymium (Nd) and praseodymium (Pr). HREEs are less common in REE deposits worldwide and accordingly more valuable. Pricing in the rare earth oxide market is difficult to obtain due to the lack of a single, open market, but historically Nd and Pr are roughly price equivalent, Dy is about 4 to 5 times the price of Nd, and Tb about 4 to 5 times the price of Dy. Dysprosium has reportedly traded in a range of US$200-US$400/kg (equivalent to US$200,000/t - US$400,000/t) over the past 2 years, approximately 10 times the value of nickel at current prices on the London Metal Exchange (~US$24,000t).

This demonstrates the value of HREE, particularly Dy and Tb, to the combined REE basket.

**TABLE 1: SIGNIFICANT AIRCORE DRILL INTERCEPTS** (>500ppm TREO).

Note: See Table 3 for additional drill hole information.

| HOLE ID | EOH | From | Width | TREO % | $Nd_2O_3$ ppm | $Pr_6O_{11}$ ppm | NdPr % | $Dy_2O_3$ ppm | $Dy_2O_3$ % | $Tb_2O_3$ ppm | HREE % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MSAC0130** | 7 | 0 | 7 | 0.32 | 543 | 144 | 21.1 | 75 | 2.3 | 13 | 22.7 |
| | Incl | 5 | **2** | **0.57** | **993** | **263** | **21.8** | **138** | **2.4** | **24** | **25.4** |
| **MSAC0139** | 46 | 36 | 10 | 0.14 | 238 | 58 | 18.6 | 47 | 3.2 | 8 | 35.5 |
| | Incl | 44 | **1** | **0.78** | **1,463** | **352** | **23.3** | **278** | **3.6** | **49** | **35.3** |
| **MSAC0141** | 78 | 32 | 46 | 0.71 | 1,008 | 246 | 17.4 | 216 | 2.7 | 36 | 28.6 |
| | Incl | 48 | **22** | **1.25** | **1,647** | **393** | **16.4** | **382** | **3.0** | **62** | **32.0** |
| | Incl | 60 | 4 | 1.53 | 1,697 | 378 | 13.5 | 593 | 3.9 | 90 | 43.2 |
| **MSAC0224** | 19 | 0 | 19 | 0.41 | 651 | 158 | 18.1 | 101 | 2.4 | 18 | 24.8 |
| | Incl | 8 | **4** | **0.80** | **1,452** | **347** | **22.6** | **184** | **2.3** | **36** | **22.5** |

*Note: MSAC0139 not assayed between 0-36m. Additional significant assays are provided in Table 2.*

*NdPr %, $Dy_2O_3$ % and HREE % all refer to the ratio of these elements with respect to TREO.*

Mineralisation is hosted in saprolite, saprock and (relatively) fresh rhyolitic volcanic/volcanoclastic rocks. This highlights both a primary source of mineralisation (REE enriched rhyolites) and a secondary enrichment of REEs through weathering and/or hydrothermal alteration. Drill holes MSAC0130 and MSAC0224 are weakly weathered to fresh rhyolite, likely representing enriched primary source rocks, potentially with hydrothermal enrichment, whereas MSAC0139 and particularly MSAC0141 have much stronger weathering profiles indicating likely primary and secondary weathering enrichment (Figure 1).

*TREO = $La_2O_3 + Ce_2O_3 + Pr_2O_3 + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_2O_3 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Y_2O_3 + Lu_2O_3$*

*HREO = $Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Lu_2O_3 + Y_2O_3$.*

*NdPr = $Nd_2O_3 + Pr_6O_{11}$*

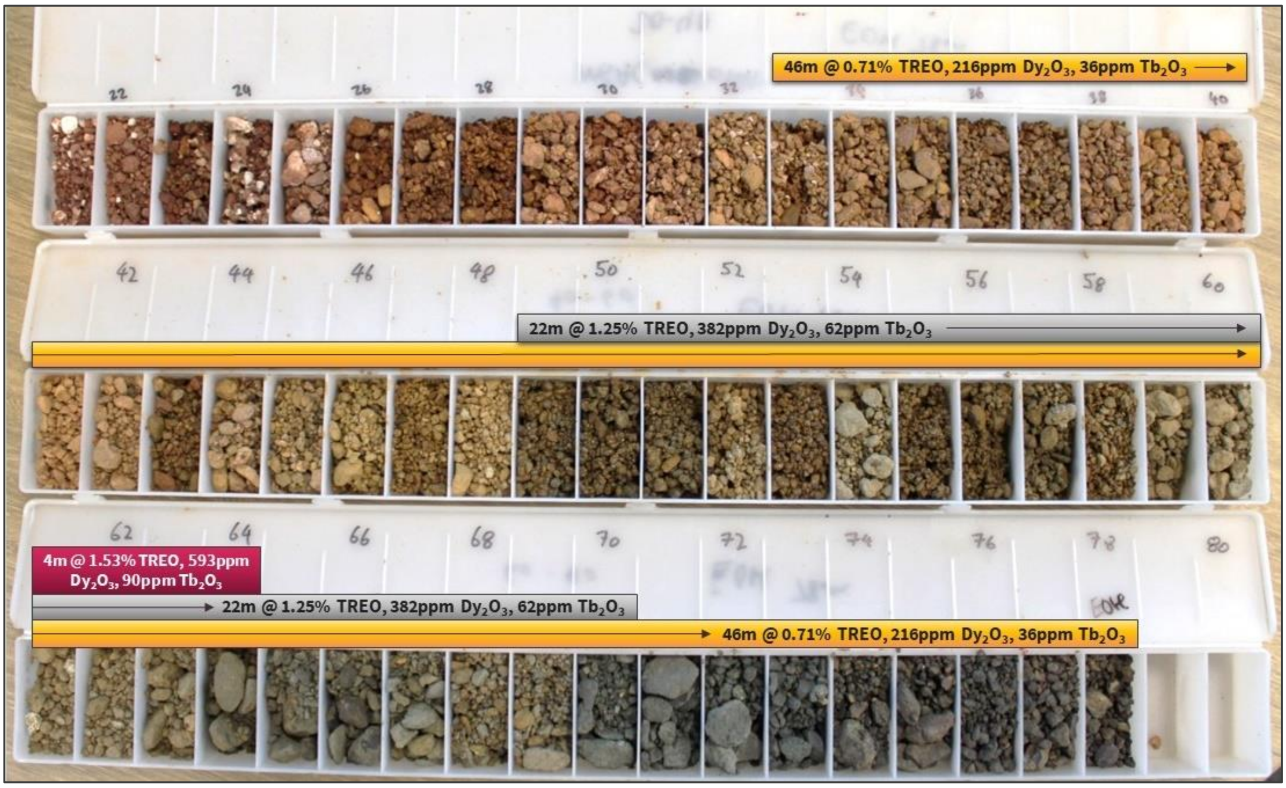


**Figure 1. Drill chips from MSAC0141 showing mineralisation occurring in saprolitic rhyolite, becoming fresh towards bottom of hole (and still mineralised).**

All holes that were re-assayed terminated in mineralisation of >1,000ppm TREO, with hole depth limited by the penetration capacity of the aircore rig. There is good potential for REE mineralisation to extend into fresh basement rocks.

### A Unique Style of Mineralisation Amongst the Australian Peer Group

These results are significant in an Australian context (and possibly in a global context – refer to Round Top Mountain rhyolite in Texas, USA; Pingitore et al., 2014). The REE potential of highly fractionated high-silica rhyolites has long been recognised (e.g. Jowitt et al., 2017), including those specifically within the West Musgrave (Medlin et al., 2015) but rarely have they been explored for. The Brockman deposit in the Kimberley is perhaps a similar geological analogue, albeit with a mineralisation style dominated by zirconium and lesser TREO (Jaireth et al. 2014).

Existing research focuses on the potential for low-grade bulk tonnage mineralisation within these systems. However, these results demonstrate that high-grade mineralisation in addition to low- moderate-grade bulk tonnage mineralisation is possible.

A characteristic of rhyolite-hosted mineralisation is that it can be enriched in both valuable light (Nd, Pr) and heavy (Dy, Tb) REE, through both primary and secondary processes. This contrasts with many Australian REE deposits, particularly those hosted by carbonatite-style mineralisation which are primarily enriched in LREE. This creates the potential for high value mineralisation, spread across the REE basket.

### Immediate Targets for Further Exploration at Duchess East

Mineralisation in MSAC0141 is open laterally in all directions (and possibly at depth in fresh rock) given the broad spacing of adjacent holes MSAC0140 and MSAC0142 of 375m and 200m respectively.

The deeper weathering profile and associated higher grade in MSAC0141 provides a clear targeting concept for further exploration. Deeper weathering is likely controlled by faults and can be mapped using the Company's magnetic imagery and early time channels from the airborne electromagnetic datasets. Using these datasets, the Company has identified potential sites of likely deeper weathering (probably developing into paleochannels), within the rhyolite and adjacent volcaniclastic units most likely controlled by complex faulting (Figure 2). The faults themselves may also be prospective for secondary hydrothermal REE enrichment in fresh rock.

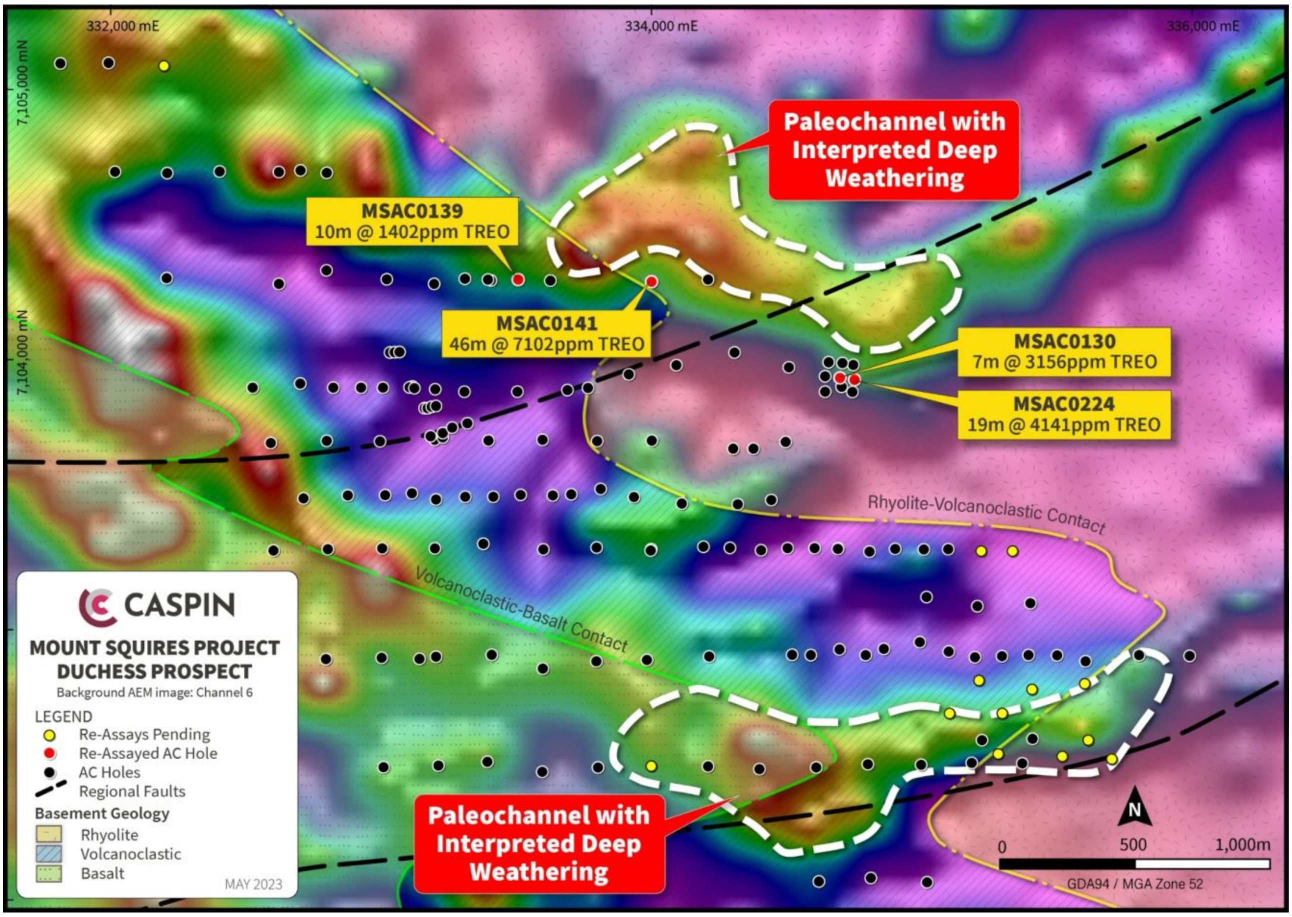


**Figure 2. Drill hole locations at Duchess East and potential sites of REE enrichment.**

An interpreted area of deep weathering has been identified immediately north of MSAC0141 and extending to the northeast of MSAC0130 and MSAC0224. This feature is possibly related to a fault that also controls gold mineralisation at Duchess West. There may also be faults or hydrothermal fluid flow along the contact between rhyolite and volcaniclastic units providing controls on REE enrichment.

A second site has also been identified approximately 2km to the southeast, also associated with northeast trending structures and the contact between rhyolite and volcaniclastic units. Another 80 samples have been identified with anomalous lanthanum values in this area (although not as significant as those in MSAC0141 and MSAC0130), and have subsequently re-submitted for full REE analysis. The results of this re-assaying are expected by the end of the month.

### Next Steps

The Company has recently commenced its field activities at Mount Squires which will include an RC rig mobilising to site in June (refer ASX announcement 1 May 2023). The drill program will now include step-out drilling around the site of MSAC0141 and deeper drilling beneath MSAC0130 and MSAC0224. This will test potential extensions of high-grade mineralisation as well as obtain sample for metallurgical testwork. The Company may also undertake petrography work to better understand REE deportment within the various weathering states of mineralisation.

The additional re-assaying in the southeast of Duchess may yet provide an additional drill target if results are positive.

Interpretation of these results is continuing with a particular focus on the REE potential throughout the Mount Squires Project. The Company will use its extensive soil geochemistry database, combined with magnetic and electromagnetic datasets to identify other potential targets for REE mineralisation.

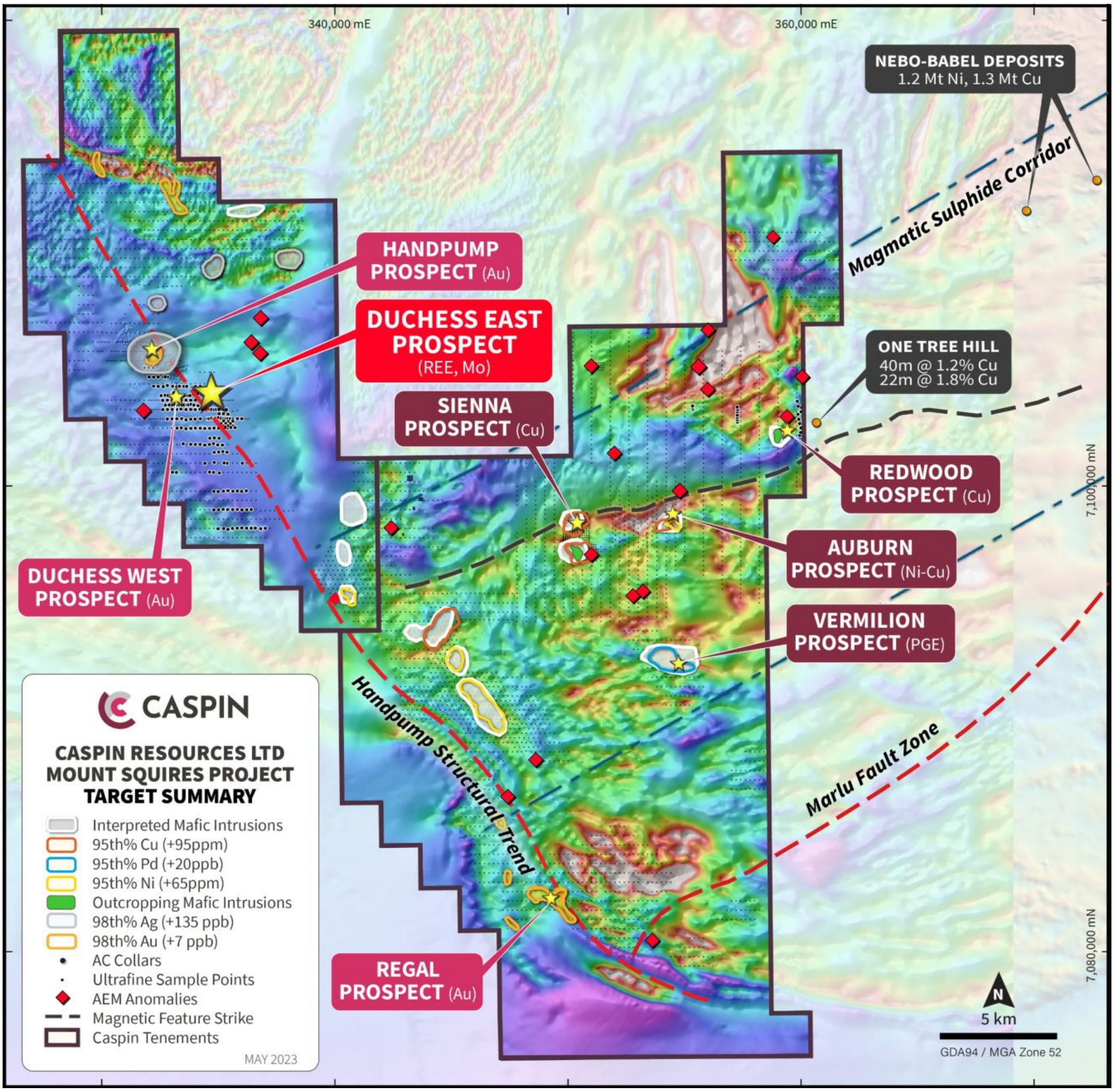


**Figure 3. Target summary of exploration targets across the Mount Squires Project, highlighting the new REE prospect at Duchess East.**

**TABLE 2: EXTENDED SIGNIFICANT AIRCORE DRILL INTERCEPTS** (>500ppm TREO).
Note: See Table 3 for additional drill hole information.

| HOLE ID | EOH | From | Width | TREO ppm | $Nd_2O_3$ ppm | $Pr_6O_{11}$ ppm | $Dy_2O_3$ ppm | $Tb_2O_3$ ppm | Sc ppm | Mo ppm | Pb ppm | Zn ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MSAC0130** | 7 | 0 | 7 | 3,156 | 543 | 144 | 75 | 13 | 14 | 902 | 2,931 | 300 |
| | Incl | 5 | **2** | **5,744** | **993** | **263** | **138** | **24** | 32 | **1,919** | **7,650** | **838** |
| **MSAC0139** | 46 | 36 | 10 | 1,402 | 238 | 58 | 47 | 8 | 18 | 3 | 129 | 81 |
| | Incl | 44 | **1** | **7,782** | **1,463** | **352** | **278** | **49** | 38 | 4 | 456 | 171 |
| **MSAC0141** | 78 | 32 | 46 | 7,102 | 1,008 | 246 | 216 | 36 | 46 | 6 | 201 | 353 |
| | Incl | 48 | **22** | **12,545** | **1,647** | **393** | **382** | **62** | 53 | 5 | 120 | 414 |
| | Incl | 60 | 4 | 15,361 | 1,697 | 378 | 593 | 90 | 44 | 5 | 36 | 354 |
| **MSAC0224** | 19 | 0 | 19 | 4,142 | 651 | 158 | 101 | 18 | 29 | 243 | 135 | 412 |
| | Incl | 8 | **4** | **7,956** | **1,452** | **347** | **184** | **36** | 30 | 429 | 171 | 366 |

**TABLE 3: AIRCORE DRILL HOLE INFORMATION**
Note: All drillholes are vertical (Azimuth: 0°, Dip: -90)

| HOLE ID | Easting GDA 94 Z52 | Northing GDA 94 Z52 | RL | EOH m |
|---|---|---|---|---|
| **MSAC0130** | 334698 | 7103934 | 501 | 7 |
| **MSAC0139** | 333508 | 7104298 | 491 | 46 |
| **MSAC0141** | 334001 | 7104290 | 494 | 78 |
| **MSAC0224** | 334752 | 7103927 | 502 | 19 |

This announcement is authorised for release by the Board of Caspin Resources Limited.

-ENDS-

For further details, please contact:

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## References

*Jaireth, S., Hoatson, D. M. and Miezitis, Y., 2014. Geological setting and resources of the major rare-earth-element deposits in Australia. Ore Geology Reviews, 62, pp 72-178.*

*Jowitt, S.M., Medlin, C.C. and Cas, R.A., 2017. The rare earth element (REE) mineralisation potential of highly fractionated rhyolites: A potential low-grade, bulk tonnage source of critical metals. Ore Geology Reviews, 86, pp.548-562.*

*Medlin, C.C., Jowitt, S.M., Cas, R.A.F., Smithies, R.H., Kirkland, C.L., Maas, R.A., Raveggi, M., Howard, H.M. and Wingate, M.T.D., 2015. Petrogenesis of the A-type, mesoproterozoic intra-caldera rheomorphic Kathleen Ignimbrite and Comagmatic Rowland suite intrusions, West Musgrave Province, Central Australia: Products of extreme fractional crystallization in a failed rift setting. Journal of Petrology, 56(3), pp.493-525.*

*Pingatore, N., Clague, J. and Gorski, D., 2014. Round Top Mountain rhyolite (Texas, USA), a massive, unique Y-bearing-fluorite hosted heavy rare earth element (HREE) deposit. Journal of Rare Earths, Vol 32, No 1, p 90.*

## Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled or reviewed by Mr Greg Miles, a Competent Person who is an employee of the company. Mr Miles is a Member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Miles consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the Exploration Results information included in this report from previous Company announcements, including Exploration Results extracted from the Company's Prospectus announced to the ASX on 23 November 2020 and the Company's subsequent ASX announcements of 28 June 2021, 3 August 2022, 29 September 2022, 15 November 2022, 29 November 2022, 14 December 2022 and 13 February 2023.

## ABOUT CASPIN

Caspin Resources Limited (ASX Code: **CPN)** is a new mineral exploration company based in Perth, Western Australia. Caspin has extensive skills and experience in early-stage exploration and development. The Company is actively exploring the Yarawindah Brook Project in Australia's exciting new PGE-Ni-Cu West Yilgarn province and the Mount Squires Project in the West Musgrave region, one of Australia's last mineral exploration frontiers.

At the Company's flagship Yarawindah Brook Project, recent drilling campaigns at Yarabrook Hill have made new discoveries of PGE, nickel and copper sulphide mineralisation. Meanwhile, the Company continues to bring new targets to drill readiness by collecting geophysical and geochemical data across the project.

At the Mount Squires Project, Caspin has identified a 40+km structural corridor with significant gold mineralisation as well as a 17km extension of the West Musgrave Ni-Cu corridor which hosts the One Tree Hill Prospect and Nebo-Babel Deposits along strike. The Company will conduct further soil sampling, geophysics and reconnaissance drilling along both mineralisation trends.


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**Twitter:** https://twitter.com/CaspinRes

## ANNEXURE 1:

**The following Tables are provided to ensure compliance with the JORC Code (2012) edition requirements for the reporting of the Exploration Results at the Mount Squires Project.**

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.* | Drill samples reported in this release are from composite samples and 'bottom of hole' material collected from the final metre of drilling. Composite samples are collected from 4 consecutive individual metre samples by a scoop and placed into a single calico bag. Each composite sample represents a 4 metre interval, ie 4-8 metres. This approach is standard industry practice for early-stage exploration activities. Bottom of hole samples and single metres identified as of high interest or priority were also collected via scoop and stored in calico bags.<br><br>Previous results referred to in this document have been reported and their sampling method detailed in the ASX announcements "Outcropping Gold-Silver system at the Duchess Prospect" released 3/08/2022, "Broad Zones of Gold-Silver and Copper-Molybdenum Mineralisation at Mount Squires Project" released 29/09/2022 and "Best Gold and Molybdenum Grades to Date Duchess Prospect, Mount Squires Project" released 29/11/2022. |
| | *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* | Sampling has been carried out under Caspin protocols and QAQC procedures as per industry best practice.<br><br>Drill hole collars locations were surveyed by handheld GPS units which have an accuracy to ±5 metres. |
| | *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.* | All samples were originally analysed by ALS Laboratories Perth with the ME-ICP61 method followed by an Au-ICP22 gold finish. Samples were pulverised to 75 microns. Pulps were then re-analysed by ALS Laboratories Perth with the ME-MS81 REE method. |
| **Drilling techniques** | *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic etc) and details (e.g. 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).* | Drilling was completed primarily via the aircore method utilising a 4 inch blade. Where hard basement prevented penetration via the aircore method, a drill bit hammer was utilised via the Slimline RC drilling method. |
| **Drill sample recovery** | *Method of recording and assessing core and chip sample recoveries and results assessed.* | Sample recoveries are measured using standard industry best practice. Where insufficient samples were collected, issues were immediately rectified |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | with the drilling contractor and if necessary, holes re-drilled. |
| | *Measures taken to maximise sample recovery and ensure representative nature of the samples.* | Samples are checked for recovery and any issues immediately rectified with the drilling contractor. |
| | *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 sample bias has been observed. |
| **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.* | Drill chips were logged on site by Caspin geologists to company standards deemed suitable for early stage exploration.<br>Mineral resources and metallurgical studies are not reported. |
| | *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* | Logging records lithology, mineralogy, mineralisation, weathering, colour and other relevant features of the samples. Logging is both qualitative (e.g. colour) and quantitative (e.g. mineral percentages). |
| | *The total length and percentage of the relevant intersections logged.* | All drill intervals were logged. |
| **Sub-sampling techniques and sample preparation** | *If core, whether cut or sawn and whether quarter, half or all core taken.* | Not applicable as no core was collected. |
| | *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* | Aircore samples were collected by scoop with a cross section of the sample collected to ensure representivity. Samples were collected dry and recorded when subjected to moisture. |
| | *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* | Preparation techniques are laboratory standard and considered appropriate for the accuracy of assaying methods. |
| | *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* | Caspin QC procedures involve the use of duplicates and certified reference material (CRM) as assay standards. The insertion rate of these will average 1:20. |
| | *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.* | The sampling of duplicates was completed for aircore bottom of hole sampling. |
| | *Whether sample sizes are appropriate to the grain size of the material being sampled.* | Sample sizes are considered appropriate for the methods of sampling and stage of exploration. |
| **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.* | Aircore samples were analysed by ALS Laboratories Perth using the ME-IPC61 Four Acid Digest, ME-MS81 REE and a Au-ICP22 gold finish. Samples were pulverised to 75 microns prior to digest. |
| | *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.* | Not applicable as no geophysical results reported. |

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>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.</td><td>Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in-house procedures.<br><br>Repeat or duplicate analysis for samples did not highlight any issues.</td></tr>
<tr><td rowspan="4">Verification of sampling and assaying</td><td>The verification of significant intersections by either independent or alternative company personnel.</td><td>Aircore composite samples returning elevated grades were sampled via single metres to accurately distinguish the nature of mineralisation. External verification has not been sought and is not considered necessary at the current early stage of exploration.</td></tr>
<tr><td>The use of twinned holes.</td><td>Not applicable as the current early stage of exploration focuses upon identifying trends across broad drill hole spacing.</td></tr>
<tr><td>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</td><td>Sample locations, sample data and geological information for drill holes were recorded in field logging computers. Data was then sent to Geobase Australia for validation and compilation into a SQL database server.</td></tr>
<tr><td>Discuss any adjustment to assay data.</td><td>TREO (Total Rare Earth Oxide) = $La_2O_3$ + $CeO_2$ + $Pr_6O_{11}$ + $Nd_2O_3$ + $Sm_2O_3$ + $Eu_2O_3$ + $Gd_2O_3$ + $Tb_4O_7$ + $Dy_2O_3$ + $Ho_2O_3$ + $Er_2O_3$ + $Tm_2O_3$ + $Yb_2O_3$ + $Lu_2O_3$ + $Y_2O_3$<br><br>In order to determine individual Rare Earth Oxide concentrations, a conversion factor was used on laboratory analyses which were originally reported in elemental form.<br><br>
<table>
<tr><th>Element</th><th>Conversion Factor</th><th>Oxide</th></tr>
<tr><td>La</td><td>1.1728</td><td>$La_2O_3$</td></tr>
<tr><td>Ce</td><td>1.2284</td><td>$CeO_2$</td></tr>
<tr><td>Pr</td><td>1.2082</td><td>$Pr_6O_{11}$</td></tr>
<tr><td>Nd</td><td>1.1664</td><td>$Nd_2O_3$</td></tr>
<tr><td>Sm</td><td>1.1596</td><td>$Sm_2O_3$</td></tr>
<tr><td>Eu</td><td>1.1579</td><td>$Eu_2O_3$</td></tr>
<tr><td>Gd</td><td>1.1526</td><td>$Gd_2O_3$</td></tr>
<tr><td>Tb</td><td>1.1762</td><td>$Tb_4O_7$</td></tr>
<tr><td>Dy</td><td>1.1477</td><td>$Dy_2O_3$</td></tr>
<tr><td>Ho</td><td>1.1455</td><td>$Ho_2O_3$</td></tr>
<tr><td>Er</td><td>1.1435</td><td>$Er_2O_3$</td></tr>
<tr><td>Tm</td><td>1.1421</td><td>$Tm_2O_3$</td></tr>
<tr><td>Yb</td><td>1.1387</td><td>$Yb_2O_3$</td></tr>
<tr><td>Lu</td><td>1.1371</td><td>$Lu_2O_3$</td></tr>
<tr><td>Y</td><td>1.2699</td><td>$Y_2O_3$</td></tr>
</table></td></tr>
<tr><td rowspan="2">Location of data points</td><td>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.</td><td>The location of drill collars were recorded using a handheld Garmin GPS which typically have a ±5 metre accuracy. RL Data from handheld GPS is typically unreliable and was instead sourced from GIS software utilising imported DTM elevation layers.</td></tr>
<tr><td>Specification of the grid system used.</td><td>The grid system for the Mt Squires Project is GDA94 MGA Zone 52.</td></tr>
</table>

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *Quality and adequacy of topographic control.* | Topographic data was obtained from public download of the relevant 1:250,000 scale map sheets.<br>The area exhibits subdued, low relief with undulating sand dunes and topographic representation is considered sufficiently controlled. |
| **Data spacing and distribution** | *Data spacing for reporting of Exploration Results.* | Aircore collars were drilled on a grid pattern spaced at 200 x 400m, with infill drilling completed down to a minimum spacing of 50 x 50m. |
| | *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.* | Not applicable as no Mineral Resource and Ore Reserve reported. |
| | *Whether sample compositing has been applied.* | No 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.* | The current stage of drilling represents early stage exploration. The relationship between mineralisation and structures is yet to be established. |
| | *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 current stage of drilling represents early stage exploration. The relationship between mineralisation and structures is yet to be established. |
| **Sample security** | *The measures taken to ensure sample security.* | Sample chain of custody is managed by Caspin Resources. Samples were transported from site to the town of Warburton by Caspin staff and then onwards to ALS Perth laboratories by NATS transport service. |
| **Audits or reviews** | *The results of any audits or reviews of sampling techniques and data.* | Company geologists continue to review the data, no external reviews have been completed. |

## Section 2: Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

| 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 project area comprises two contiguous Exploration Licences, E69/3424 and E69/3425. Both Licences are held by Opis Resources Pty Ltd, a wholly owned subsidiary of Caspin Resources Limited.<br><br>The tenements are located within Crown Reserve 17614, which is within the jurisdiction of the Ngaanyatjarra Land Council within Reserve 40783 for the Use and Benefit of Aboriginal Inhabitants. |
| | *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.* | Both tenements are currently live and in good standing. A Mineral Exploration and Land Access Agreement was signed with the Ngaanyatjarra Land Council in Feb 2017. No Mining Agreement has been negotiated. |
| **Exploration done by other parties** | *Acknowledgment and appraisal of exploration by other parties.* | The Handpump Au anomaly was first identified by WMC in 1999 through the initial regional lag sampling in the West Musgraves, which also resulted in the discovery of the Nebo and Babel Deposits. The anomaly covered an area over 1.2km long and 400m wide with a maximum Au of 250ppb. WMC did not prioritise this target and there was no follow up work completed.<br><br>In 2009, Beadell Resources drilled the Handpump anomaly with the best intersection being 15m @ 2.3 g/t Au from 31m. Two phases of follow-up RC drilling, both at the original Handpump Prospect and some of the newer prospects, were completed between 2009 and 2011, but no better results other than the original intersection were obtained.<br><br>Additional work at the Mt Squires project included mostly surface geochemical sampling, which defined some additional prospects. Regional geochemical analysis by consultant Scott Halley defined an additional prospective target, Centrifical (renamed to Duchess), which has not yet been drill tested. Beadell withdrew from the project in 2013 and the ground was subsequently applied for by Cassini which demerged into Caspin Resources in 2020.<br><br>Caspin reviewed all existing historical exploration data and has defined several additional targets which have been previously reported.<br><br>Some of the areas presently covered by Mt Squires project were also explored by Anglo American and Traka Resources. The work mostly included geochemical sampling and auger and vacuum drilling, but no significant Au anomalies were identified.<br><br>Caspin Resources completed Ultrafine Soil sampling in 2020 which further defined the Duchess prospect. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | Recent work at completed by Caspin resources is detailed in multiple ASX announcements released throughout 2022. |
| **Geology** | *Deposit type, geological setting and style of mineralisation.* | The Mt Squires Project is located in the West Musgrave Province of Western Australia, which is part of an extensive Mesoproterozoic orogenic belt.<br>The Giles Event in the West Musgrave Province included emplacement and eruption of mafic to felsic magmas, all of which are grouped into Warakurna Supersuite. Bimodal volcanic rocks form the main component of the Bentley Supergroup.<br>The Mt Squires Project area is south and southeast of the Mt Palgrave Intrusive Complex. The project is dominated by the bimodal Bentley Supergroup rhyolites, basalts and siliciclastic and volcaniclastic rocks, all of which were unconformably deposited on the amphibolite to granulite facies pre-Giles basement rocks. The Mt Palgrave Group is stratigraphically the lowest preserved unit of the Bentley Supergroup.<br>The style of REE mineralisation is interpreted to be that of a high-silica, highly fractionated rhyolite with primary enrichment in REE. Locally, secondary upgrading of this primary lithology has likely occurred through weathering and/or hydrothermal alteration. Caspin geologists continue to review this model as new data becomes available and asses the prospectivity across the broader project area. |
| **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:*<br>• *easting and northing of the drill hole collar*<br>• *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>• *dip and azimuth of the hole*<br>• *down hole length and interception depth*<br>• *hole length.* | Drill hole collar information is published in Table 1 of this report. |
| | *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.* | Results of the full 36 element suite are not tabulated for aircore drill results. The relationship between elements not listed and their relationship to listed elements is currently unknown and not considered material in nature. |
| **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.* | The combination of differing sample lengths due to a partially composite sampling routine has necessitated the use of simple weighted averages for significant intercepts. |
| | *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* | No aggregated results are reported. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *aggregations should be shown in detail.* | |
| | *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | No metal equivalent values are reported. |
| **Relationship between mineralisation widths and intercept lengths** | *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').* | Drill results discussed in this announcement represent early stage exploration. The relationship between intercept width and true basement geometries are unknown. |
| **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.* | Refer to Figures in body of text. |
| **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.* | Only significant results have been reported. |
| **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 relevant exploration data is detailed in text, figures, Table 1 and in Annexure 1. |
| **Further work** | *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br><br>*Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | Based on these results, Caspin is currently completing infill UFF soils on areas of REE anomalism at Duchess and across the project area. A RC drill program to test extensions of REE mineralisation and obtain samples for metallurgical test work, in addition to rock chipping and geological mapping is scheduled for June 2023. |