FIRERING HOLDINGS

MAIDEN JORC-CODE COMPLIANT MRE AT LIMECO
[FIRERING STRATEGIC MINERALS PLC]
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27 November 2024

Firering Strategic Minerals plc
("Firering" or "the Company")

Maiden JORC-Code Compliant MRE at Limeco

Providing support for Limeco's Tier 1 quicklime operations for at least 50 years

Firering Strategic Minerals plc (Firering), an emerging quicklime production and critical mineral exploration company, is pleased to announce a maiden JORC-code compliant Mineral Resource Estimate ("MRE") for its quicklime project in Zambia ("Limeco" or the "Project"), which is being fast-tracked towards an imminent phased commissioning.

HIGHLIGHTS

- 97% increase in resource tonnes compared to the previous non-compliant 2017 MRE.
- MRE totals 145.2Mt at 95.7% $CaCO_3$, comprising 11.8Mt in the Measured category, 55.4Mt in Indicated, and 78.0Mt in Inferred.
- Provides for over 50 years of potential quicklime production.
- Pit optimisation indicates a negligible stripping ratio with low sensitivity to costs and pricing.

Yuval Cohen, Chief Executive of Firering, said: "*I am delighted to announce a maiden JORC-compliant MRE, which almost doubles the resource tonnage of the Project based on the previous non-code resource, and which supports over 50 years of quicklime production. This firmly positions Limeco to become the largest quicklime producer in Zambia and a prominent regional player for many years to come, enabling it to meet the growing demands of the copper industry and other industrial clients.*

"Earthlab has once again demonstrated that Limeco's high-quality Tier 1 limestone deposit forms the foundation of its robust quicklime business. Following the identification of three distinct domains within the Project, A, B, and C, including the new exploration licence granted in September, Domain A has been the primary area of focus. However, Domains B and C present significant opportunities for Limeco to unlock additional value in the future, with potential applications across various industries."

DETAILS

Aligned with its strategy to fully capitalise on the significant market opportunities for quicklime in the Zambian Copperbelt, given its essential role in copper production, Firering commissioned Earthlab Exploration and Mining Consulting (Pty) Ltd ("Earthlab") to undertake a maiden JORC-compliant MRE for its Limeco quicklime project in Zambia. This study incorporated Limeco's newly granted exploration licence (see RNS dated 3 September 2024).

The newly published MRE (November 2024) revealed a 97% increase in tonnage compared to Limeco's 2017 non-compliant estimated mineral resource of 73.7Mt at 95.3% $CaCO_3$. The updated estimate totals 145.2Mt at 95.7% $CaCO_3$, comprising 11.8Mt in the Measured category, 55.4Mt in Indicated, and 78.0Mt in Inferred (Table 2).

Notably, the maiden MRE enables over 50 years of potential quicklime production.

The MRE incorporates a detailed analysis of the deposit's geological structure, including its physical and chemical properties and associated facies. The local geology is characterised by a depositional setting typical of a lagoonal-shoals shelf environment, where wind and still water deposited sediments forming wackstone, packstone and upward grainstone in horizontal to wavy grey laminated layers (Figure 1).

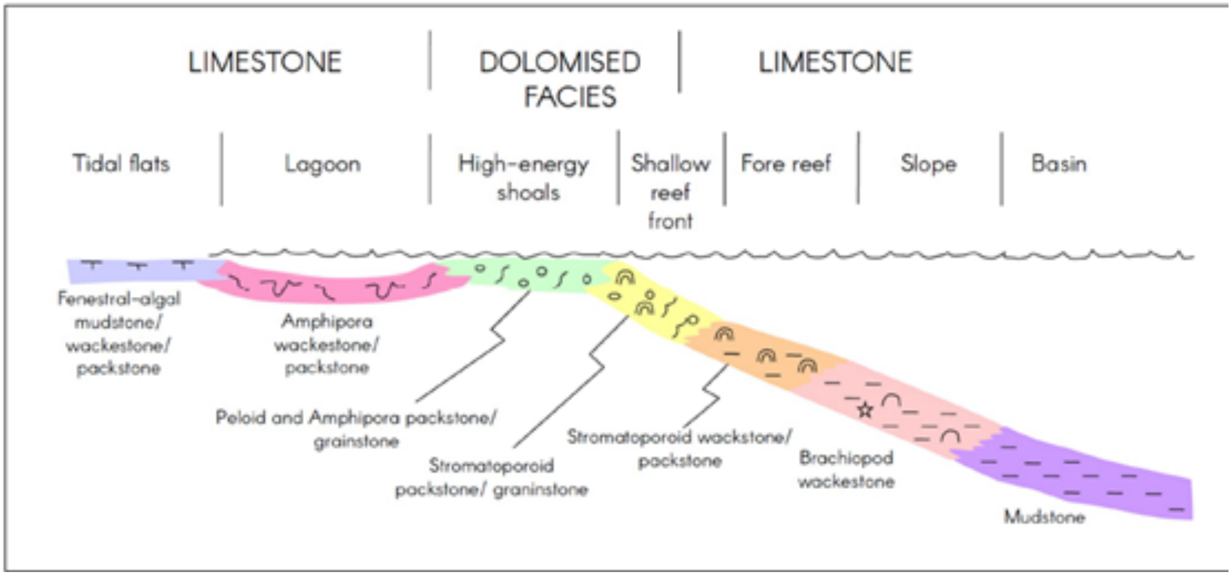

Figure 1: Proposed depositional setting of the project area (Saller, 2001).

Based on the geological interpretation and the chemical signatures displayed by the exploration data, Earthlab was able to divide the limestone deposit into geological facies with unique chemical data populations. The demarcated geological facies coincide with statistical domains that have been processed geostatistically to produce the MRE (Figure 2).

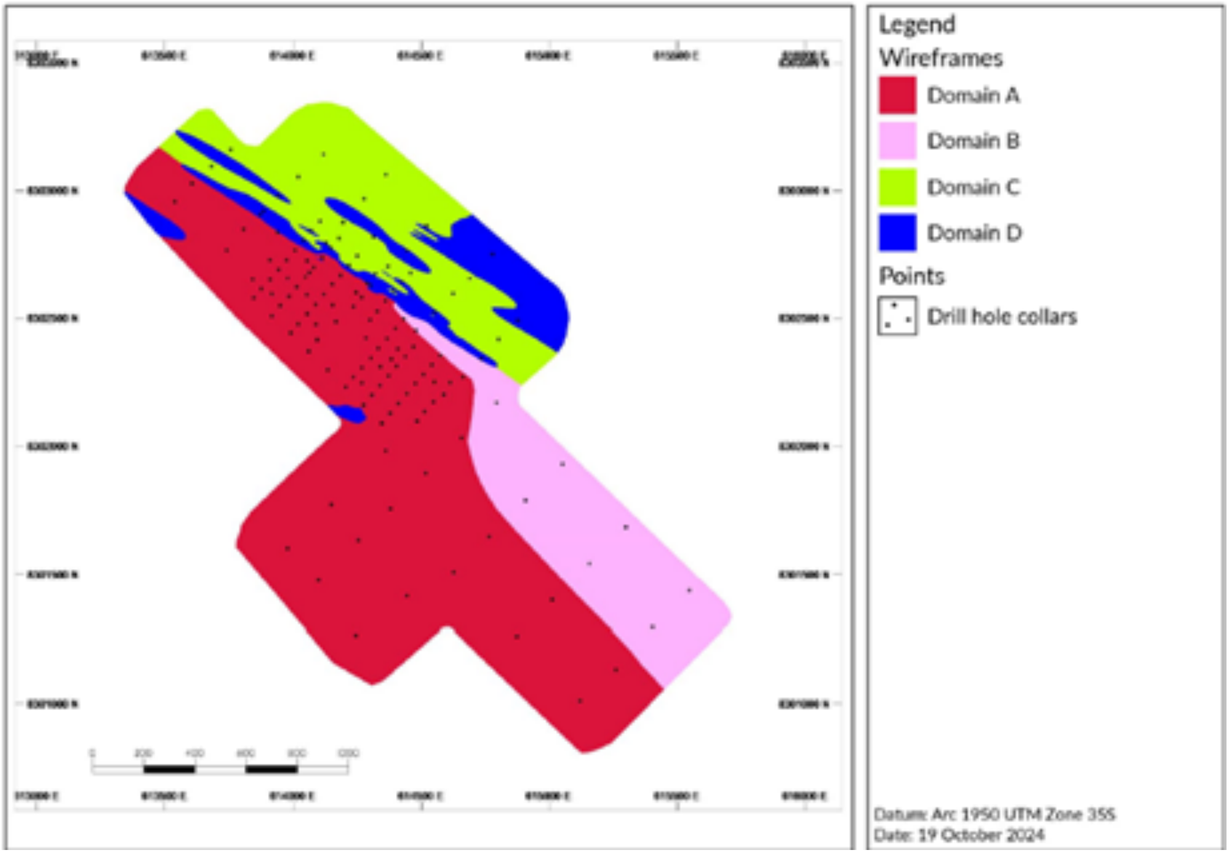

Figure 2: Plan view of the domain wireframes with drill hole collars superimposed (Earthlab, November 2024).

To estimate the resource tonnes, Earthlab created a potential final pit shell (Figure 3) by applying modifying factors as per the guidelines of JORC, which dictate that resource tonnes should be estimated based on Reasonable Prospects for Eventual Economic Extraction ("RPEEE").

Figure 3: Representation of the pit shell; the lime plant can be seen in the upper right corner (Earthlab, November 2024).

Earthlab completed the mineral resource classification for the entire model (Figure 4) and for the final pit shell (Figure 5).

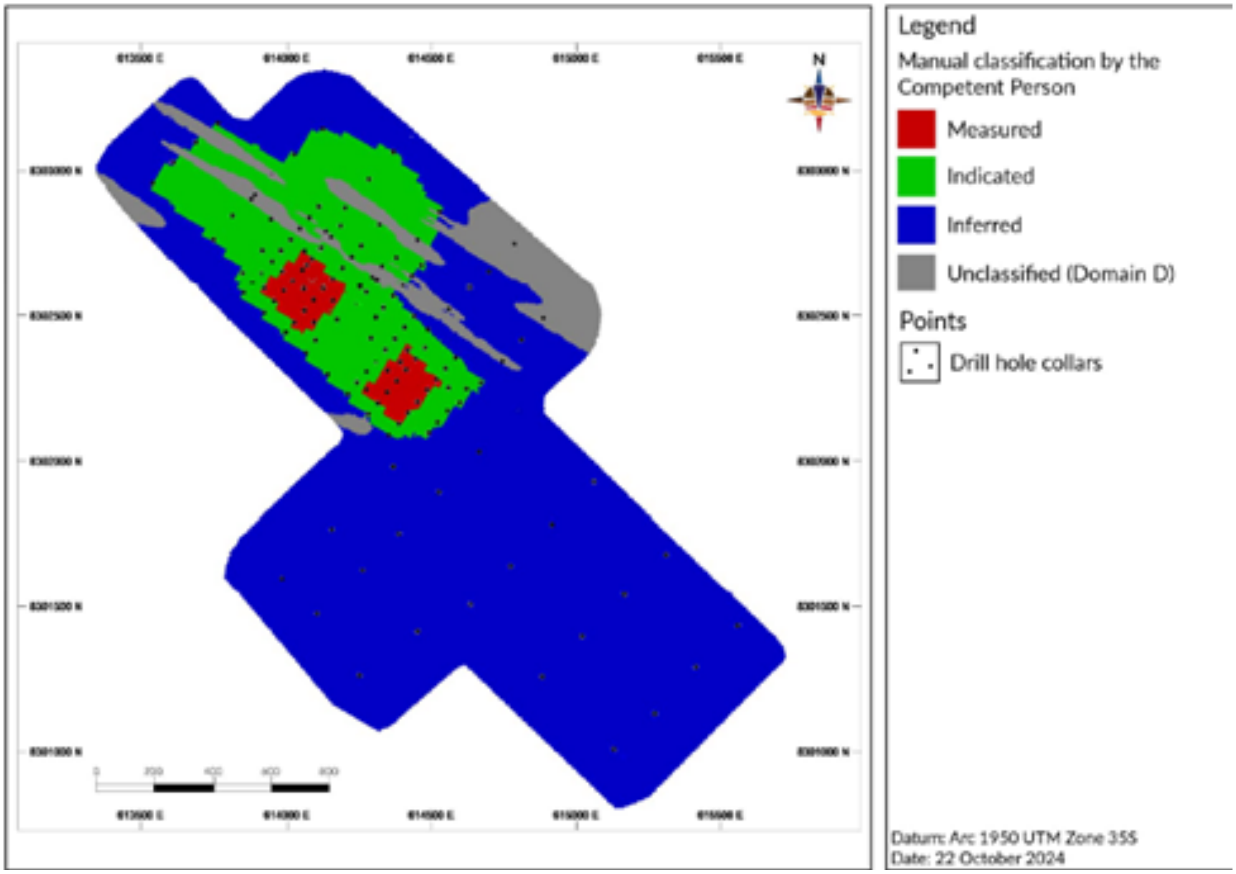

Figure 4: Final classification for Domains A, B, and C (Earthlab, November 2024).

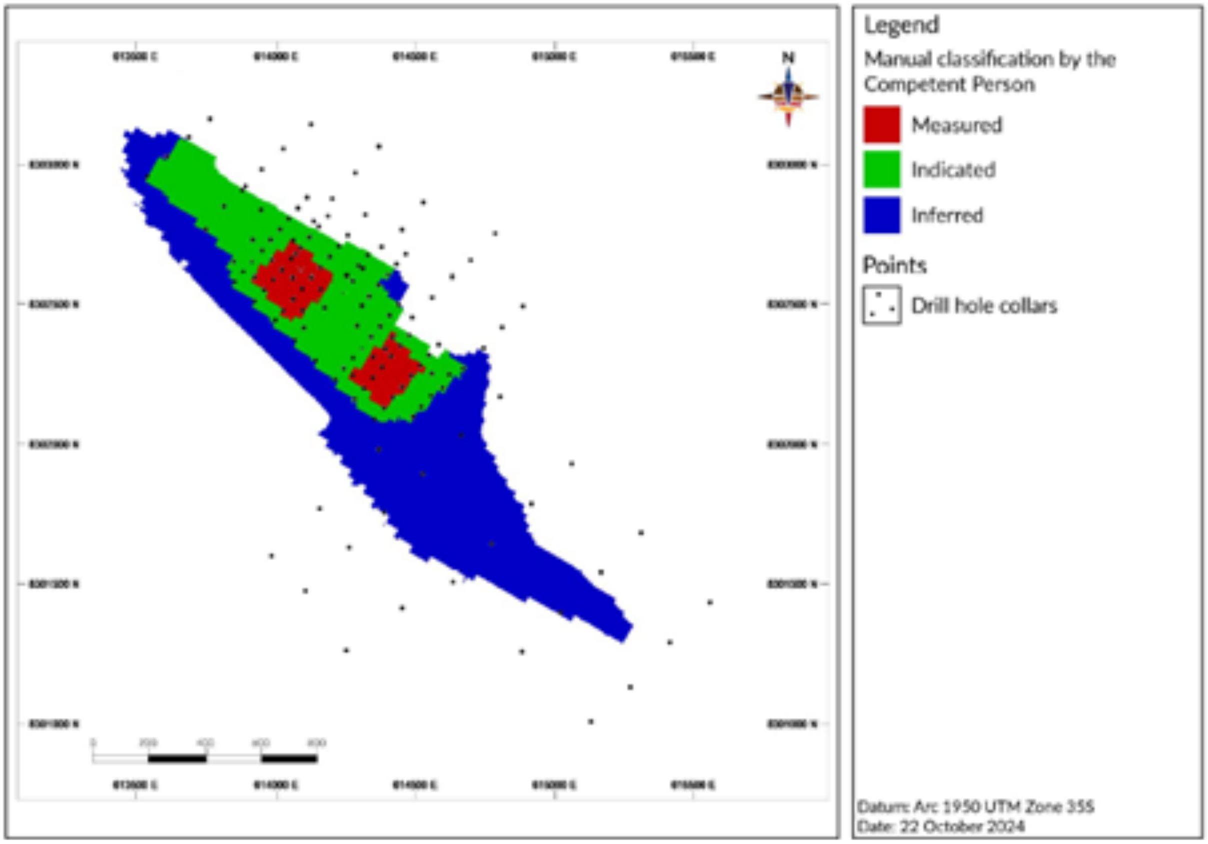

Figure 5: Final classification for the optimised pit shell (Earthlab, November 2024).

PIT OPTIMISATION RUNS

Earthlab's pit optimisation runs indicated a negligible stripping ratio with low sensitivity to costs and pricing (Table 1).

Table 1: Sensitivity of ore tonnage to changes in plant operating costs and quicklime prices (Earthlab, November 2024).

No.	Lime plant cost (per ROM tonne)	Quicklime price at the gate (per quicklime tonne)	Ore tonnage (t)	Waste tonnage (t)	Strip Ratio
1	$7	$100	151,020,808	29,333,854	0.19
2		$125	153,073,353	34,561,794	0.23
3		$150	153,894,438	37,551,986	0.24
4		$175	154,402,801	39,980,627	0.26
5		$200	154,813,511	42,326,173	0.27
6		$225	154,992,904	43,540,495	0.28
7		$250	155,140,136	44,772,024	0.29
8	$8	$150	153,894,438	37,551,986	0.24
9	$10		153,627,611	36,495,433	0.24
10	$12		153,187,756	34,936,019	0.23
11	$15	$100	136,919,988	12,552,918	0.09
12		$125	150,056,846	27,519,846	0.18
13		$150	152,719,258	33,516,381	0.22
14		$175	153,679,368	36,697,330	0.24
15		$200	154,172,488	38,796,597	0.25
16		$225	154,705,641	41,656,490	0.27
17		$250	154,968,449	43,361,881	0.28

Table 1 shows that by more than doubling the lime plant operating costs from USD7 per ROM tonne to USD15 per ROM tonne, while keeping the quicklime price at USD150 per saleable tonne, the change in ore tonnage is -1,175,180 tonnes or -0.76%, which is neglectable.

Earthlab decided to use the pit shell of run 13 shown in Table 1, which was based on a lime plant OPEX of USD15 per ROM tonne and a quicklime price at the gate of USD150 per saleable tonne, which Earthlab states are both conservative. The pit shell shown in Figure 3 above is derived from run 13 in Table 1.

MAIDEN JORC COMPLIANT MRE

The gross Mineral Resource for Domain A is 145.2 Mt comprising 11.8 Mt in Measured, 55.4Mt in Indicated and 78.0Mt in Inferred (Table 2).

Table 2: Domain A gross Mineral Resource for Limeco Resources (Earthlab, November 2024).

Category	Tonnage after 5% geoloss (Mt)	CaO (%)	$CaCO_3$ (%)	MgO (%)	Fe_2O_3 (%)	Al_2O_3 (%)	SiO_2 (%)	LOI (%)
Measured	11.8	53.7	95.8	1.2	0.1	0.2	0.6	42.8
Indicated	55.4	53.5	95.5	1.2	0.2	0.2	0.8	42.6
Measured + Indicated	67.2	53.5	95.6	1.2	0.2	0.2	0.8	42.7
Inferred	78.0	53.6	95.7	1.5	0.2	0.4	0.9	42.1
Total	145.2	53.6	95.7	1.4	0.2	0.3	0.8	42.4

Total gross potential saleable quicklime for Domain A is 31.9Mt comprising 2.6Mt in Measured, 12.1Mt in Indicated and 17.2Mt in Inferred (Table 3).

Table 3: Domain A gross potential saleable quicklime for Limeco Resources (Earthlab, November 2024).

Category	Tonnage after 5% geoloss (Mt)	CaO (%)	MgO (%)	Fe_2O_3 (%)	Al_2O_3 (%)	SiO_2 (%)
Measured	2.6	96.3	2.1	0.2	0.3	1.1
Indicated	12.1	95.6	2.2	0.3	0.4	1.4
Measured + Indicated	14.7	95.8	2.2	0.3	0.4	1.4
Inferred	17.2	94.6	2.7	0.4	0.8	1.5
Total	31.9	95.1	2.5	0.3	0.6	1.5

Total gross potential saleable aggregate for Domain A is 87.1Mt comprising 7.1Mt in Measured, 33.2Mt in Indicated and 46.8Mt in Inferred (Table 4).

Table 4: Domain A gross potential saleable aggregate for Limeco Resources (Earthlab, November 2024).

Category	Tonnage after 5% geoloss (Mt)	CaO (%)	$CaCO_3$ (%)	MgO (%)	Fe_2O_3 (%)	Al_2O_3 (%)	SiO_2 (%)	LOI (%)
Measured	7.1	53.7	95.8	1.2	0.1	0.2	0.6	42.8
Indicated	33.2	53.5	95.5	1.2	0.2	0.2	0.8	42.6
Measured + Indicated	40.3	53.5	95.6	1.2	0.2	0.2	0.8	42.7
Inferred	46.8	53.6	95.7	1.5	0.2	0.4	0.9	42.1
Total	87.1	53.6	95.7	1.4	0.2	0.3	0.8	42.4

Deon du Plessis, Chief Executive Officer of Earthlab, said: *"Completing the JORC compliant MRE for Firering proved to be a very exciting project. Our research indicated that the key to understanding Limeco's deposit was its chemical characteristics in addition to its geological information. Our work clearly showed three Domains A, B and C, each with a unique chemical fingerprint. Our JORC compliant MRE is only for Domain A, which is the high grade CaCO3/CaO domain with low MgCO3/MgO and Fe2O3, making this domain perfect for the production of high-quality quicklime through Limeco's lime plant. Earthlab considers Limeco's deposit a significant deposit providing Limeco with decades of high-quality limestone for its quicklime operation. The upside and production scalability of Limeco's deposit puts it in the Tier 1 category, when compared to other limestone deposits".*

Competent Person

In accordance with the AIM Rules - Note for Mining and Oil & Gas Companies, the information contained in this announcement has been reviewed by Mr. Deon du Plessis. Mr du Plessis is a qualified professional Geologist (Pr.Sci.Nat. - 400050/05) and Fellow of the Geological Society of South Africa (FGSSA - 963338). Mr du Plessis has over 22 years of relevant experience within the geology and mining sectors.

THIS ANNOUNCEMENT CONTAINS INSIDE INFORMATION AS STIPULATED UNDER THE UK VERSION OF THE MARKET ABUSE REGULATION NO 596/2014 WHICH IS PART OF ENGLISH LAW BY VIRTUE OF THE EUROPEAN (WITHDRAWAL) ACT 2018, AS AMENDED. ON PUBLICATION OF THIS ANNOUNCEMENT VIA A REGULATORY INFORMATION SERVICE, THIS INFORMATION IS CONSIDERED TO BE IN THE PUBLIC DOMAIN.

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For further information visit www.fireringplc.com or contact:

Firering Strategic Minerals
Yuval Cohen E: info@firering-holdings.com
SPARK Advisory Partners Limited (Nominated Adviser)
Neil Baldwin / James Keeshan / Adam Dawes T: +44 20 3368 3550
Optiva Securities Limited (Joint Broker)
Christian Dennis / Daniel Ingram T: +44 20 3137 1903
Shard Capital Partners LLP (Joint Broker)
Damon Heath / Erik Woolgar T: +44 20 7186 9950
St Brides Partners Limited (Financial PR)
Isabel de Salis / Susie Geliher / Seb Weller E: firering@stbridespartners.co.uk

Notes

Firering Strategic Minerals plc is an AIM listed resource company set to commence commissioning a significant quicklime project in Zambia in Q4 2024 to produce 600-800 tonnes of quicklime per day along with ancillary products. With over US$100 million in historical investment, the project is strategically positioned to support the expanding copper producers in the Zambian Copper Belt, which are currently reliant on imported quicklime from South Africa. Firering currently holds an SPA over a 20.5% stake in Limeco Resources Limited ("Limeco") with 16.7% already accumulated and an option to increase this to 45%. Additionally, the Company is advancing the Atex Lithium-Tantalum Project in northern Côte d'Ivoire, an exploration project rich in lithium and tantalum-niobium, with drilling results indicating significant resource potential in this established mining jurisdiction.

Criteria: JORC Table 1 - Section 1: Sampling techniques and data	
Explanation	Answer
Sampling Techniques	
· Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry-standard measurement tool appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These should not be taken as limiting the broad meaning of sampling. · Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurements or systems used. · Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (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 (e.g., submarine nodules) may warrant disclosure of detailed information.	· Diamond drilling core samples were split into half-core and cut into sample intervals, which were submitted to the labs. Where duplicates were sent to multiple labs, the half-core samples were split into quarter-core samples (field duplicates). · Sampling was done across the entire depth of each drill hole, excluding only the unconsolidated overburden material. Sample lengths ranged from 10 cm to >8 m, but mostly ranged between 1 and 2 m which captured a reasonable representation of the alternating material types. 92% of assay samples were sampled to material type geological contacts. · The sampling SOP dictated sample collection methodology and insertion of quality control samples. · The total amount of assay samples captured in the dataset was 6,959 samples. · Multiple labs have been used for analyses. Sample preparation and analysis methods were not disclosed for samples analysed by Mopani, Ndola, Alex Stewart, or Limeco. Samples analysed by SGS: <3kg were dried at 105°C for 4 hours, pulverised to 90% passing 2.36 mm, split 250 g - 1 kg and pulverised to 85% passing 75 µm. CaO, $CaCO_3$, MgO, Fe_2O_3, and Al_2O_3 were analysed

	by atomic absorption spectrometry (AAS) after multi-acid (HNO_3/$HClO_4$/HCl/Hf) digestion using 0.4 g pulp. Volume was bulked up to 100 ml. Determination of available CaO was by titration. $SiO_2$was measured with AAS after sodium fusion.
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).	· Drill data used in this Mineral Resource was only that of diamond core drilling (HQ and NQ core sizes). · Eighty-five (85) drill holes were drilled at a -60° angle to intersect the 30-40° dipping lithology at an approximately perpendicular angle. · Fifty-three (53) drill holes were drilled vertically. · Downhole surveys were not performed. · Drill core was not orientated.
Drill Sample Recovery	
· Method of recording and assessing core and chip sample recoveries and results assessed. · Measures taken to maximise sample recovery and ensure representative nature of the samples. · Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	· Core recovery was measured and calculated from the core with an average of >95% core recovery in the 81 drill holes which were subjected to basic Geotech logging. · Core recovery was low in areas where unconsolidated overburden material, cavities, or clay material were intersected. · Measures taken to maximise core recovery were not recorded in historical reports. · No clear correlation was observed between grade and core recovery.
Logging	
· Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. · Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. · The total length and percentage of the relevant intersections logged.	· Geological logging was qualitative and was completed to the level of detail sufficient to support Mineral Resource modelling and estimation, mining studies, and metallurgical studies. · Basic Geotech logging was done on 81 drill holes with several quantitative variables. Advanced geotechnical analysis was done on 6 drill holes to quantify cohesion, internal angle of friction, and modulus of elasticity. · Drill holes were logged and sampled from top to bottom, which equated to 9,115 m of geological logging entries across the 138 drill holes (100% of the total drilled length).
Sub-Sampling Techniques and Sample Preparation	
· If core, whether cut or sawn and whether quarter, half or all core taken. · If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. · For all sample types, the nature, quality, and appropriateness of the sample preparation technique.	· HQ and NQ core was split into half-core - one half for sampling, the other half retained for future reference. When samples were sent to a single lab, half-core samples were submitted. When sent to multiple labs, the core was split into quarter-core to create field duplicates which were sent to the respective labs. Sampling procedures were guided by the SOP.

· Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. · Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. · Whether sample sizes are appropriate to the grain size of the material being sampled.	· Multiple labs have been used for analyses. Sample preparation and analysis methods were not disclosed for samples analysed by Mopani, Ndola, Alex Stewart, or Limeco. · Samples analysed by SGS: <3kg were dried at 105°C for 4 hours, pulverised to 90% passing 2.36 mm, split 250 g - 1 kg and pulverised to 85% passing 75 µm. CaO, $CaCO_3$, MgO, Fe_2O_3, and Al_2O_3 were analysed by atomic absorption spectrometry (AAS) after multi-acid (HNO_3/$HClO_4$/HCl/Hf) digestion using 0.4 g pulp. Volume was bulked up to 100 ml. Determination of available CaO was by titration. $SiO_2$was measured with AAS after sodium fusion. · Sample preparation techniques were assumed to be appropriate for limestone samples to be analysed for the respective elements. · No details were available on quality control procedures adopted to maximise representivity during sub-sampling, however, this was not a concern for the CP given the type of deposit and mineralisation. · Sampling was mostly done to material type geological contacts from top to bottom of the drill holes. Field duplicates (quarter-core) samples were analysed. · Sample sizes were appropriate for the type of bulk commodity deposit and its mineralisation.
Quality of Assay Data and Laboratory Tests	
· The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. · For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. · Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	· Where AAS was used by SGS, the method was total. Insufficient details were available on sample preparation for ICP analysis. Where titration was possibly used, it would have been a partial technique. · The analysis techniques used on the accepted samples (excluding Ndola results) were regarded as appropriate and acceptable for this type of commodity, deposit, and grade ranges. · The use of reputable laboratories such as Alex Stewart and SGS and the comparison of these labs' results with Mopani added to the general confidence in the assay results. · 2012 - 2013: The sample batches did not include CRMs and blanks inserted by the geologist. No details were available on the in-house QC samples that would've been inserted by the labs. Field duplicates (quarter core) were sent to an umpire laboratory (Alex Stewart) at a rate of 1 in every 10 samples. Despite the lack of comprehensive blind QC, the comparison (mean error) between the main lab (Mopani) and the umpire/secondary lab (Alex Stewart) leads to the acceptance of the results. · 2017: According to the SOP, AMIS0250 CRMs were inserted at a rate of 1 CRM after every 14 samples. Duplicates were prepared for every 10^{th} sample in a 60-sample batch. Blanks were inserted at the beginning, end, and at every

	12th sample. Pass/fail criteria dictated by the SOP. SGS inserted their own in-house QC samples as well to monitor accuracy, precision, and contamination. Both Mopani and SGS reported a consistent negative bias in the AMIS0250 attributed to the different matrix of the CRM (fluorspar and dolomite). The use of the CRM was ceased. No contamination was measured. Precision performance for the target element, Ca, as well as Mg were very good. The mean error between Mopani and SGS suggested that Mopani results could be accepted based on the reputability of SGS.
Verification of Sampling and Assaying	
· The verification of significant intersections by either independent or alternative company personnel. · The use of twinned holes. · Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. · Discuss any adjustment to assay data.	· No verification drilling or sampling was done as part of this Mineral Resource Estimation. · No drill holes were twinned. General geology could be confirmed in the historical quarry where mining took place in 2016. · Lab results were received in the form of lab certificates and presumably spreadsheets. Spot checks were done by Earthlab to compare the assay dataset and the scanned lab certificates. · Data has been stored mostly in Microsoft Excel workbooks as well as Microsoft Access tables. Standard logging sheets were used by geologists, but no details regarding electronic data-capturing procedures were available. · No adjustments made to assay data other than disqualification during data validation steps, and top-capping after compositing.
Location of Data Points	
· Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. · Specification of the grid system used. · Quality and adequacy of topographic control.	· DGPS was used to survey collar coordinates which is significantly more accurate than an ordinary GPS. · No historical reported information on downhole surveys but based on the single data record per drill hole, it was presumed that downhole surveys were not done and the orientation of the drill rig setup was recorded for the drill holes that ranged between approximately 60 and 90 m in drill length. · All coordinates are in Arc 1950 UTM Zone 35S. · The topographic scan was limited and did not cover the entire project area. The surface was expanded using the drill hole collars. The topography in the area is flat gradually ranging from 1,190 to 1,200 mamsl.
Data Spacing and Distribution	

· Data spacing for reporting of Exploration Results. · Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. · Whether sample compositing has been applied.	· Drill hole collar spacing varies across the project, ranging between 50, 100, 175, 200, 250, and 350 m and was appropriate for Mineral Resource Estimation of a bulk limestone deposit. The average spacing based on a simple formula is 143 m. The widest spacing was sufficient for Inferred Mineral Resource Classification, while the area with tight spacing (50 - 100 m on average) included Indicated and Measured classification. · Samples were taken from top to bottom of the drill holes at lengths ranging on average between 1 and 2 m. · Samples were composited to 1.25 m in vertical drill holes and 1.45 m in angled drill holes to represent equal vertical support which was 50% of the resource block's vertical dimension (2.5 m).
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. · 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.	· Although angled drill holes intersecting the lithology at an approximately perpendicular angle were more ideal than the vertical drill holes intersecting it at an angle, the possible bias/effect caused by this in a bulk deposit such as this would be negligible. The deposit is a bulk limestone deposit and therefore "mineralisation" isn't limited to key structures.
Sample Security	
• The measures taken to ensure sample security.	• Core and sample transport procedures were dictated by the SOP and the core has been securely stored in shipping containers inside a fenced storage yard. No details regarding the sample chain of custody were available.
Audits or Reviews	
• The results of any audits or reviews of sampling techniques and data.	• No official internal or external audits have been reported on that Earthlab knows of. • Golder (2017) reviewed and improved some of the interpretation, methodology, and work previously done by Mopani (2013). • Earthlab reviewed the historical work by Mopani (2013) and Golder (2017). While Earthlab accepted the logging and assay data, Earthlab applied its own, new interpretation and created a new geological model and Mineral Resource Estimation.

Criteria: JORC Table 1 - Section 2: Reporting of Exploration Results

Explanation	Answer
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 security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	• The current owner of the project is Limeco Resources Limited (Limeco), with Firering Strategic Minerals PLC (Firering), owning 20.5% of Limeco based on a binding shares purchase agreement (SPA) with the company. Firering is also granted an option to acquire an additional 24.5% interest in Limeco which will then increase Firering's shareholding to 45%. • Limeco is leasing two farm portions adjacent to each other. Both farms are leased for 100 years from 1 June 1975. The farms are subdivision '1' of subdivision 'K' of farm 688 (Certificate number: 307409) occupying 206.94 Ha and subdivision '581' of subdivision 'A' of farm number 1957 (Certificate number: 315597) occupying 260.04 Ha. • License number 21279-HQ-MPL (Mineral Processing Licence) is owned by Limeco under the Mines and Mineral Development Act of 2015 (Act No. 11 of 2015). License 21279-HQ-MPL was granted on 21-11-2016 and is valid until 20-11-2041 for Limestone production. The license has a size 382.68 Ha and is owned by Limeco. • A small-scale exploration license 37483-HQ-SEL has been granted on 09-08-2024 over a portion of the property to Limeco and covers 148.43 Ha for the exploration of limestone and marble, which is valid until 08-08-2028. • A second small-scale exploration license 37900-HQ-SEL was granted on 15-08-2024 and is valid until 14-08-2028 for the exploration of dolomite, feldspar, granite, graphite, limestone, marble, mica, quartz, talc-soapstone, tin and tungsten over the 392.51 Ha.
Exploration Done by Other Parties	
• Acknowledgment and appraisal of exploration by other parties.	• The historical exploration work by Mopani in 2013 and Golder in 2017 that makes up all the data used for this Mineral Resource Estimate was discussed in this CPR.
Geology	
• Deposit type, geological setting, and style of mineralisation.	• The project is underlain by Precambrian meta-sediments which host intrusions of basic and granitic rocks. The basement complex comprises of Palaeozoic calcareous quartzite and biotite gneiss. The Katanga Supergroup unconformably overlies the basement complex rocks and contain the limestone and dolomites, likely from the lower Kundelungu Group on the Lusaka Plateau (Lusaka Dolomite Formation as mentioned in Golder Associates, 2017). The rocks of the Katanga

	Supergroup show regional-scale metamorphism. These rocks are covered by quaternary sediments. • The Lusaka Plateau comprises three formations namely the Lusaka Dolomite Formation, Cheta Formation and the Chunga Formation. The lowermost geological unit is the Chunga Formation which comprises basement rocks including gneiss and quartzites. The overlying Cheta Formation comprises schist and quartzite and is dominated by thick and extensive sequences of carbonates. The Lusaka Dolomite Formation is the uppermost geological unit and comprises calcareous and dolomitic marbles. • It was interpreted that this limestone was deposited on a lagoon-shoal shelf, where wind and still water deposited sediments forming wackstone, packstone and upward grainstone in horizontal to wavy grey laminated layers. Due to the geological time period of deposition, the atmosphere was already rich in oxygen which could give rise to the deposition of iron-rich minerals or layers within the limestone deposits. Where the limestone is more dolomitic in composition and in contact with more calcitic limestone, greater water retention occurs leading to the internal weathering of these iron-rich minerals or layers. If specific conditions occurred in the dolomite during deposition, the dissolution of the dolomite occurs, which could also lead to iron-rich phases forming including hematite and ferrihydrite.
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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level -elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. · If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	· Historical drill holes were used for the compilation of this MRE. The information is tabulated in Table 36 inAppendix A: Drill Hole Summary of this report.
Data Aggregation Methods	
· 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. · 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	· During initial analysis at material type resolution (pre-compositing) length-weighting was applied. Vertical holes' sample lengths were adjusted with a correction factor of cos(30°) to be used with close to equal support when combined with the angled holes' samples. · Compositing was done within domain boundaries. Vertical holes composited to 1.25 m and angled holes to 1.45 m to have fair vertical support.

examples of such aggregations should be shown in detail. · The assumptions used for any reporting of metal equivalent values should be clearly stated.	· Topcapping was applied after compositing and is disclosed in detail in Table 12 in this CPR. · No metal equivalents were 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 (e.g., 'down hole length, true width not known').	· The dip and dip direction/strike of the lithology were measured on outcrop and inside the historical quarry and used to guide the modelling, geostatistical analysis and estimation. The drill holes are fully situated within the bulk limestone, and therefore the only case where the relationship between interception length and geological geometry is relevant is the waste domain, Domain D.
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.	· Appropriate and relevant diagrams are included in this CPR.
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.	· Reporting of Exploration Results in this CPR is balanced. The report does not only include the positive results e.g. the significant number of drill holes, the high CaO grade, and the large Mineral Resource, but also includes "negative" and real aspects of the work such as the reporting of missing information, presence of erroneous data, and deleterious element grades restricting certain domains from being declared as Mineral Resources.
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.	· Golder (2017) incorporated trench observations in their interpretation and modelling. Earthlab did not have access to the raw data of trenches but did not consider this as a limitation. · Mopani (2017) and Golder (2017) mentioned that resistivity survey and hydrogeological work were done, but Earthlab did not incorporate it in this MRE due to not having access to the data or the interpretation. · Golder (2017) measured bulk density by the calliper method on 48 of the 2017 drill holes. Earthlab accepted 625 bulk density samples. · Golder (2017) performed basic geotech logging on 81 drill holes. Advanced geotechnical analysis was done on 6 drill holes to quantify cohesion, internal angle of friction, and modulus of elasticity. · Maerz performed chemical analysis, shatter tests, decrepitation tests, and burning tests. Cimprogetti did chemical, mineralogical, and thermal (TG and DTG)

	analysis and slaking tests. Details can be found in individual reports or compiled and summarised in EARTH-FIRE-PO_#-2-Desktop_Study_1. · Limeco also routinely performs burning tests in their on-site laboratory. · The limestone is to be processed into quicklime, and therefore the other chemical constituents measured (Mg, Fe, Al, and Si) would be considered as deleterious substances as the higher their concentration, the less pure the quicklime. The concentrations of these elements were also estimated to be used in the Mineral Resource definition. · The stockpiles consisted of a 72:28 ore (B1, B2, B8)-waste (B3-B7 + soil) ratio.
Further Work	
· The nature and scale of planned further work (e.g., 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.	· Mine design and scheduling should be prioritised as the next study work to be completed. · Infill drilling in near-term mining areas should be prioritised over step-out drilling to extend the model outward. · Further burning tests should be performed under conditions that resemble kiln conditions as much as possible to refine the understanding of the calcination behaviour and physical properties of the material.

Criteria: JORC Table 1 - Section 3: Estimation and Reporting of Mineral Resources	
Explanation	Answer
Database Integrity	
· Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. · Data validation procedures used.	· Details on historical measures taken to ensure that data was not corrupted were not available for review. · Earthlab performed spot verification checks to compare logged data with markings on the core as well as assay data with the lab certificates. · Earthlab performed rigorous data validation to clean and/or disqualify erroneous data. Validation steps are reported in detail in Section 6.3.
Site Visits	
· Comment on any site visits undertaken by the Competent Person and the outcome of those visits. · If no site visits have been undertaken indicate why this is the case.	· Earthlab's Senior Resource Geologist conducted a site visit on behalf of the CP in September 2024. The CP could not conduct the site visit at the specific time due to unavailability. Earthlab verified the existence of the drill core and did various spot checks comparing logging and sampling intersections in the database with those marked on the core. The site visit also entailed a visit to the existing lime plant, navigating to drill hole collars in the field, and taking structural measurements inside the historical quarry.

Geological Interpretation	
· Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. · Nature of the data used and of any assumptions made. · The effect, if any, of alternative interpretations on Mineral Resource Estimation. · The use of geology in guiding and controlling Mineral Resource Estimation. · The factors affecting continuity both of grade and geology.	· Earthlab has substantial confidence in the geological interpretation based on the regional and local geological setting, the chemical assay results, as well as the burning tests. · Earthlab based the model on historical diamond drill core logged and assayed, as well as structural measurements. Earthlab used the lithological categorisation done by Golder (2017). Apart from the validation steps implemented by Earthlab, Earthlab relied on the assumption that where detailed information and meta-data were lacking in the database the historical data would have been produced through acceptable good practice. · Being a bulk limestone deposit, the Mineral Resource Estimation was controlled by the lithology and chemistry of the geology. · While continuity was difficult to establish at the level of individual material types (B1-B8), at the level of general lithology (and grade) (limestone and dolomite) the continuity is very good and the extents of the formation were not intersected with drilling and is therefore still open in all directions.
Dimensions	
· The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	· While the model extends wider, the portion declared as a Mineral Resource has the following dimensions: o Along strike (NW-SE): ~2,500 m o Along dip (SW-NE): ~150 - 650 m o Vertical: From surface to 80 m below the surface
Estimation and Modelling Techniques	
· The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. · The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. · The assumptions made regarding recovery of by-products. · Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation). · In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	· Most of the statistical and geostatistical analyses were done in Snowden Supervisor v9.0. Datamine StudioRM v2.0.66 was used for the grade estimation and classification. · Estimation domains were modelled based on chemical differences of the limestone. · Topcapping (tabulated in Table 12) was done on composites based on various statistical parameters and visualisations. Topcappings were all at (varying) percentiles ranging between 98.8 and 99.9 while reducing the arithmetic mean by 0.2 - 1.5%. · Due to limited data in Domains B and C, variography was done in Domains A, B, and C combined, given the gradual grade differences. Estimation was done within each domain separately but using the same variograms. · Ordinary kriging was applied to estimate grade in Domain A, B, and C. Inverse Power of Distance to the power of 3 was used in Domain D.

· Any assumptions behind modelling of selective mining units. · Any assumptions about correlation between variables. · Description of how the geological interpretation was used to control the resource estimates. · Discussion of basis for using or not using grade cutting or capping. · The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	· Four passes were run, each remaining constant in dimensions equal to variogram ranges. o Run 1: Minimum 5 samples, maximum 20 samples. Minimum of 3 octants. Maximum of 3 samples per drill hole. o Run 2: Minimum 4 samples, maximum 20 samples. Minimum of 3 octants. Maximum of 3 samples per drill hole. o Run 3: Minimum 3 samples, maximum 20 samples. Minimum of 3 octants. Maximum of 3 samples per drill hole. o Run 4: Minimum 5 samples, maximum 20 samples. No octants required. Maximum of 3 samples per drill hole. · The model was extrapolated to 200 m beyond data extents along strike, 100 m along dip, and 20 m in the vertical beyond the maximum depth of the drill holes. · This Mineral Resource is based on newly created domains due to the new chemical interpretation, but the average grades are relatively similar to previous estimates' grades. · Historical mining data was not incorporated in this Mineral Resource apart from the principle that the lithology and orientation below the surface could be confirmed during the site visit. · Resource parent blocks were 25 mX by 25 mY by 2.5 mZ, allowing subcelling down to 5 mX by 5 mY by 2.5 mZ. No change of support was implemented to selective mining unit-sized blocks. The parent block dimensions in X and Y were ~50% of the tightest sample spacing, 25% of the slightly wider-spaced areas, and 7 - 12% of the widest-spaced areas (Inferred). · In general, CaO (main variable of interest) was negatively correlated with the other (deleterious) variables. Weak but-existent correlations were noted between the respective deleterious variables. MgO and Fe_2O_3 showed good correlations in the variograms, as well as Al_2O_3 and SiO_2, which led to using the same variogram for MgO and Fe_2O_3, and Al_2O_3 and SiO_2. · The geological interpretation and modelling relied on the chemical differences spatially. The geological (chemical) domains were also the estimation domains for grade estimation. · Model validation (Section 15.5) included: o Visual comparison between composites and blocks o Swath plots o Composite arithmetic mean compared with block model arithmetic mean o CaO - $CaCO_3$ ratio check o Sum of oxides and LOI adding up to 95% - 105%. o Bootstrapping CaO.
Moisture	

· Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	· Based on the moisture measured by Maerz and Cimprogetti, it was assumed that internal moisture would be negligible and therefore tonnage is on a dry basis.
Cut-Off Parameters	
· The basis of the adopted cut-off grade(s) or quality parameters applied.	· The Mineral Resource is not based on a CaO (main variable of interest) cut-off grade. · In an attempt to keep deleterious elements in the quicklime product below a certain specification, blocks in Domain A2 where the MgO in quicklime (not limestone) was estimated to be >5% were classified as waste before pit optimisation. · Based on the deleterious element concentrations in Domains B and C concerning quicklime, only Domain A was considered for the Mineral Resource.
Mining Factors or Assumptions	
· Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	· Material will be extracted by conventional open pit mining/quarrying, using rigid or articulated dump trucks, backhoe excavators, and ancillary equipment. · Pit optimisation was completed using cost parameters reported in this CPR and using a pit slope angle of 55° based on geotechnical analysis. · The monthly ROM tonnes at steady state with the current lime plant configuration of eight (8) vertical kilns is estimated at 84,075 tonnes of limestone feeding into the installed primary jaw crusher of the two-stage crushing circuit. · Blast hole drilling will take cognisance of material types and waste contacts for grade control purposes as well as appropriate fragmentation. The waste material (B5 and B6 material types) has higher concentrations of Fe and has a yellowish/brownish colouration (contrasting from the grey colours of the material types of the Mineral Resource), which will be spotted and controlled during drilling and loading activities in the pit. It will be necessary to conduct on-site XRF analysis of the blast hole drilling samples to monitor the CaO% and the deleterious concentrations for grade control purposes based on cut-off or topcut grades in terms of product specifications. The blast holes will be charged with emulsion explosives. These explosives will be detonated remotely from a safe distance. After successful blasting operations, the broken rock will be removed by excavators following a dig plan and loaded onto trucks, which will transport the material to designated waste and ROM areas. · Mining could be conducted in 5 or 10 m benches (minimum flitch size will be 2.5 m, in line with the original z-height of the parent cell dimension, which will be the smallest mining unit). Flitches of the waste material may vary between 2.5 m and 10 m for both blasting and loading activities.

Metallurgical Factors or Assumptions	
· The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	· Material burning tests have been performed by Maerz Laboratory and Cimprogetti Lime Technologies. Ongoing burning tests are also performed in the on-site laboratory. · The target quicklime specifications for the Mineral Resource were set to: o CaO: >90% o MgO: <2.5% o Fe_2O_3: <1.0% o Al_2O_3: <1.0% o SiO_2: <2.0% · The lime plant comprises the following (Investor Presentation, October 2024): o Two-stage crushing circuit with an installed primary throughput capacity of 300 tonnes per hour of limestone (a jaw and an impact crusher). Two sets of screens follow the crushing circuit: a double and a triple deck. o Eight (8) vertical kilns for burning crushed limestone (+60 mm -90 mm fraction separated by the double deck screen), to produce an average of 700 tonnes of quicklime per day. From the crushing circuit, the -60 mm stream will go to the triple deck screen to split into three aggregate size fractions. o Renovations are being done on one of the kilns. The previous heat source of Heavy Fuel Oil (HFO) is being replaced by a Coal gasifier. The HFO containers are rented out to a third party for fuel storage. o At steady state the estimated quicklime output per regular production month is estimated as 18,900 tonnes. o Other products will be generated from the -60 mm fraction which among other include aggregate and cement for the local construction industry.
Environmental Factors or Assumptions	
· Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	· Coal gasifiers will be used as a heat source to burn the limestone inside the vertical kilns to drive the CO_2 gas off to produce saleable quicklime with the maximum allowable impurities in the final product. Coal ash is planned to be sold to the cement industry. · The environmental impact of the dust generated by the vertical kilns during the burning process should be considered. A filtration system to capture the dust to be discarded as waste, saleable product or treated in an environmentally accepted manner should be considered. · Due to the low stripping ratio (0.2), the dumped waste will not be sufficient to backfill the entire quarry post-mining. · The bulk mineral deposit is open at depth, which means that concurrent rehabilitation will not be

	possible, to prevent sterilisation of mineable limestone. · Environmental and other impacts of the eventual back-fill of the void should be considered. · A pre-identified graveyard/burial site is located on the deposit and sterilises a portion of the deposit currently. A buffer zone of 65 m around the demarcated area is included in the exclusion area. This stand-off distance should be reviewed in future and adjusted if necessary. This area is excluded from the Mineral Resource.
Bulk Density	
· Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size, and representativeness of the samples. · The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. · Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	· Tonnage was based on a single dry bulk density value of 2.68 t/m^3 applied across the entire model. · The calliper method was used to measure density in core samples. The SOP did not state whether samples were dried before weighing, but Earthlab made the assumption that the personnel who performed the measurements would have followed good practice and dried the samples before weighing. · Sample lengths ranged mostly between ~8 and 13 cm, at intervals ranging mostly between 2 and 6 m. · 619 samples were accepted ranging between 2.24 and 3.59 t/m^3, topcapped (2 samples) to 3.2, resulting in an arithmetic mean of 2.68 t/m^3. · Density was accepted as representative of the model. · Although cavities exist in the geology, it was decided to account for the loss in tonnage by means of a geoloss factor applied to the Mineral Resource, and not accounted for in the density. · Based on the moisture measured by Maerz and Cimprogetti, it was assumed that internal moisture would be negligible and therefore tonnage is on a dry basis. · No correlation was noted between grade and density, nor between depth and density, therefore justifying using a constant density value across the entire model. · A constant density value 2.0 t/m^3 was applied to the overburden.
Classification	
· The basis for the classification of the Mineral Resources into varying confidence categories. · Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity, and distribution of the data). · Whether the result appropriately reflects the Competent Person's view of the deposit.	· Earthlab performed extensive data validation on the input data and accepted the final input data as reliable. Earthlab was of the opinion that even if the true downhole paths of the drill holes were slightly different from the paths desurveyed from single orientations, or even if there were a slight error in the assay values, the Mineral Resource would still be applicable given the nature of the deposit being a bulk commodity with good grade continuity. · Earthlab considered Kriging Efficiency and Slope of Regression as the two geostatistical parameters

	informing the classification, while also considering drill hole spacing, number of samples used, and whether the model was interpolated or extrapolated. · Geostatistical scorecard: o Measured: § KE: 0.8 - 1.0 § SR: 0.8 - 1.0 o Indicated: § KE: 0.4 - 0.8 § SR: 0.6 - 0.8 o Inferred: § KE: <0.4 § SR: <0.6 · The CP is comfortable with the classification, especially given the type of deposit, amount of drilling, and existence of a historical quarry.
Audits or Reviews	
· The results of any audits or reviews of Mineral Resource Estimates.	· No official audits or reviews have been conducted on this MRE.
Discussion of Relative Accuracy / Confidence	
· Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. · The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. · These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	· Bootstrapping was performed on CaO in the entire Domain A to determine a 95% confidence interval of the mean. The range of the 95% confidence interval was extremely narrow/precise at just 0.4%. The estimated mean of CaO in Domain A was within the 95% confidence interval. Confidence intervals were not calculated for other elements or domains and were only done for the entire Domain A, not local portions separately. · Despite historical mining, no production data was available to compare with the estimate.

APPENDICES
Glossary of Terms

Term	Explanation
AAS	Atomic Absorption Spectrometry - A technique used to measure the concentration of a specific metal or metalloid in a sample. AAS detects elements in either liquid or solid samples through the application of characteristic wavelengths of electromagnetic radiation from a light source. Individual elements will absorb wavelengths differently, and these absorbances are measured against standards.
Bootstrapping	Bootstrapping is a statistical resampling method used to estimate the properties of a dataset, such as its mean, variance, or confidence intervals, by repeatedly sampling with

Term	Explanation
	replacement from the original data. This technique is particularly useful when the underlying distribution of the data is unknown or when the sample size is too small to rely on traditional parametric methods. Bootstrapping creates multiple "resampled" datasets, computes the desired statistic for each, and uses the distribution of these statistics to make inferences.
Calcination	Calcination is a thermal decomposition process in which material, typically carbonate, is heated to a high temperature in the absence of air or oxygen to remove volatile components. In the context of limestone processing, calcination involves heating calcium carbonate ($CaCO_3$) in a kiln to produce calcium oxide (CaO), also known as quicklime, by driving off carbon dioxide (CO_2). Calcination is fundamental in various industrial applications, including the production of cement, lime, and the processing of ores in metallurgy, as it alters the physical and chemical properties of the raw materials to achieve desired characteristics.
Caliper Method	The Caliper Method is a simple and direct measurement technique used to determine the thickness or dimensions of a sample, typically in geological, mining, or engineering applications. This method involves using a calliper - a precision instrument with a sliding scale or digital display-to measure the width, diameter, or thickness of an object. The dimensions are used to calculate the sample's volume which is then used with its weight to calculate its density.
Compositing	Compositing is the process of combining multiple individual samples into a single representative sample to provide an averaged result across the samples which simplifies analysis. The technique is used to meet the requirement of using equal-length samples in geostatistical analysis and estimation.
Chain of Custody	Chain of Custody refers to the documented and unbroken process of handling samples, data, or materials from collection through transport, storage, analysis, and final disposal or reporting. It ensures the integrity, traceability, and accountability of the sample or material, minimising the risk of tampering, loss, or contamination.
CRM	Certified Reference Material (CRM) is a high-quality, well-characterised material that has been certified for one or more specific properties or analytes by a technically valid procedure. CRMs come with a certificate that provides the certified values, measurement uncertainties, and traceability to a recognised standard. CRMs are used as benchmarks to ensure accuracy and precision in analytical measurements.
CPR	Competent Persons Report is an independent assessment of a company's mineral properties, including its Mineral Resources and Ore Reserves, reported and signed off by one or more Competent Persons.
Cut-off Grade	Cut-off grade is the minimum grade or concentration of a mineral or metal in ore required for it to be economically viable to extract and process. It acts as a threshold that determines whether material is classified as ore (profitable to process) or waste (uneconomical). The cut-off grade depends on several factors, including metal prices, mining and processing costs, recovery rates, and market conditions.
Domain	In geology, a domain often describes a spatially distinct region with consistent/homogenous geological, mineralogical, or geochemical characteristics, such as a mineralised zone or lithological unit. Domains are used to model ore bodies, analyse spatial distributions of elements, and guide resource estimation.
DGPS	Differential Global Positioning System - An advanced navigation and positioning system that enhances the accuracy of standard Global Positioning System (GPS) measurements. DGPS uses a network of fixed ground-based reference stations to correct GPS signals, significantly reducing errors caused by satellite orbit variations, atmospheric interference, and clock discrepancies.
Geoloss	A geological loss factor is applied to the Mineral Resource to account for a loss in the material of interest due to the discontinuation of the geological unit or the inability to mine the material due to geological conditions.

Term	Explanation
	Geological loss is expressed as a percentage by which a Mineral Resource is discounted. There are two types termed "Known" and "Unknown" losses. Mineral Resources are discounted by the total approximated geological losses.
Geostatistics	A branch of statistics that analyses and predicts spatial data. It uses statistical models to incorporate spatial coordinates into data acquisition, allowing for the following: describing and modelling spatial data, predicting values at unsampled points, and evaluating the uncertainty of estimates.
Geotechnical logging	A process that involves the detailed examination of rock from drill holes or excavation sites to collect data about their quality and structure. The data collected can include information on rock fracture frequency; weathering; rock mass quality; joint conditions; and type, location, orientation, and surface conditions of fractures.
HQ	A letter name specifying the dimensions of bits, core barrels, and drill rods in the H-size and Q-group wireline diamond drilling system having a core diameter of 63.5 mm and a hole diameter of 96 mm.
ICP	Inductively Coupled Plasma (ICP) is an analytical technique used to detect and quantify trace elements and isotopes in a wide range of sample types. It relies on a high-temperature plasma-created by ionizing argon gas using an electromagnetic field-as an energy source to excite atoms and ions in the sample. These excited species emit characteristic wavelengths of light, which are measured using a spectrometer.
Indicated	An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
Inferred	An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
Inverse Power of Distance	The inverse power of distance is a mathematical method of interpolation. Samples are weighted proportional to the inverse of the distance between each sample and the point estimated.
JORC	Joint Ore Reserves Committee - The Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) is a professional code of practice that sets minimum standards for Public Reporting of Exploration Results, Mineral Resources and Ore Reserves.
Kriging Efficiency	Kriging efficiency is a geostatistical metric that measures the effectiveness of the kriging estimate to reproduce the local block grade accurately. A higher Kriging Efficiency value means a lower degree of over-smoothing and a more robust estimate.
Measured	A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through

Term	Explanation
	appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Ore Reserve or under certain circumstances to a Probable Ore Reserve.
NQ	A letter name specifying the dimensions of bits, core barrels, and drill rods in the N-size and Q-group wireline diamond drilling system having a core diameter of 47.6 mm and a hole diameter of 75.7 mm.
Optimised Pit Shell	The outline of an optimal open pit/quarry that maximises net present value while meeting operational requirements. The process of determining the pit shell is called pit optimisation, and it's a key preceding step in designing and scheduling open pit mines. The goal of pit shell optimisation is to find the pit shell that generates the highest net present value for a given deposit while adhering to limitations imposed such as geotechnical or spatial limits.
Ordinary Kriging	Ordinary Kriging is a geostatistical interpolation method used to estimate unknown values at unsampled locations based on known data points while minimising estimation variance. It assumes that the mean of the data is unknown but stationary across the area of interest. Ordinary Kriging uses spatial autocorrelation, quantified through a variogram, to weigh the influence of nearby data points, giving greater weight to those closer to the estimation location while also considering each data point's location relative to other data points.
QAQC	Quality Assurance and Quality Control refers to the systematic processes and procedures implemented to ensure the accuracy, precision, and reliability of data, results, and operations in various industries, including mining, geology, and laboratory analysis. QAQC ensures that data and processes meet predefined standards, providing confidence in decision-making, regulatory compliance, and reporting in exploration, resource estimation, and other critical applications.
Quicklime	Quicklime, also known as calcium oxide (CaO), is a white, caustic, and alkaline material produced by the thermal decomposition of limestone (calcium carbonate, $CaCO_3$) in a lime kiln at high temperatures (approximately 900-1,000°C). This process, known as calcination, removes carbon dioxide (CO_2), leaving behind quicklime.
Resource Classification	Defined as classes or categories as per the JORC Code (2012) in decreasing confidence levels as Measured, Indicated and Inferred.
RPEEE	Reasonable Prospects for Eventual Economic Extraction - a technical and economic assessment of the factors that could affect the possibility of extracting a resource economically. These factors include: Mining, Metallurgical and Processing, Economic, Marketing, Legal, Infrastructure, Environmental, Social, and Governmental. It's a principle used to define mineral resources and is a key component of the Definition Standards for Mineral Resources.
ROM	Run-of-mine refers to the raw, unprocessed ore material as it is extracted from the mine, and ready for processing in the plant where it will be subjected to treatment including crushing, screening, and in this project's case calcination.
SOP	Standard Operating Procedure - A document that provides step-by-step instructions for how to perform a specific task.
Slope of Regression	The Slope of Regression is a geostatistical metric that measures the degree of over-smoothing of the high and low grades and represents the regression slope of the estimated block grades against the corresponding true, but unknown block grades.
SPA	A Share Purchase Agreement (SPA) is a legally binding contract that outlines the terms and conditions for the sale and transfer of shares in a company. It is typically used in mergers and acquisitions, private equity transactions, or business sales, ensuring that both the buyer and seller agree on key details of the transaction.

Term	Explanation
Subcelling	Subcelling refers to the process of subdividing large parent blocks in the block model into smaller blocks to honour domain wireframe boundaries more accurately.
Topcapping	Topcapping, also known as grade capping or outlier capping, is a data processing technique used in resource estimation to limit the influence of extremely high values, or outliers, in a dataset.
Variography	Variography is the process of analysing and modelling spatial variability in a dataset by examining how values of a variable change with distance and direction. It is a fundamental tool in geostatistics, used to quantify spatial relationships and create models for resource estimation, environmental studies, and other applications where spatial continuity is important.
XRF	X-ray fluorescence is a non-destructive analytical technique used to determine the elemental composition of materials. It works by exposing a sample to high-energy X-rays, causing the atoms in the sample to emit secondary (fluorescent) X-rays at characteristic wavelengths. These emitted X-rays are detected and analysed to identify and quantify the elements present.

END