# Maiden drill hole hits high-grade clay-hosted rare earth mineralisation at Karloning

Assays from the Company's first drill hole reveal shallow clay-hosted REE's with grades of up to 4,764ppm TREYO

Initial assays from the top 40m of the first hole completed at the Karloning REE-Niobium Project in WA (KLRC001) returned a high grade intercept of 12m grading 2,680ppm TREYO<sup>1</sup> including:

# 4m grading 4,764ppm TREYO

The maiden 1,906m Reverse Circulation (RC) drill program at Karloning has now been safely completed, with all samples submitted to the laboratory for analysis.

Work is ongoing to assimilate the geological data received to date and refine the geological context for the remaining drill-holes awaiting analysis.

# The result from KLRC001 significantly upgrades the Karloning Project's REE potential, with two styles of REE mineralisation now confirmed within the project area – hard rock pegmatite mineralisation and clayhosted REE's.

The Karloning Project represents an excellent opportunity for Codrus to diversify into the critical minerals space and build on its current gold and copper assets, providing exposure to a commodity sector with outstanding fundamentals and a strong growth outlook.



Figure 1. RC drilling at the Karloning REE Project in Western Australia



### ASX Announcement

05 May 2023

Directors **Andrew Radonjic** Non-Executive Chairman Shannan Bamforth Managing Director Jamie Byrde Non-Executive Director & Company Secretary

### **Investment Highlights**

CDR	ASX Code
75,430,004	Issued Capital
\$0.125	Share Price
\$9.4M	Market Cap.
\$2.5M	Cash (Mar '23)

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Codrus Minerals (ASX: **CDR**, **Codrus** or **the Company**) is pleased to advise that the first (RC) drill-hole completed as part of its maiden dill program at the recently acquired **Karloning REE-Niobium Project** in WA has intersected a significant zone of high-grade clay-hosted rare earth element (REE) mineralisation.

The recently completed drilling program was aimed at confirming the project's credentials as an exciting growth and diversification opportunity for Codrus in the rare earths sector, with all samples submitted for assay. Results for the top 40 metres of the first hole were rushed for analysis based on visual observations and are reported in this announcement.

In November 2022, Codrus entered into a farm-in and joint venture agreement with Talgomine Minerals Pty Ltd (Talgomine) to earn up to a 90% interest in the Karloning Project, which is located in Western Australia's Wheatbelt region. The Company has also pegged an additional tenement adjacent to this in its own right (see Figure 2 and ASX announcement "Codrus Secures Large-Scale Niobium-Rich REE Project in WA", 23rd November 2022).

The Project offers compelling exploration potential for the high-value REE's used in the manufacture of high-strength permanent magnets - namely praseodymium, neodymium, terbium and dysprosium.

These elements are in high demand because of the explosive growth in industries that rely on permanent rare earth magnets, such as electric vehicles, wind turbines and other renewable energy applications.



Figure 2. Location of the Karloning REE Project in Western Australia's Wheatbelt.



## Codrus Managing Director, Shannan Bamforth, said:

"This is a very exciting result from our first-ever drill hole at Karloning, confirming the presence of shallow clay-hosted rare earths mineralisation in addition to the hard rock hosted REE mineralisation that the project was originally acquired for.

*"This provides Codrus with the opportunity to pursue rare earths discoveries within two separate geological units – both the near-surface clay horizon and the pegmatites.* 

"This first round of drilling at Karloning is now complete, with assays from the lower portion of KLRC001 and the other 12 drill holes eagerly awaited. Results are expected to significantly enhance our understanding of the structure and distribution of rare earths and niobium mineralisation at Karloning, which offers an outstanding opportunity for Codrus to diversify into the critical metals space."

# **The Karloning Project**

The Karloning Project can be easily accessed by sealed roads via the town of Mukinbudin.

The geology within the tenements (E70/5339 and E70/6306) comprises mainly medium-to-coarse grained biotite granite and adamellite with a large quartz-microcline pegmatite, known as the Karloning Pegmatite (see Figure 3).



Figure 3. Karloning Project location showing the location of E70/5339 (Talgomine Joint Venture CDR earning in), and E70/6306 (100% Codrus), with the historical quarry visible in E70/5339.

Tertiary lateritic duricrusts skirt the granite outcrops and are eroded by the Quaternary paleo drainages forming broad sheetwash areas consisting of sands, clays and silts.

Mapping by the Geological Survey of Western Australia (1:250,000 Perth map sheet) shows a strike extent of ~1.5km for the Karloning Pegmatite, and Codrus believes there is a potential significant extension to the pegmatite beneath cover and for multiple pegmatite horizons to be discovered within the project area.

There may also be the opportunity to identify broader zones of lower grade REE mineralisation in the widespread alkaline granite.



# Drilling

The maiden drill program comprised 13 holes for 1,906m of RC drilling. The holes ranged from 100m to 244m in depth. Twelve of the holes were drilled to test a soil Total Rare Earth plus Yttrium (TREY) anomaly extending southwest from the Karloning pegmatite quarry.

The drill spacing was nominally conducted at ~80m spacings on three sections spaced 100m apart. One hole was drilled to test south-westerly extensions of the pegmatite observed in the quarry (see Figure 3 and ASX announcement "Drilling commences at Niobium-Rich Karloning REE Project", 12<sup>th</sup> April 2023).



Figure 3. Karloning Project location showing the location of drill holes KGRC001 to KGRC013 and TREY soil anomaly contours, and the edge of the Karloning quarry in the top right.

Granite with pegmatite outcrops in the north-east (quarry) to north-west of the drilling area. All drill-holes were drilled to the south of this outcrop into areas interpreted to potentially contain clay and saprolite zones in weathered granite with pegmatite veins.

Hole KGRC001 was drilled to a depth of 154m, with clay and saprolite observed from 0-20m and saprolite declining from 21m – 40m (see Figure 4). As a result of this, the first 40m of this hole was sent to the laboratory for priority assay. The samples comprised ten 4m composite samples, with results confirming REE mineralisation in the clay and saprolite zone in KGRC001. Lower grade mineralisation was also observed into the transition to fresh rock.



For the assays received to date the hole returned:

- 32m grading 1,433ppm TREYO from 8m, including
  - 12m grading 2,679ppm TREYO from 8m, including
  - 4m grading 4,764ppm TREYO from 12m

For full assay results See Table 2.



Figure 4. Cross section (A – A') of drilling at the Karloning REE Project

Results are pending for the remainder of KGRC001 and KGRC002 – KGRC013, final drill samples from the program were submitted to the laboratory in late April *(Note: all results are downhole width; true widths are not known).* Single metre intervals will be submitted for the mineralised zones once all assaying is completed for the drill program.

Drill logs for all holes are being compiled and a review of all the drilling is underway to enhance the Company's understanding of the potential of this newly observed style of mineralisation.

While the drill program was underway, additional areas for soil sampling were identified and samples collected and submitted to the laboratory for analysis.

# Future Work

Remaining assay results from the RC drilling program are eagerly awaited from the laboratory. For areas where the 4m composite samples return anomalous results, the single-metre splits will be submitted for analysis at the laboratory.

It is anticipated that follow-up drilling will be required to support the results of this early success. Testing of any additional soil anomalies will also be planned in due course.

# This announcement was authorised for release by the Board of Codrus Minerals.

ENDS



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#### **About Codrus Minerals Limited**

Codrus Minerals recently secured an exciting new growth and diversification opportunity in the rare earths sector after entering into a farm-in and joint venture agreement with Talgomine Minerals Pty Ltd to earn up to a 90% interest in the Karloning Rare Earth Element (REE) Project, located in Western Australia's Wheatbelt. In addition to our REE project, Codrus has a portfolio of exciting projects in Western Australia (WA) and Oregon, United States of America (USA). All of our Australian assets are located in close proximity to existing operating mines and the Bull Run Project in the USA is located in a rich historic gold producing area. Codrus currently has four projects in WA, comprising 31 tenements with a total landholding of approximately 243km<sup>2</sup>. The Karloning REE Project in the Wheatbelt, the Silver Swan South and Red Gate Projects are in the Eastern Goldfields, whilst the Middle Creek Project is located in the Eastern Pilbara. The tenements are prospective for rare earth elements and potential economic gold mineralisation, with Silver Swan South also being prospective for Nickel. In the USA, the company holds a 100% legal and beneficial interest for 79 claims and is party to an 'Option Agreement', which covers a further 11 claims in Baker County in Eastern Oregon. In total the claims cover approximately 7km<sup>2</sup> in the Ironside Mountain Inlier. The Bull Run project is prospective for gold and has been mined intermittently since approximately 1929.



#### **Competent Persons Statement**

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr. Shannan Bamforth who is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Bamforth is a permanent employee of Codrus Minerals and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Bamforth consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Information in this announcement that relates to previous exploration results for the Projects is extracted from the following ASX announcement:

- "Codrus Secures Large-Scale Niobium Rich REE Project in WA" 23rd November 2022
- *"Codrus Confirms High Grades at Niobium-Rich REE Project" 12th December 2022*
- "Exploration Update Karloning REE Project, WA" 27th February 2023
- "Drilling commences at Niobium-Rich Karloning REE Project", 12th April 2023

The above announcement is available to view on the Company's website at codrusminerals.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant original market announcements. The Company confirms that the information and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

#### **Exploration and Resource Targets**

Any discussion in relation to the potential quantity and grade of Exploration and Resource Targets is only conceptual in nature. While Codrus is continuing exploration programs aimed at reporting additional JORC compliant Mineral Resources, there has been insufficient exploration to define mineral resources and it is uncertain if further exploration will result in the determination of maiden JORC compliant Mineral Resources.

#### Forward-Looking Statements

Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of Codrus. There is continuing uncertainty as to the full impact of COVID-19 on Codrus's business, the Australian economy, share markets and the economies in which Codrus conducts business. Given the high degree of uncertainty surrounding the extent and duration of the COVID-19 pandemic, it is not currently possible to assess the full impact of COVID-19 on Codrus' business or the price of Codrus securities. Actual values, results or events may be materially different to those expressed or implied in this presentation. Given these uncertainties, recipients are cautioned not to place reliance on forward-looking statements. Any forward-looking statements in this presentation speak only at the date of issue of this presentation. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Codrus does not undertake any obligation to update or revise any information or any of the forward-looking statements in this presentation or any changes in events, conditions or circumstances on which any such forward-looking statement is based.



#### Table 1: Karloning RC drill Collar table, and significant intercepts.

Hole	East	North	RL (m)	Azi	Dip	EOH	From	То	Interval	TREYO	MREYO	La <sub>2</sub> O <sub>3</sub>	CeO <sub>2</sub>	Pr <sub>6</sub> O <sub>11</sub>	Nd <sub>2</sub> O <sub>3</sub>	Tb₄O <sub>7</sub>	Dy <sub>2</sub> O <sub>3</sub>	Y <sub>2</sub> O <sub>3</sub>	Comments
	(m)	(11)	(m)	INIGA		m			m	ppm	ppm	ppm	ррш	ppm	ppm	ррш	ppm	ррш	
KGRC001	605,870	6,608,481	414	320	-60	154	8	20	12	2,680	503	689	1,303	123	356	4	20	84	Assays pending beyond 40m
					ir	ncluding	12	16	4	4,764	901	1,267	2,309	226	639	6	30	121	
KGRC002	605,820	6,608,537	412	320	-60	154													Assays pending
KGRC003	605,764	6,608,581	415	320	-60	154													Assays pending
KGRC004	605,723	6,608,639	414	320	-60	148													Assays pending
KGRC005	605,619	6,608,610	414	320	-60	154													Assays pending
KGRC006	605,681	6,608,548	416	320	-60	136													Assays pending
KGRC007	605,717	6,608,486	414	320	-60	130													Assays pending
KGRC008	605,769	6,608,433	414	320	-60	148													Assays pending
KGRC009	605,703	6,608,379	416	320	-60	100													Assays pending
KGRC010	605,655	6,608,425	415	320	-60	100													Assays pending
KGRC011	605,822	6,608,371	416	320	-60	130													Assays pending
KGRC012	605,917	6,608,426	415	320	-60	154													Assays pending
KGRC013	606,126	6,608,683	405	350	-60	244													Assays pending

-Co-ordinates expressed as MGA zone50 GDA94

A cut off grade of 800ppm TREYO was applied and a maximum of 4m of internal dilution included for, samples also had to be logged as clay or saprolite. Assays rounded to the nearest whole number.



#### Table 2: Karloning Assay Table

Hole	From m	To m	Interval m	TREYO ppm	MREYO ppm	MREYO/ TREYO	La₂O₃ ppm	CeO <sub>2</sub>	Pr₀O <sub>11</sub> ppm	Nd₂O₃ ppm	Sm₂O₃ ppm	Eu₂O₃ ppm	Gd₂O₃ ppm	Tb₄O <sub>7</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho₂O₃ ppm	Er₂O₃ ppm	Tm₂O₃ ppm	Yb₂O₃ ppm	Lu₂O₃ ppm	Y₂O₃ ppm
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KGRC001	0	4	4	126	22.3	18%	27.4	60	5.2	14.8	2.5	0.3	1.8	0.3	2	0.3	0.9	0.2	1.1	0.2	9
KGRC001	4	8	4	245.8	40.6	17%	58.1	126.5	10.5	27.4	4.2	0.4	2.3	0.4	2.3	0.4	1.2	0.2	0.9	0.1	10.9
KGRC001	8	12	4	1512.5	262.2	17%	370.7	777.3	66.4	181.3	27	2.3	14.4	2.6	11.9	1.7	4.4	0.5	3	0.4	48.6
KGRC001	12	16	4	4764.4	901.3	19%	1266.8	2308.6	225.9	639	90.8	7.8	43.7	6.4	30	4.7	10.5	1.3	6.8	0.8	121.3
KGRC001	16	20	4	1762.4	346.5	20%	430.5	824	78	248.4	38	3.6	22.5	3.3	16.8	2.8	7.2	0.8	4.5	0.6	81.4
KGRC001	20	24	4	781.1	162.3	21%	183	342.6	35.2	115.3	18.4	2	12.7	1.9	9.9	1.7	4.4	0.5	2.3	0.3	50.9
KGRC001	24	28	4	596.5	123.5	21%	138.4	270.2	26.9	88.7	14.7	1.5	9.1	1.3	6.6	1.1	2.5	0.3	1.7	0.2	33.3
KGRC001	28	32	4	656.4	135.5	21%	151.9	295.9	29.7	96.1	15.3	1.6	10.6	1.5	8.2	1.4	3.4	0.5	2.2	0.3	37.8
KGRC001	32	36	4	687.8	142.8	21%	158.4	310.7	31.5	101.6	16.5	1.7	10.8	1.6	8.1	1.4	3.5	0.4	2.1	0.3	39.2
KGRC001	36	40	4	1,433	146.7	10%	161.3	320.5	32.7	104.6	16.5	1.6	10.5	1.5	7.9	1.4	3.3	0.4	2.1	0.3	40.1

MREYO = Pr6O11 + Nd2O3 + Tb4O7 + Dy2O3 + Y2O3

TREYO = La2O3 + CeO2 + Pr6O11 + Nd2O3 + Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Y2O3 + Lu2O



# JORC Code, 2012 Edition | Table 1 report

# Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g., 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g., '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.</li> </ul>	<ul> <li>Laboratory assay results are being reported for the first ten composite samples from a recently completed 13 hole (1906 m) Reverse Circulation (RC) drilling program at Codrus Minerals' Karloning REE Project, WA.</li> <li>The RC drill cuttings of c. 10-20kg were collected on a 1m basis from the drill rig cyclone into large plastic bags and arranged in rows at the drill site for assay sampling. Composite samples of 2-6 m length were collected by sampling spear from the bulk 1 m samples according to lithological criteria for initial assaying. A c. 1-3 kg split was also collected for each meter for follow up assaying if required via a cone splitter mounted on the drill rig cyclone.</li> <li>Assay sample weights ranged from 1-3kg. Sample sizes is considered appropriate for the material sampled.</li> <li>Commercial assay standards were included in the laboratory submittals at a rate of c. one per 25 samples.</li> <li>Duplicate samples collected in the same manner as the primary were collected very c. 20th sample.</li> </ul>
Drilling techniques	<ul> <li>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).</li> </ul>	• Reverse Circulation (RC) holes were drilled with a 5 <sup>1</sup> / <sub>2</sub> -inch bit and face sampling hammer.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>The bulk RC samples were visually assessed for recovery</li> <li>Samples are considered representative with good recovery.</li> <li>Only holes KGRC010 and KGRC011 encountered water and did not significantly impact recovery.</li> <li>Sample bias was not observed.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All holes were qualitatively geologically logged by a suitably qualified Codrus geologist.</li> <li>Sample intervals and lengths were selected according to lithology and sample size criteria.</li> <li>Holes were geologically logged in full.</li> </ul>
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Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all cores taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality, and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Composite samples of 2-6 m length were collected by sampling spear from the bulk 1 m samples according to lithological criteria for initial assaying. A c. 1-3 kg split was also collected for each metre for follow up assaying via a cone splitter mounted on the drill rig cyclone.</li> <li>Assay sample weights ranged from 1-2kg. Sample sizes is considered appropriate for the material sampled.</li> <li>Commercial assay standards were included in the laboratory submittals at a rate of c. one per 25 samples.</li> <li>Duplicate samples collected in the same manner as the primary were collected very c. 20th sample.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</li> </ul>	<ul> <li>Samples were submitted to ALS Geochemistry, Perth (ALS) f where they were oven dried then pulverized to P80 -75 microns for each sample (ALS method PUL-23).</li> <li>Assaying was conducted by ALS Geochemistry Perth using a lithium borate fusion at 1025 deg C followed by nitric + hydrochloric + hydrofluoric acid digestion of the melt and ICP-MS finish for a 32 element suite including the REEs and Y (ALS method ME-MS81).</li> <li>The first 10 samples of Codrus Minerals first 209 sample submission were prioritized for rapid assay, client standards and duplicates were not included in the prioritized assaying being reported here.</li> <li>Internal commercial laboratory standards reported within the target ranges</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Sampling and data processing were conducted by suitably qualified Codrus Minerals field technicians and verified by Codrus Minerals geologists.</li> <li>The use of twinned holes is not considered necessary at this reconnaissance stage of exploration.</li> <li>Primary data is stored and documented in industry standard ways.</li> <li>Codrus Minerals assay data is as reported by ALS and has not been adjusted in any way.</li> <li>Remnant assay pulps are currently held in storage by ALS.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Drill hole locations were determined by handheld GPS with a nominal accuracy of +/- 5 metres.</li> <li>All coordinates and maps presented here are in the MGA Zone 50 GDA94 system.</li> <li>Topographic control is provided by government 250,000 topographic map sheets and Worldwide 3 arc second SRTM spot height data.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The reported RC holes were drilled on c. 100 x 80 m spacings to test a previously reported soil anomaly associated with the Karloning NYF pegmatite field.</li> <li>The current drilling is of reconnaissance exploration nature and was not conducted for resource estimation purposes.</li> <li>Samples were composited for preliminary assaying as described above.</li> </ul>



Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>The RC holes were drilled approximately perpendicular to the dominant pegmatite dyke and soil geochemistry orientations.</li> <li>The intersected clay and saprolite zones dip very gently south and southeast such that downhole thicknesses are estimated to be c. 80-85% of true thickness.</li> <li>Pegmatite dykes observed at surface in the vicinity of the drilling are approximately vertical such that pegmatite intersections in the drill holes are likely to be c. 50% of true thickness.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>The chain of custody for all Codrus Minerals samples from collection to dispatch to assay laboratory was managed by Codrus Minerals personnel.</li> <li>Sample numbers are unique and do not include any locational or interval information useful to non-Codrus Minerals personnel.</li> <li>The level of security is considered appropriate for such exploration drilling.</li> </ul>
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>This is the first drill program and as such no audits or reviews have been done as yet. Senior Geologists within the business have visited the drill site and inspected the drill bulk sample bags and chips.</li> <li>1 m splits collected from the drill rig cyclone cone splitter will be submitted for laboratory assay in mineralised zones to verify and provide more assay detail within the identified REE mineralised zones.</li> </ul>
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The RC drilling was entirely conducted within granted exploration licenses E70/5339 (under JV with Talgomine Pty Ltd).</li> <li>The tenement is in good standing, without known impediments.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Most previous owners and explorers' efforts were focused on the quarrying of feldspar and quartz from the Karloning pegmatite as aggregate products saleable to the construction industry and not relevant to the Codrus Minerals' exploration interests. Some 20 RAB holes are known to have been drilled historically (1970s) within the Karloning quarry area but were only assayed for K and Na.</li> <li>Kinloch Resources completed a partial soil survey over the northern flank of the Karloning pegmatite in the 2011-2012 period which showed multiple soil anomalous zones with &gt;1000ppm TREEs. To Codrus Minerals knowledge there has been no other systematic exploration of the Karloning Project area for REEs</li> </ul>





# Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting, and style of mineralisation.	• The Karloning REE Project is located within granitic basement of the western Yilgarn Craton. Numerous pegmatite occurrences are known within the Mukinbudin district and the GSWA maps a c. 1.5 km long pegmatite zone at Karloning on the Bencubbin (SH50-11) 1:250,000 geological map sheet. The Karloning pegmatite is a Niobium-Yttrium-Fluorine (NYF) type which is prospective for REEs. NYF pegmatites are typically zoned inwards from biotite adamellite through graphic granite and albite zones to a quartz core. Reconnaissance rock sampling previously reported to the ASX by Codrus Minerals demonstrates potentially significant REE mineralization associated with the Karloning pegmatites.
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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</li> <li>explain why this is the case</li> </ul>	<ul> <li>Location and orientation details are given in Table 2.</li> <li>Drill hole locations were determined by handheld GPS with a nominal accuracy of +/- 5 metres.</li> <li>All coordinates and maps presented here are in the MGA Zone 50 GDA94 system.</li> <li>Topographic control is provided by government 250,000 topographic map sheets and Worldwide 3 arc second SRTM spot height data.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Intersections given in Table 1 are length weighted and a cut off grade of 800ppm TREYO was applied and a maximum of 4m of internal dilution included, samples also had to be logged as clay or saprolite.</li> <li>Full sample assay interval results without aggregation methods are given in Table 2.</li> <li>Metal equivalents have not been applied.</li> <li>Standard element to oxide conversion factors have been used.</li> <li> <u>La2O3 1.173 CeO2 1.228 Pr6O11 1.208 Nd2O3 1.166 Sm2O3 1.166 Sm2O3 1.166 Gd2O3 1.158 Gd2O3 1.153             <u>Gd2O3 1.153 CeO2 1.153 CeO2 1.153 CeO2 1.273             <u>Tb4O7 1.176 Dy2O3 1.148 Ho2O3 1.142 Yb2O3 1.149 Yb2O3 1.139 Lu2O3 1.137 Y2O3 1.27             <u>Y2O3 1.27             </u> </u></u></u></li> </ul>



Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</li> </ul>	<ul> <li>The intersected clay and saprolite zones dip very gently south and southeast such that downhole thicknesses are estimated to be c. 80-85% of true thickness.</li> <li>Pegmatite dykes observed at surface in the vicinity of the drilling are approximately vertical such that pegmatite intersections in the drill holes are likely to be c. 50% of true thickness.</li> </ul>
Diagrams	<ul> <li>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.</li> </ul>	• An appropriate drill hole plan and section is included in this report.
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</li> </ul>	• All the available drill hole REE assay results to date are given in Tables 1 and 2. Laboratory assaying of samples covering the remainder of the 1906 m RC drill program is in progress.
Other substantive exploration data	<ul> <li>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.</li> </ul>	<ul> <li>The results are considered indicative only of the mineralisation in the area.</li> <li>An appropriate drill hole plan and cross section is included in this report.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Appropriate maps and and diagrams are included in this report.</li> <li>Codrus Minerals will review and plan follow up work on completion of assaying.</li> </ul>

# Section 3 Estimation and Reporting of Mineral Resources

Not applicable

# Section 4 Estimation and Reporting of Ore Reserves

Not applicable