ASX RELEASE

23 May 2023

CASPIN

Widespread REE Mineralisation Across Mount Squires

HIGHLIGHTS

- Further significant shallow Rare Earth Element (REE) mineralisation including:
  - **4m @ 0.63% TREO from 108m** (1,037ppm NdPr, 217ppm Dy_2O_3, 35ppm Tb_2O_3) (MSAC0152)
  - **22m @ 0.24% TREO from 20m** (413ppm NdPr, 69ppm Dy_2O_3, 11ppm Tb_2O_3)
    Including 4m @ 0.57% TREO from 34m (920ppm NdPr, 193ppm Dy_2O_3, 30ppm Tb_2O_3) (MSAC0101)
  - **21m @ 0.14% TREO from** 13m (267ppm NdPr, 45ppm Dy_2O_3, 7ppm Tb_2O_3)
    Including 4m @ 0.36% TREO from 17m (648ppm NdPr, 96ppm Dy_2O_3, 15ppm Tb_2O_3) (MSAC0024)
- Supports initial discovery:
  - **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)
- Very significant rock chip results up to 0.50% TREO and large zones of UFF soil geochemical anomalism highlight considerable REE prospectivity throughout host rhyolite units which stretch over the majority of Caspin tenure, or approximately 435km^2
- Latest drill and rock chip results contain a high proportion (29%) of heavy REE (HREE) in TREO
- Radiometric and Airborne Electromagnetic anomalies present additional targets with infill UFF soils results expected imminently
- RC drill program on schedule to commence in mid-June to test extensions and obtain samples for metallurgical test work in addition to TIMA SEM mineralogical analysis which is currently in progress

Caspin Resources Limited **(ASX: CPN) ("Caspin" or "the Company")** is pleased to announce the results of additional drill hole assaying at the Duchess Prospect, peripheral rock chip sampling and a review of Rare Earth Element (REE) mineralisation potential across the Company's wholly owned Mount Squires Project in Western Australia. The results support the Company's earlier announcement on the discovery of REE mineralisation at the Duchess Prospect and the prospectivity of the Mount Squires Project (refer ASX announcement of 4 May 2023).

Caspin's Chief Executive Officer, Mr Greg Miles, commented *"These results further demonstrate the potential for significant rare earth element mineralisation at the Mount Squires Project. We are thrilled with the results from Duchess so far, yet we are now also recognising that this is potentially a very large, rare earth mineral field. It is also pleasing that we are consistently seeing a high proportion of the more valuable heavy rare earths in our results. We think this is an important point of difference for the Mount Squires project.*

"Our field crews are on the ground and making good progress on early-stage exploration for rare earths, as well as nickel, copper and gold. Drilling operations are on schedule to commence in mid-June and should give our shareholders plenty to be excited about over the coming months."

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 = $Nd_2O_3 + Pr_6O_{11}$

More Mineralisation at the Duchess Prospect

An additional 80 samples from 13 aircore holes from the 2022 program were assayed for the rare earth suite of elements. These samples were predominantly from a cluster of holes in the southeast of Duchess with elevated copper and potentially a similar geological setting as found in hole MSAC0141. Numerous anomalous and significant results were returned, in line with expectations based on original assaying of La, Ce & Y. Better intersections include:

- 4m @ 0.63% TREO from 108m (1,037ppm NdPr, 217ppm Dy_2O_3, 35ppm Tb_2O_3) (MSAC0152)
- 22m @ 0.24% TREO from 20m (413ppm NdPr, 69ppm Dy_2O_3, 11ppm Tb_2O_3)
  - Including 4m @ 0.57% TREO from 34m (920ppm NdPr, 193ppm Dy_2O_3, 30ppm Tb_2O_3) (MSAC0101)
- 21m @ 0.14% TREO from 13m (267ppm NdPr, 45ppm Dy_2O_3, 7ppm Tb_2O_3)
  - Including 4m @ 0.36% TREO from 17m (648ppm NdPr, 96ppm Dy_2O_3, 15ppm Tb_2O_3) (MSAC0024)

As recognised in the earlier assaying, these intersections contain a high proportion of HREE to LREE, averaging approximately 29% across all intersections and locally up to 39%. Drilling also returned the highest grades of scandium (Sc) to date, up to 88ppm in MSAC0152 (Table 3), demonstrating the potential to be a valuable contributor the REE basket.

These results support the earlier outstanding result of 46m @ 0.71% TREO from 32m (1,254ppm NdPr, 216ppm Dy2O3, 36ppm Tb2O3), **including 22m @ 1.25% TREO from 48m in MSAC0141**.

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.

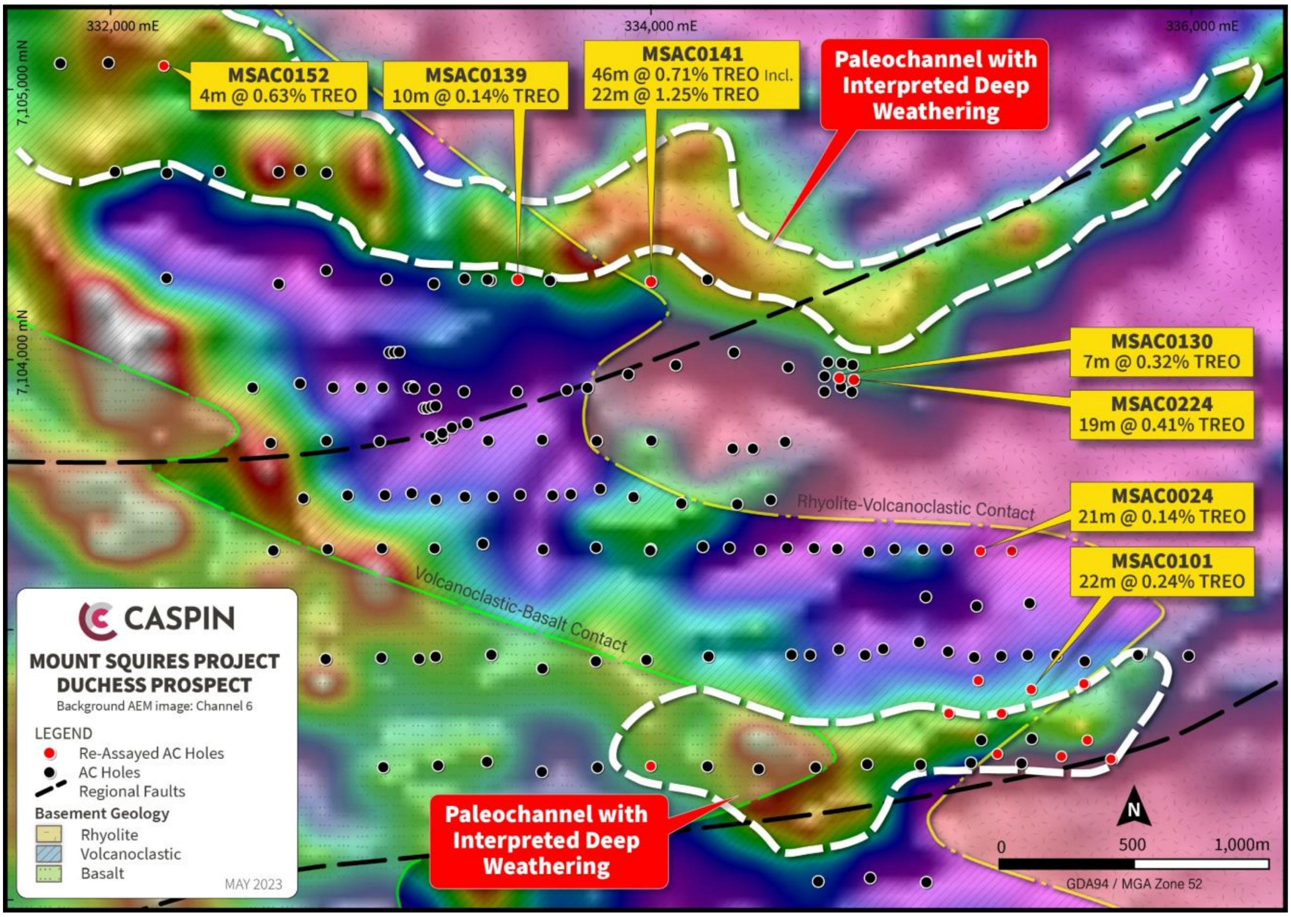

Figure 1. Drill hole locations at Duchess East and potential sites of REE enrichment. Refer to Figure 3 for Duchess Prospect location relative to the project boundaries.

TABLE 1: SIGNIFICANT AIRCORE DRILL INTERCEPTS (>1000ppm 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 %
MSAC0024	34	13	21	0.14	215	52	18.5	45	3.1	7	37.3
	Incl	**17**	**4**	**0.36**	**522**	**126**	**18.0**	**96**	**2.7**	**15**	**27.0**
MSAC0025	16	0	16	0.10	170	43	20.7	29	2.9	4	33.6
MSAC0080	66	0	12	0.26	433	102	20.2	84	3.2	14	35.4
MSAC0100		22	13	0.25	311	69	16.0	81	2.5	13	32.8
MSAC0101	43	20	22	0.24	334	79	18.1	69	2.9	11	27.5
	Incl	**32**	**4**	**0.57**	**748**	**172**	**16.2**	**193**	**3.3**	**30**	**36.5**
MSAC0103	37	24	13	0.17	286	66	19.8	39	1.6	7	24.2
MSAC0104	40	4	35	0.14	203	51	19.1	28	1.5	5	18.2
MSAC0105	34	12	21	0.28	383	97	17.1	68	2.4	11	25.1
MSAC0108	33	8	24	0.25	382	84	18.4	87	3.4	14	24.9
MSAC0109	4	0	4	0.11	171	42	19.2	34	3.1	5	33.3
MSAC0110	7	4	3	0.15	205	57	17.2	21	1.4	4	14.7
MSAC0111	5	0	5	0.11	173	46	19.9	26	2.3	4	24.9
MSAC0152	113	**108**	**4**	**0.63**	**832**	**205**	**16.4**	**217**	**3.4**	**35**	**38.8**

Additional significant assays are provided in Table 3.
NdPr %, Dy_2O_3 % and HREE % all refer to the ratio of these elements with respect to TREO.

All holes that were re-assayed terminated in mineralisation between 600ppm to 2,000ppm TREO demonstrating potential for REE mineralisation to extend into fresh basement rocks.

Rare Earth Potential Grows

The drill intersections at the Duchess Prospect have provided an immediate target for follow-up drilling. The Company is also cognisant that there may be additional REE targets across the project as either conceptual targets or hidden in our existing datasets. The Company has completed a first pass review of mapping, rock chip sampling, soil geochemistry and geophysics which has delivered numerous high-quality REE targets, within the prospective rhyolitic rocks that cover an area of approximately 435km^2 within the project.

There are two, large-scale soil geochemical anomalies within the project around the geographic localities of Mt Palgrave and Barrow Range (Figure 2). These anomalies have been defined using a levelled index of three REEs being lanthanum (La), cerium (Ce) and yttrium (Y), which has proven to be a useful proxy for the more important REEs such as neodymium (Nd), praseodymium (Pr), Dysprosium (Dy) and Terbium (Tb) at the Duchess Prospect.

The Barrow Range in the central project area is dominated by rhyolitic host rocks and is highly anomalous in REE in soil geochemistry data. The area is prospective for in-situ weathering of primary enriched rhyolites as well as surficial accumulation of REE in drainage related lateritic accumulations. Soil geochemistry has mapped a potential drainage channel over a strike length of 6.3km. The scale of anomalism in the area is extensive requiring further mapping and infill of the geochemical sampling. Early time AEM and magnetics images highlight an abundance of features where weathering may have upgraded mineralisation and allowing for direct targeting.

The Mt Palgrave area is unique in that it forms part of a large volcanic caldera which is dominated by variable rhyolites and volcanic sediments. The caldera, as well as most of the volcanic rocks within the area, are thought to be fed by deep mantle derived melts which are therefore enriched in base, precious and rare earth elements. As well as being highly anomalous in gold, soil geochemistry data highlights specific geological units within the Palgrave Caldera as being strongly enriched in REE, but also silver, lead and zinc (associated elements recognised at the Duchess Prospect). More broadly, levelling and analysis of soil data show the entire caldera to be moderately anomalous for REE throughout areas of variable cover. Magnetics and AEM may provide further direct targeting tools to locate areas of extensive weathering where mineralisation may have been upgraded.

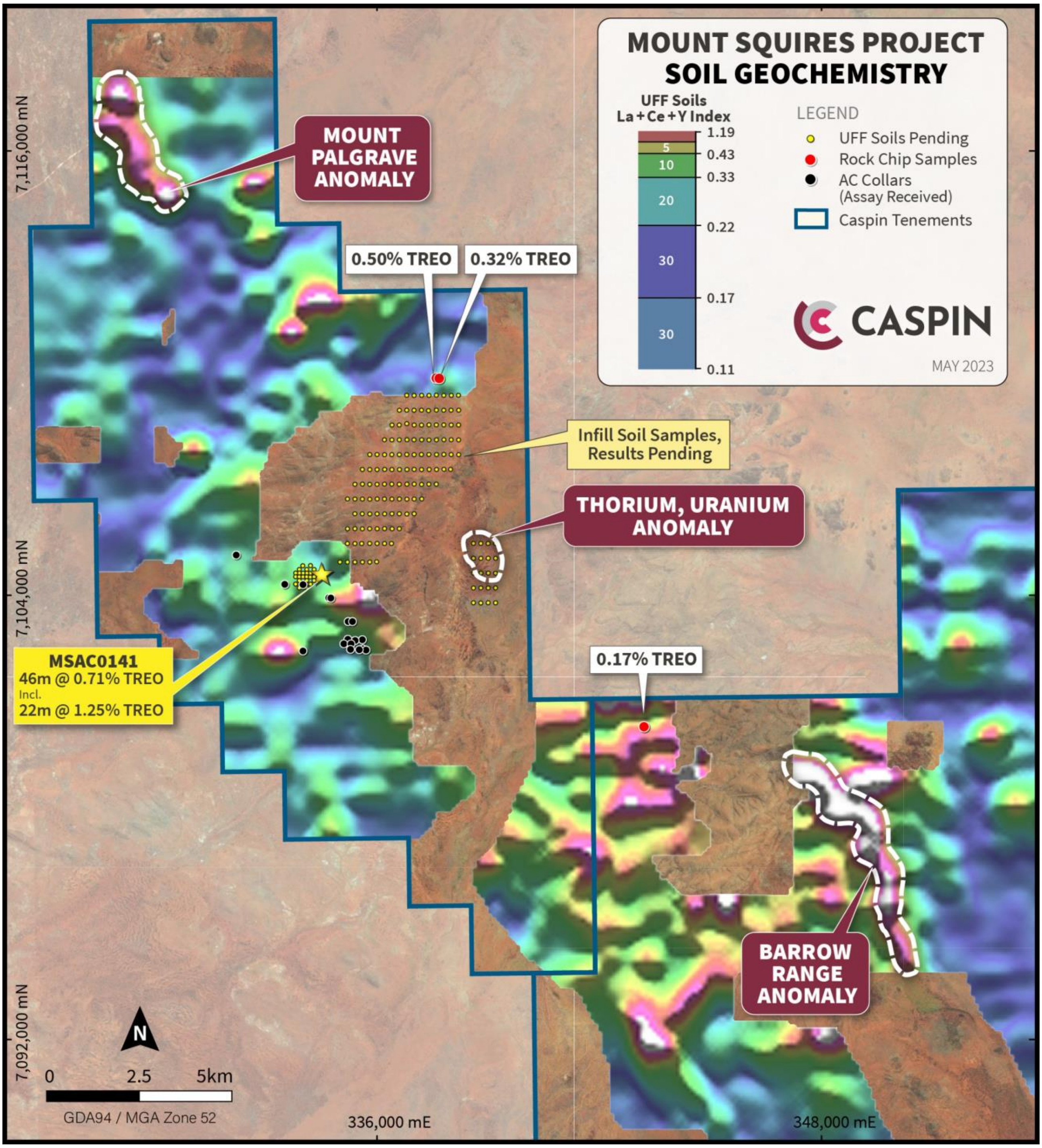

Figure 2. Soil geochemistry and significant rock chip results, highlighting potential sites of REE enrichment.

It is worth noting that the Duchess Prospect, with confirmed significant mineralisation in drilling, does not have a widespread REE anomaly in soil geochemistry, demonstrating that even weak surface anomalies could be indicative of significant mineralisation. Therefore, soil geochemistry must be carefully integrated with other datasets.

The Company also has high resolution radiometric imagery across the project area which highlights multiple distinct anomalies helps to confirm anomalism observed in soil geochemistry. The best of these radiometric anomalies sits in a location east of Duchess where no previous exploration work has been completed by any company, however, it is thought to partially overlie prospective rhyolite basement under moderate cover. Soil samples have been collected over this anomaly and results are expected before the commencement of drilling in mid-June.

A small subset of 11 samples from the Company's rock chip program in 2022 were submitted for full REE analysis. These samples highlight an outcrop of rhyolite near the edge of the Palgrave Caldera (0.50% and 0.32% TREO) and lateritic/ferruginous ironstone accumulation adjacent to mapped rhyolites near the Barrow Range (0.17% TREO). The former (also a distinctive radiometric anomaly) is potentially an example of more enhanced enrichment of the primary rhyolite, and an area where exploration could target potential zones of increased weathering under cover, particularly to the southwest towards the Duchess Prospect. Rock chip sampling has limitations as by their nature, these samples largely lack secondary enrichment from the weathering zone. However, it may serve to highlight areas of the extensive volcanic package which are anomalously enriched in REE at a primary level and potentially more worthy of pursuing exploration under cover.

TABLE 2: **SIGNIFICANT ROCK CHIP RESULTS**.

SITE ID	Easting	Northing	RL	TREO %	Nd_2O_3 ppm	Pr_6O_{11} ppm	NdPr %	Dy_2O_3 ppm	Dy_2O_3 %	Tb_2O_3 ppm	HREE %
MSGB0165	343206	7100450	514	0.17	126	53	10.3	8	0.5	2	4.6
MSGB0183	337493	7109003	550	0.13	198	47	19.5	40	3.2	7	33.7
MSGB0193	337852	7108453	532	0.12	183	45	19.2	37	3.1	6	33.4
MSGB0197	337929	7108980	525	0.12	182	43	19.4	37	3.2	6	33.7
MSGB0198	338006	7109053	517	0.11	169	42	18.9	35	3.1	6	34.4
MSGB0199	338006	7109056	514	0.12	178	44	19.0	37	3.1	6	34.4
MSGB0127	337597	7109865	510	**0.50**	**770**	**187**	**19.0**	**151**	**3.0**	**25**	**32.5**
MSGB0128	337643	7109854	516	0.11	175	42	19.4	35	3.2	6	34.0
MSGB0130	337677	7109857	518	**0.32**	**510**	**123**	**19.8**	**89**	**2.8**	**15**	**29.9**
MSGB0133	337796	7109778	529	0.12	184	45	18.8	38	3.1	6	34.0
MSGB0134	337878	7109700	528	0.12	191	46	19.2	39	3.1	6	33.7

RC Drilling Program Imminent

The latest assay results support the Company's geological understanding of primary and secondary REE enrichment at Mount Squires. The immediate drill target remains step-outs from mineralisation encountered in MSAC0141 which is open laterally in all directions and possibly at depth in fresh rock. The Company intends to drill up to 1,000m of RC to test this area with the main goal to demonstrate continuity of mineralisation and understand mineralisation controls at the local scale.

RC Drilling is on schedule to commence in mid-June.

The review of geochemical and geophysical datasets has provided additional targets for the Company to test. Confirmation of La, Ce & Y elements as a proxy for the broader REE suite in the Duchess drilling is an important technical milestone. When applied to the extensive soil geochemical database it is apparent that potentially better targets for REE mineralisation exist across the project, than those currently being contemplated at Duchess. The Company will continue to refine targets, particularly in the locations of Mt Palgrave and Mt Squires, by defining areas with high background elevation of REE with potential for secondary enrichment through either hydrothermal or weathering processes. These targets may be tested by drilling later in 2023, subject to environmental and heritage approval.

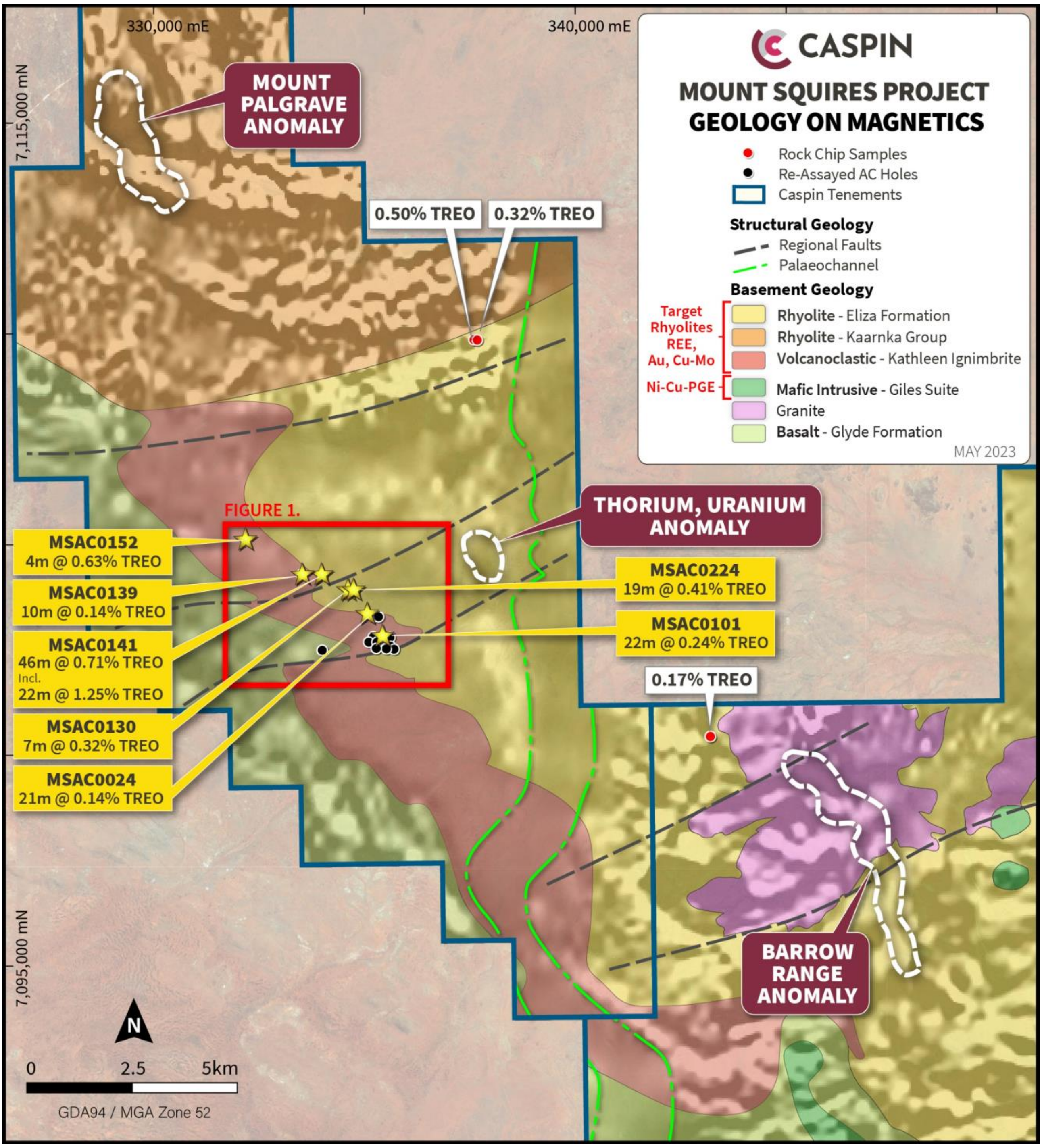

Figure 3. Interpreted geology over magnetics, highlighting the large area of potential REE mineralised host rocks.

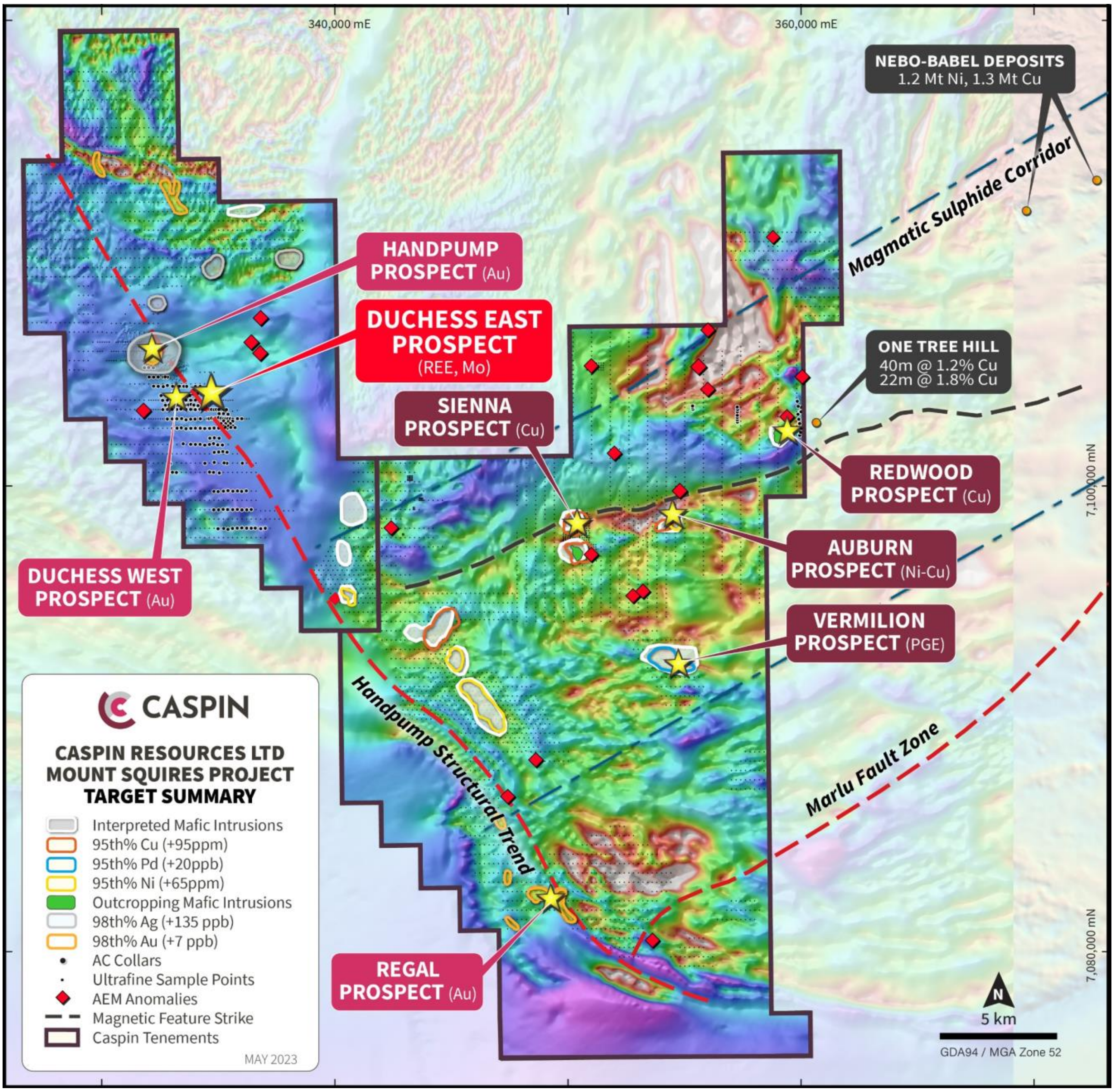

Figure 4. Target summary of exploration targets across the Mount Squires Project, highlighting the new REE prospect at Duchess East.

Background on Mount Squires Rare Earth Element Mineralisation

The REE results from the Mount Squires Project 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.

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.

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.

TABLE 3: EXTENDED SIGNIFICANT AIRCORE DRILL INTERCEPTS (>500ppm TREO).
Note: See Table 4 for additional drill hole information.

HOLE ID	EOH	From	Width	TREO %	Nd_2O_3 ppm	Pr_6O_{11} ppm	Dy_2O_3 ppm	Tb_2O_3 ppm	Sc ppm	Mo ppm	Pb ppm	Zn ppm
MSAC0024	34	13	21	0.14	215	52	45	2	23	10	90	275
	Incl	**17**	**4**	**0.36**	**522**	**126**	**96**	**7**	**29**	**16**	**75**	**311**
MSAC0025	16	0	16	0.10	170	43	29	6	3	14	31	37
MSAC0080	66	0	12	0.26	433	102	84	6	23	3	10	206
MSAC0100		22	13	0.25	311	69	81	6	20	7	12	129
MSAC0101	43	20	22	0.24	334	79	69	6	25	5	49	129
	Incl	**32**	**4**	**0.57**	**748**	**172**	**193**	**25**	**57**	**7**	**46**	**117**
MSAC0103	37	24	13	0.17	286	66	39	6	30	5	20	177
MSAC0104	40	4	35	0.14	203	51	28	15	23	5	30	99
MSAC0105	34	12	21	0.28	383	97	68	6	20	3	42	98
MSAC0108	33	8	24	0.25	382	84	87	6	22	5	49	176
MSAC0109	4	0	4	0.11	171	42	34	2	4	2	9	71
MSAC0110	7	4	3	0.15	205	57	21	7	14	4	84	43
MSAC0111	5	0	5	0.11	173	46	26	6	8	8	34	67
MSAC0152	**113**	**108**	**4**	**0.63**	**832**	**205**	**217**	**6**	**88**	**3**	**29**	**347**

TABLE 4: AIRCORE DRILL HOLE INFORMATION
Note: All drillholes are vertical (Azimuth: 0°, Dip: -90)

HOLE ID	Easting GDA 94 Z52	Northing GDA 94 Z52	RL
MSAC0024	335220	7103293	507
MSAC0025	335336	7103293	513
MSAC0080	334000	7102497	497
MSAC0100	335603	7102802	503
MSAC0101	335408	7102781	502
MSAC0103	335103	7102692	498
MSAC0104	335500	7102698	505
MSAC0105	335298	7102692	501
MSAC0108	335616	7102593	508
MSAC0109	335703	7102523	517
MSAC0110	335520	7102533	511
MSAC0111	335283	7102542	505
MSAC0152	332198	7105089	485

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

-ENDS-

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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, 13 February 2023 and 4 May 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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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. Rock chips were collected at surface exposures in areas of geological interest or anomalism identified in soil sampling campaigns and through desktop reviews. Samples were retrieved using a geopick and stored in calico bags. Sample sizes ranged from 500 grams to 2 kilograms. Portable hand-held XRF analysis was conducted on outcrops of interest and guided sampling selection. Soil sampling discussed in this announcement is detailed in the 15/11/2022 ASX announcement 'Surface Copper Mineralisation and Large Soil Anomaly at Mount Squires'. 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. Drill hole collars and rock chip 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	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.

Criteria	JORC Code explanation	Commentary
	sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	
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 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 and rock chips were logged on site by Caspin geologists to company standards deemed suitable for early stage exploration. 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. Aircore and rock chip 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	The sampling of duplicates was completed for aircore bottom of hole sampling.

Criteria	JORC Code explanation	Commentary
	duplicate/second-half 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 and rock chip 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.
	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.	Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in-house procedures. Repeat or duplicate analysis for samples did not highlight any issues.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	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.
	The use of twinned holes.	Not applicable as the current early stage of exploration focuses upon identifying trends across broad drill hole spacing.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	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.
	Discuss any adjustment to assay data.	TREO (Total Rare Earth Oxide) = La2O3 + CeO2 + Pr6O11 + Nd2O3 +Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3 + Y2O3 In order to determine individual Rare Earth Oxide concentrations, a conversion factor was used on laboratory analyses which were originally reported in elemental form.

Element	Conversion Factor	Oxide
La	1.1728	La2O3
Ce	1.2284	CeO2
Pr	1.2082	Pr6O11
Nd	1.1664	Nd2O3
Sm	1.1596	Sm2O3
Eu	1.1579	Eu2O3
Gd	1.1526	Gd2O3
Tb	1.1762	Tb4O7

Criteria	JORC Code explanation	Commentary
		<table><tr><td>Dy</td><td>1.1477</td><td>Dy2O3</td></tr><tr><td>Ho</td><td>1.1455</td><td>Ho2O3</td></tr><tr><td>Er</td><td>1.1435</td><td>Er2O3</td></tr><tr><td>Tm</td><td>1.1421</td><td>Tm2O3</td></tr><tr><td>Yb</td><td>1.1387</td><td>Yb2O3</td></tr><tr><td>Lu</td><td>1.1371</td><td>Lu2O3</td></tr><tr><td>Y</td><td>1.2699</td><td>Y2O3</td></tr></table>
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.*	The location of drill collars and rock chips 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.
	Specification of the grid system used.	The grid system for the Mt Squires Project is GDA94 MGA Zone 52.
	Quality and adequacy of topographic control.	Topographic data was obtained from public download of the relevant 1:250,000 scale map sheets. 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. 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. 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. 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. Caspin reviewed all existing historical exploration data and has defined several additional targets which have been previously reported. 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. 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. 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. 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. 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 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:* • *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.*	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').*	All 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).* *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 mid-June 2023.