

ASX RELEASE | 9 November 2022 | ASX: AON

# INITIAL EXPLORATION TARGET KROUSSOU ZINC LEAD PROJECT

Apollo Minerals Limited ("Apollo Minerals" or "Company") (ASX: AON) is pleased to announce an initial Exploration Target for the Company's 100% owned Kroussou Zinc-Lead Project ("Kroussou" or "Project") in Gabon.

# **Highlights:**

- Globally significant initial Exploration Target defined at Kroussou;
- Initial Exploration Target has been defined from only six of the 23 Target Prospects;
- Zinc and lead mineralisation is shallow across the target areas with an average depth of only 15 metres, potential for simple open pit mining extraction;
- Excellent metallurgy confirmed, high recoveries and quality saleable zinc and lead concentrates;
- **High confidence in further discoveries** across the province scale Project and strong potential for growth with further drilling;
- Initial Exploration Target outlines potential for Kroussou to host a globally significant base metal endowment;
- Next steps include expansion of exploration into the newly acquired Keri permit, ranking and drilling of high-priority targets and exploration of other Target Prospects.

The initial Exploration Target has been prepared and reported in accordance with the JORC Code (2012) and consists of between approximately **140 and 300 million tonnes at a grade between 2.0% and 3.4% zinc plus lead.** 

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource for the target area reported. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

#### Apollo Minerals' Managing Director, Mr Neil Inwood, commented:

"Kroussou's initial Exploration Target demonstrates the Project has the scale potential to be a Super Giant base metal project and feature amongst the most significant undeveloped zinc and lead projects globally. It is exciting to note that the initial target only includes six of the 23 target prospects defined to date and there is strong growth potential."

"The recently completed airborne electromagnetic survey has assisted in the delineation of additional targets over prospects where we have not previously drilled. This data will be used to drive further discovery across the 135km of largely untested strike, by providing additional structural context to the mineralisation and is expected to accelerate our exploration work."

"Kroussou's advantages go beyond sheer scale. We are finding near surface mineralisation, which is potentially easy to mine, with extremely positive simple metallurgy in a mining friendly jurisdiction with excellent infrastructure. We have a great team who are extremely motivated to be working on a globally significant mining project."

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# KROUSSOU ZINC-LEAD PROJECT EXPLORATION TARGET

# Introduction

Kroussou is located in south-west Gabon on the central west African coast. The Project is approximately 220km south of the capital Libreville within the Ngounié Province and consists of two permits (G4-569 and G4-456) which are 100% owned by the Company and covers 2,363km<sup>2</sup>.

Kroussou features a 135km strike length along the prospective contact between the Cretaceous Cotier Basin to the west and Archaean/Proterozoic basement to the east. Historical discovery of multiple zinc-lead ("Zn-Pb") mineral occurrences in the southern 85km of the Project (permit G4-569) has validated the province-scale potential of the Project and the Company has recently identified additional targets in the newly granted northern prospect (G4-456). Twenty-three zinc-lead Target Prospects have now been identified at Kroussou of which only six have been drill tested.

To identify the significance of the exploration and development opportunity at Kroussou, the Company commissioned the independent mining consultancy ResourcesWA Pty Ltd ("ResourcesWA") to estimate an initial JORC compliant Exploration Target.

The initial Exploration Target was estimated across only the six Target Prospects at Kroussou where modern diamond drilling has been completed. In addition to the modern drilling data, these six Target Prospects also have geological mapping, geochemical (soils) and geophysical (airborne electromagnetic ("AEM"), airborne magnetics and/or passive seismic) datasets to support the geological models. These combined data sets were used by ResourcesWA to create a geological and mineralisation concept model across the six Target Prospects and to define the initial Exploration Target.

Exploration Target								
Target Prospect	Min. Tonnage (Mt)	Max. Tonnage (Mt)	Min Grade Zn+Pb (%) <sup>2</sup>	Max Grade Zn+Pb (%) <sup>2</sup>	Metal Content Min. Mt (Zn+Pb) <sup>2</sup>	Metal Content Max. Mt (Zn+Pb) <sup>2</sup>		
TP13 (Niambokamba)	25	53	2.6	5.0	1.3	1.4		
TP11 (Dikaki)	50	100	2.0	3.1	1.7	2.0		
TP10 (Bouambo East)	4	8	1.5	2.6	0.1	0.1		
TP10 (Bouambo West)	17	22	2.4	4.1	0.7	0.5		
TP8 (Ngongui)	10	24	1.3	2.2	0.2	0.3		
TP6 (Niamabimbou)	34	93	1.6	2.9	1.0	1.5		
Total	140	300	2.0	3.4	4.8	5.8		
<sup>2</sup> Zinc is approximately 7	2% of the Zn+P	b total by mass.	Note: Figures	have been rou	unded which may affe	ect totals.		

The Initial Exploration Target for the six Target Prospects at Kroussou is summarised below in Table 1, displayed graphically in Figure 1 and consists of **140Mt to 300Mt at a grade between 2.0% and 3.4% Zn+Pb.**<sup>1</sup>

#### Table 1 – Kroussou 2022 Exploration Target Summary.

<sup>1</sup> The potential quantity and grade of the initial Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource. The Exploration Target has been prepared and reported in accordance with the 2012 edition of the JORC Code.

Details of the initial Exploration Target methodology and data used are summarised in the following sections and in Appendix 1.



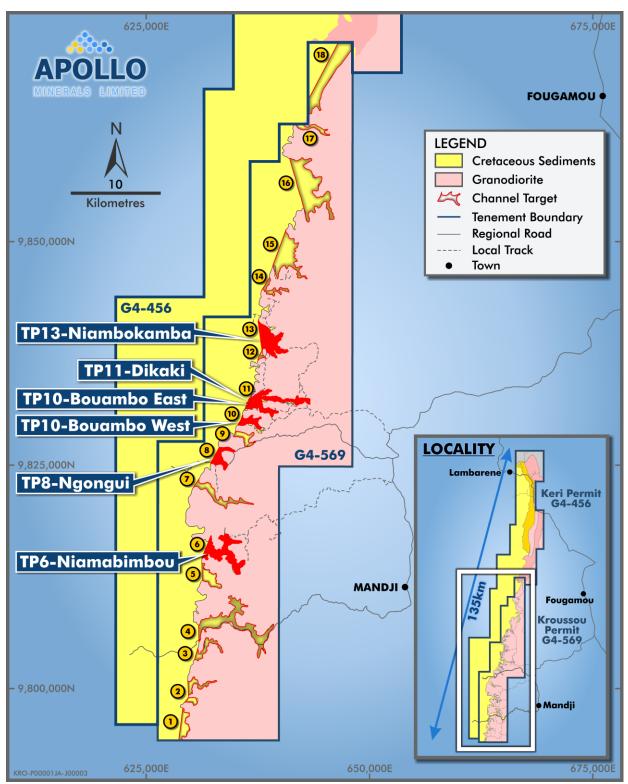


Figure 1 – Kroussou Project – Red colouring denotes areas of the initial Exploration Target.



# **Exploration Target in Context**

Benchmarking of the initial Exploration Target for Kroussou demonstrates the Project has the scale potential to be a 'Super Giant' deposit with a conceptual approximate metal endowment range of 4.8Mt to 5.8Mt of contained Zn+Pb metal from only six of the 23 Target Prospects. This endowment range ranks the Project as having significant potential when compared to other zinc-lead deposits.

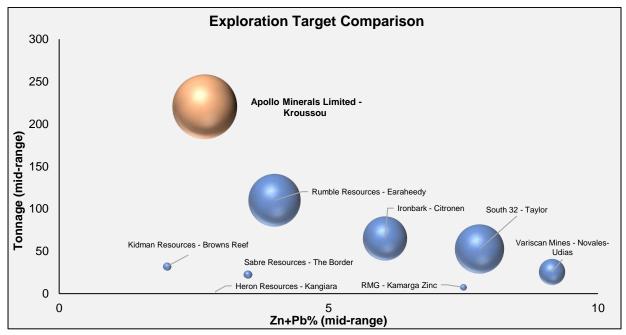


Figure 2 – Comparison of Exploration Targets for peer zinc lead projects (refer Appendix 1 for source information).

Figure 2 displays a graph of combined Zn+Pb grade and metal endowment as mid-point values of peer project Exploration Targets; as a summary method to display the grade and tonnage ranges inherent in an Exploration Target. Appendix 1 contains details of the data set used.

# **Geological Summary**

The Project is centred on an NNE trending basin contact defined by Cretaceous sediments overlying the basement lithologies with long kilometre-scale embayments or paleochannels of Cretaceous sediment running broadly east-west into the basement. The mapped contact broadly conforms with present day topography implying that the current topography has been strongly controlled by the Cretaceous paleo-topography with present-day valleys over Cretaceous valleys. To date, 23 Target Prospects have been defined at Kroussou.

Basement rocks are comprised of crystalline granite gneiss units of Archaean and Proterozoic age. The granite and gneiss units can be foliated, felsic in nature with a high proportion of biotite and are typically found with disseminated marcasite/pyrite and variable chlorite alteration from paleoweathering events.

The current geological and mineralisation genetic model is summarised in Figure 3 as a hybrid Mississippi Valley Type (MVT) model whereby circulating fluids from the basin sediments and possible basement rocks leach metals via oxidised fluids and react with either reduced fluids from the surface water or organic matter within the sediment pile to drop out the mineralisation. Due to the structural architecture of the basin, structural control of mineralising fluids may be preferentially focussing base metal mineralisation into structural fault/breccia-controlled locations as noted at TP13 (Niambokamba).



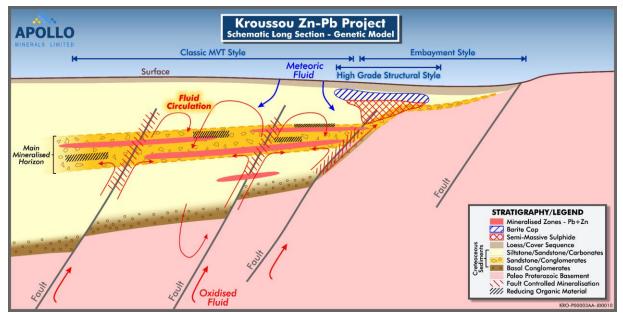


Figure 3 - Conceptual Mineralisation Model for Kroussou.

The overlying Cretaceous sediments within the embayments/paleochannels are siliclastic in nature comprised of flat lying siltstone, sandstone, carbonate and conglomerate units. The sedimentary units are well graded with sandstones varying in grainsize from fine to coarse and conglomerates containing up to cobble sized rounded and sub-angular clasts. Mineralised embayments tested to date have found the eastern portions are shallow ranging from 10-80m in depth and then out to the western edges of the embayments the central portions are ~100-150m deep. Base metal sulphide mineralisation has been mapped at the surface with the average depth of the main mineralised horizon ~10-40m below surface (Figure 4, Figure 5 and Figure 6).

Mineralisation at Kroussou is comprised of sphalerite (zinc sulphide, ZnS), galena (lead sulphide, PbS) +/- marcasite (iron sulphide, Fe<sub>2</sub>S) that is predominantly strata-bound (Figure 4 and Figure 5) and generally hosted within coarse sandstone or conglomerate sedimentary units. Structurally hosted mineralisation has been noted in core comprised of breccia zones and sub-vertical veins as discovered recently at TP13 (Figure 6). Stratabound mineralisation is interpreted to be hosted within a series of broad 'mineralised horizons' with multiple units of sandstone, conglomerates, siltstone and carbonate units forming an overall lower-grade mineralised halo (>0.5% Zn+Pb) with higher-grade mineralised halos (>1-2% Zn+Pb) also present.

No significant oxidation or weathering profile has been noted to date at Kroussou in the areas with drilling apart from the thin loess horizon (1m to 5m thick) that is common in Gabon, based on the Company's interpretation that the sulphide mineralisation is prevalent from surface to the base of the embayments.

Recent metallurgical test work (refer ASX announcement dated 2 November 2022) has demonstrated recoveries of 93% and 94% for Zn and Pb respectively at recovered grades of 53% for Zn and 70% for Pb at TP11 (Dikaki).

Example cross sections displaying mineralisation and geology encountered at some of the Target Prospects are displayed in Figure 4 to Figure 6 with section line locations displayed in Figure 7.



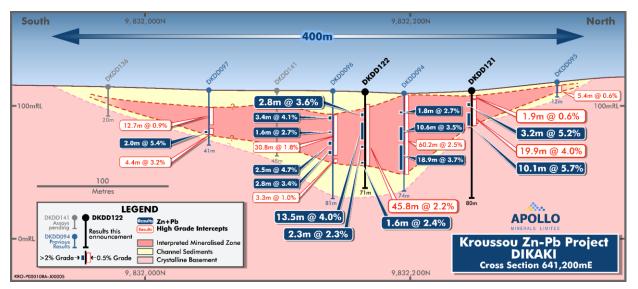


Figure 4 – TP11 (Dikaki) typical cross section with drill results and interpreted mineralised horizon. Note depth of mineralisation from surface.

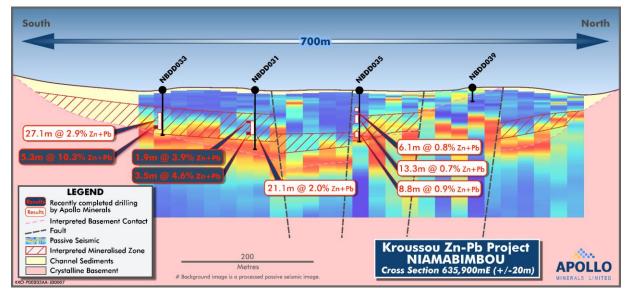


Figure 5 – TP6 (Niamabimbou) typical cross section with drill results and interpreted mineralised horizon and passive seismic interpretation.



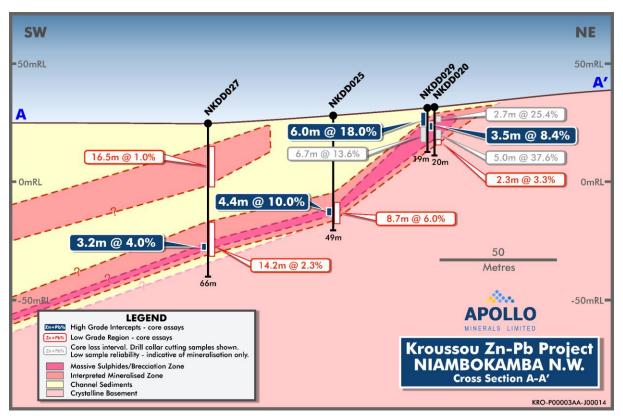


Figure 6 – TP13 (Niambokamba) typical cross section with drill results and interpreted mineralised horizon.

# Data Used for the Exploration Target

The Exploration Target was estimated on Target Prospects where there was a combination of modern diamond drilling, geological mapping, geochemistry (soils) and geophysical data sets (AEM and/or passive seismic) which could support the geological and mineralisation concept model (Figure 7).

# Drilling, Mapping and Geochemistry

Since 2017, there have been a total of 231 diamond holes drilled for 12,275m and 5,470 samples at Target Prospects 6, 8, 10, 11 and 13 (Figure 7). Additionally, there were 447 diamond holes drilled for 7,865m from the 1960's to the 1970's undertaken by the Bureau de Recherches Géologiques et Minières ("BRGM") of which only 164 holes have assays. As the BRGM holes were only sporadically sampled, only drilling undertaken by the Company (2021, 2022) and Trek Metals Limited ("Trek") (2017, 2018) was utilised to inform the grade estimation.

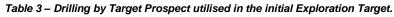
There has been extensive mapping of the basement contact over the entire permit length for G4-569, along with 12,000 soil geochemical samples, 270 stream samples and 653 rock chip samples taken. Figure 8 and Figure 9 displays examples of mapping, soils and rock chip sampling undertaken in the southern third of the Project area. These combined data sets informed the areas selected for inclusion in the Exploration Target.

Company	Timeframe	Timeframe No. of Holes	
BRGM	1966,1979,1980	447	7,865
Trek	2017, 2018	54	2,696
Apollo Minerals	2021, 2022	177	9,579
Total		678	20,139

Table 2 – Drilling completed at Kroussou.



Area	No. of Holes	No. of Metres drilled
TP11 (Dikaki)	146	7,955
TP13 (Niambokamba)	29	1,386
TP10 (Bouambo East)	5	188
TP10 (Bouambo West)	8	367
TP8 (Ngongui)	3	210
TP6 (Niamabimbou)	40	2,169
Total	231	12,275



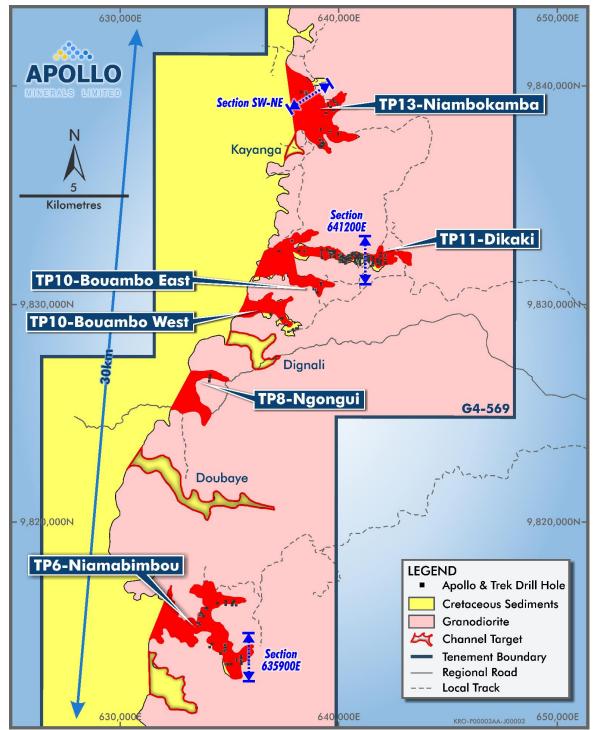


Figure 7 – Initial Exploration Target regions displaying drill hole collars and example sections.



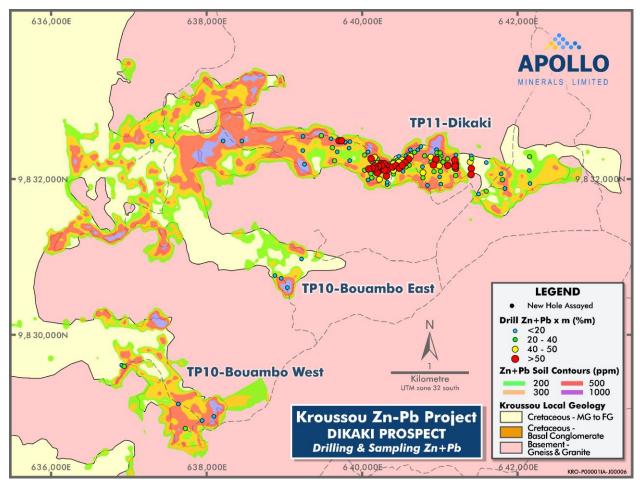


Figure 8 - Drilling and soils at TP10 and TP11.



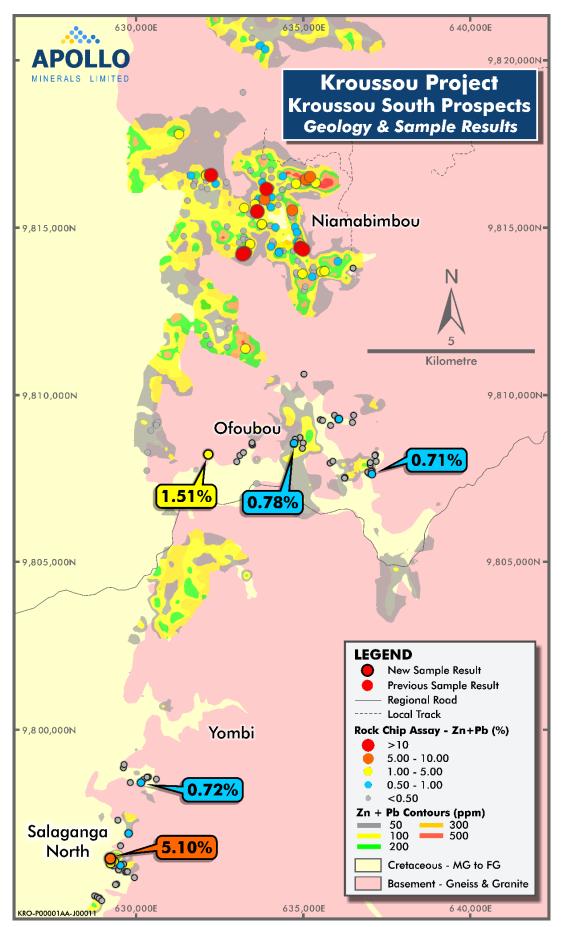


Figure 9 – Soil sample Zn+Pb contours and rock chip samples from the southern part of permit G4-569.



# Geophysics

The Company has undertaken significant geophysical surveys over the Project since 2021 including extensive AEM and land-based passive seismic surveys. Results from these surveys were used to inform the surface mapping interpretation as well as definition of the embayment structures in 3D.

The AEM survey was conducted throughout June-August 2022 and covered the 80km strike of the southern exploration permit G4-569. The survey was undertaken with a line spacing of 200m over the main basin contact region and 100m over the embayment prospects.

The preliminary results from the AEM survey have been utilised to refine the embayment contacts between the basement and sediments, as a guide to define the embayments and therefore the areas used in the initial Exploration Target. Figure 10 displays the preliminary AEM results at TP13 with recent drilling and a new embayment defined.

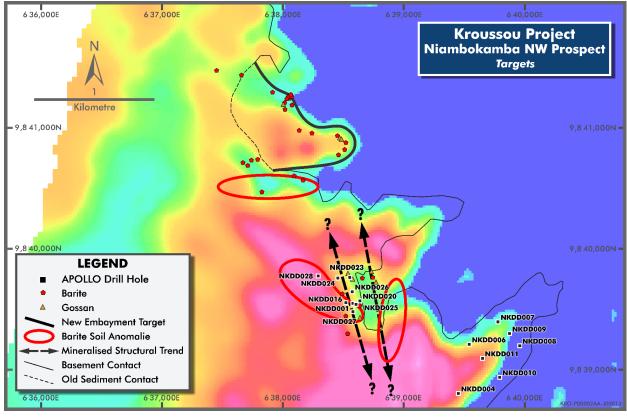


Figure 10 – TP13 (Niambokamba) with new embayment identified by AEM survey and recent drill holes.

The Company also completed over 79 line-kilometres of passive seismic surveys from 58 survey lines within Target Prospects 4, 5, 6, 10, 11 and 13. The results from the surveys were utilised to assist in defining the paleochannel contacts and to assist in defining the mineralised horizons and structural controls.

The passive seismic surveys provided an overall good correlation with the basement contact and the general geometry of the embayments, allowing for interpretation of the embayments in regions where drilling has not been undertaken (Figure 11 to Figure 13).



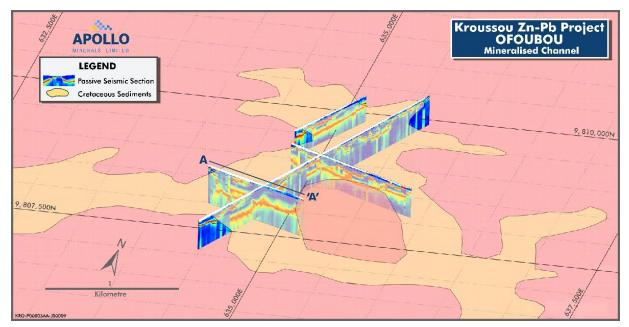


Figure 11 - Oblique view with interpreted geology and passive seismic sections at TP4.

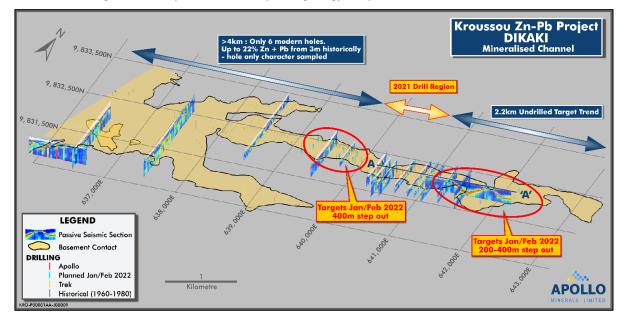


Figure 12 - 2022 drill targets and passive seismic sections at TP11.



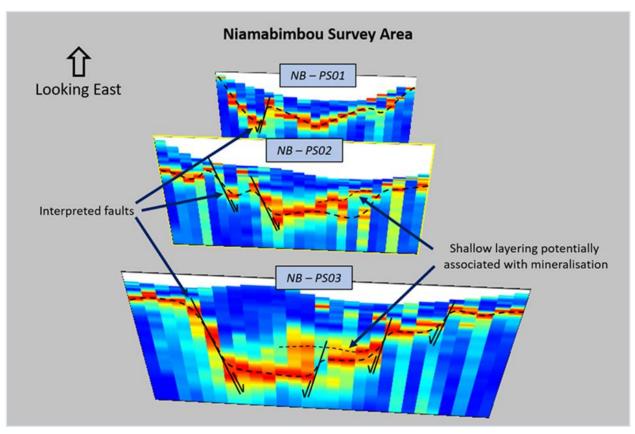


Figure 13 - Passive seismic oblique sectional interpretation at TP6, displaying interpreted structure and potential mineralised horizons.

# **Exploration Target Estimation Methodology**

The volume ranges for the initial Exploration Target were based upon an initial interpretation of the areas of the mapped/mineralised embayments (or paleochannels) (as displayed in Figure 7) with mineralised thickness ranges based upon an analysis of drilling, mineralised rock types, grade distribution, potential for extrapolation of mineralisation continuity and interpreted geological risk. This interpretation was primarily informed by drilling undertaken by the Company and Trek and supplemented by historical (1960's to 1980's) BRGM diamond drilling. The BRGM drilling was not used in the grade assessment as the bulk of these holes only had sporadic assaying, the QA/QC could not be verified.

A downwards adjustment factor of between 35% and 60% was then applied to the raw tonnage ranges for each Target Prospect to additionally account for geological risk. Average densities were applied to each region based upon an analysis of drillhole density data. The grade ranges used for the Exploration Target were based upon drilling intercepts above a nominal 1% and 2% lower Zn+Pb cut-off grade, with Zn being approximately 72% of the Zn+Pb total grade by mass.

The process used to estimate the initial Exploration Target involved is summarised below and included the following main steps:

- Embayment/paleochannel area limits were outlined and verified against available mapping, geophysics, sampling and drilling information;
- A 3D evaluation of drill hole information utilising sectional interpretation was undertaken to assess geological and mineralised continuity of the data, while assessing the Zn+Pb% cut off grades of 1% and 2%;
- Only drillholes drilled by the Company and Trek were utilised to determine grade ranges, whereas drillholes from BRGM were utilised to supplement continuity interpretation;
- Maximum, minimum and average width and grade intersections were determined for each applied grade cut-off at each Target Prospect;



- Volumes were determined based on weighted average mineralised widths for the applied cut-offs within the validated paleochannel area limits;
- The applied cut-offs resulted in volume estimates from which tonnage ranges were determined utilising the weighted density measurements taken for each Target Prospect;
- Based on the drillhole data density, the confidence in mapping, geophysical information, and qualitative geological risk, modifying factors were also applied to the raw tonnage estimates. The modifying factors applied ranged from a 35% to 60% discount applied to the tonnage ranges for each Target Prospect;
- Maximum and minimum tonnage and grade ranges were determined utilising the results for the 1% and 2% Zn+Pb estimates post application of modifying factors; and
- TP11 (Dikaki) which contains a significant proportion of information, underwent additional review and estimation using a more detailed 3D model and comparison to a separate outside estimate.

The estimate for the six reported Target Prospects at Kroussou is displayed in Table 4. The resulting initial Exploration Target range is approximately 140Mt to 300Mt at a grade between 2.0% and 3.4% Zn+Pb<sup>1</sup>. Mineralisation is shallow and is assumed to be mined utilising surface methods, with mineralisation depths ranging from near surface to approximately 100m in vertical depth.

	Exploration Target							
Target Prospect	Min. Tonnage (Mt)	Max. Tonnage (Mt)	Min Grade Zn+Pb (%) <sup>2</sup>	Max Grade Zn+Pb (%) <sup>2</sup>	Metal Content Min. Mt (Zn+Pb) <sup>2</sup>	Metal Content Max. Mt (Zn+Pb) <sup>2</sup>		
TP13 (Niambokamba)	25	53	2.6	5.0	1.3	1.4		
TP11 (Dikaki)	50	100	2.0	3.1	1.7	2.0		
TP10 (Bouambo East)	4	8	1.5	2.6	0.1	0.1		
TP10 (Bouambo West)	17	22	2.4	4.1	0.7	0.5		
TP8 (Ngongui)	10	24	1.3	2.2	0.2	0.3		
TP6 (Niamabimbou)	34	93	1.6	2.9	1.0	1.5		
Total*	140	300	2.0	3.4	4.8	5.8		
<sup>2</sup> Zinc is approximately 72%	% of the Zn+Pb	total by mass. No	te: figures have l	been rounded.				

Table 4 – Kroussou 2022 Exploration Target Summary.

<sup>1</sup> The potential quantity and grade of the initial Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource. The Exploration Target has been prepared and reported in accordance with the 2012 edition of the JORC Code.

#### NEXT STEPS - CURRENT AND UPCOMING WORK PROGRAM

The immediate work program at Kroussou is focused on expanding the Company's exploration footprint and advancing understanding of the development pathway for the Project. Planned work is included below and in Appendix 1:

- Analysis of regional drilling and exploration completed at TP13, TP9 and TP8 in preparation for the 2023 field season;
- Additional surface exploration programs at additional Target Prospects comprising soil sampling, geological mapping, rock chip sampling to generate new targets;
- Drill targeting to test mineralised trends in the Target Prospects included in the defined Exploration Target. This work is envisaged to include infill and extensional drilling at TP11, and phase 2 drill testing at TP13 and TP6;
- Further drill testing of multiple targets across the Project area after ranking and prioritisation considering additional targets added with acquiring the Keri permit; and
- Resource and technical studies to assess the viability of a future mining operation.



#### ABOUT APOLLO MINERALS AND THE KROUSSOU PROJECT

**Apollo Minerals Limited (ASX: AON)** is focused on the discovery and development of large scale, near surface, zinc-lead resources at the Company's 100% owned Kroussou Zinc-Lead Project in Gabon which consist of two Exploration Permits which cover a total of 2,363.5km<sup>2</sup>. Kroussou is located within the Ngounié Province of Western Gabon located approximately 220km south-southeast of the capital city of Libreville.

#### Kroussou is a large, province scale zinc project

Previous exploration work has validated the province-scale potential at Kroussou with the identification of multiple zinc-lead mineral occurrences over more than 135km of strike length of prospective geology to date. The potential for further discovery at Kroussou is immense with 23 identified zinc-lead target prospects, only six of which have been drill tested to date. Additionally there is known gold mineralisation in the north of the new Keri Permit (Target Prospect 24).

#### Near surface, thick mineralisation

The very shallow nature of the zinc-lead mineralization being intersected (average depth <20m) indicates the low cost development and mining potential at the Project.

#### Gabon is an attractive, mining-friendly, yet underexplored jurisdiction

Gabon has an establishing mining industry (being a major exporter of manganese and oil) and of late has seen a growing influx of large Australian-listed companies in the region. The country benefits from well-established infrastructure and direct access to global shipping routes (Kroussou is located 230kms from port, connected by rail and sealed roads). Gabon has a favourable Mining Convention with tax concessions for mining exploration, is politically stable and an abundance of hydropower to support low carbon mining operations.

# High calibre management team, with a proven track record of discovery success and creating shareholder value

Led by a proven management team with deep African mining experience, including John Welborn (Non-Executive Chairman), Neil Inwood (Managing Director) and Ian Middlemas (Non-Executive Director).

#### Favourable outlook for zinc - an essential ingredient to the decarbonisation of the world

There is a looming supply shortage for zinc, driven by depleting inventories, a lack of new mines/supply entering the market and by demand growth from clean energy technologies (solar panels and zinc-bromide batteries.

#### Apollo Minerals is a responsible, community-minded resources company

Apollo Minerals is deeply committed to creating value for the local communities in which we operate, by providing employment opportunities, contributing to the economy by buying locally, and by operating in a low footprint manner that minimises impact on the environment.

#### Compelling valuation with multiple upcoming catalysts

A strong pipeline of news flow is expected as the Company advances an aggressive exploration program to delineate the Kroussou's true scale of shallow (open-pittable), high grade zinc-lead mineralisation, in order to justify the commencement of feasibility studies.





Figure 14 - Location of Kroussou in Gabon with regional transport infrastructure.



#### **COMPETENT PERSONS STATEMENT**

The information in this announcement that relates to the estimation of the Exploration Target is based upon information compiled by Ms Vannessa Clark-Mostert, a Competent Person who is a member of the South African Council for Natural Scientific Professionals Pr. Sci. Nat. No. 400161/07. and a fellow of the Geological Society of South Africa. Ms Clark-Mostert is an independent consultant to Apollo Minerals and has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Ms Clark-Mostert consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Exploration Results and QAQC is based on information reviewed by Mr Alex Aitken, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Aitken is the Technical Manager for Apollo Minerals and a holder of incentive options in Apollo Minerals. Mr Aitken has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Mr Aitken consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

#### FORWARD LOOKING STATEMENTS

Statements regarding plans with respect to Apollo Minerals' project are forward-looking statements. There can be no assurance that the Company's plans for development of its projects will proceed as currently expected. These forward-looking statements are based on the Company's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of the Company, which could cause actual results to differ materially from such statements. The Company makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of that announcement.

This announcement has been authorised for release by Managing Director, Mr Neil Inwood.



# Appendix 1: JORC Tables, Additional Information

# 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	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement	Diamond Core was cut in half to produce a ½ core samples using a core saw - DDH.				
	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	All sampling was either supervised by, or undertaken by, qualified geologists.				
	broad meaning of sampling.	<sup>1</sup> / <sub>2</sub> core samples were assayed at Intertek Perth where the entire sample was crushed, and a charge digested by ore grade multi-acid digest and analysed by ICP-MS or ICP-OES.				
		Selected drill core was scanned for 30 seconds every 20cm by Olympus Vanta XRF for the entire length of the drill hole.				
		Apollo soil sampling has been analysed with a Olympus Vanta M Series handheld XRF unit after the sample has been dried and sieved. Soil sampling completed by Trek utilised a Niton handheld XRF with the same procedure as Apollo. This dataset has provided Apollo with the geochemical dataset used for geological interpretation and prospect-scale targeting.				
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any	Drill hole locations were surveyed using Garmin 65S GPS equipment achieving sub metre accuracy in horizontal and vertical position.				
	measurement tools or systems used.	Sampling was carried out under the AON protocols and QAQC. See further details below.				
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry	Half-core samples are selected based on geological criteria (presence of sulphide mineralisation).				
	standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	XRF analysis is completed at designated 20cm intervals on selected drill core.				
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).	HQ-sized (63.5 mm diameter) and NQ size core drilling has been completed by FGSD Drillers. All drilling is vertical except for BODD004 at Bouambo East.				
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Drill hole recoveries were recorded during logging by measuring the length of core recovered per 1m interval.				
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Drilling is carried out vertical and orthogonal to the mineralisation to get representative samples of the mineralisation.				
	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.					
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.	All drill core was logged onsite by geologists 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.	Logging is qualitative and records lithology, grain size, texture, weathering, structure, alteration, veining, and sulphides. Core is digitally photographed.				
	The total length and percentage of the relevant intersections logged.	All holes are logged in full.				



Criteria	JORC Code explanation	Commentary					
Sub-sampling techniques	If core, whether cut or sawn and whether quarter, half or all core taken.	Core is cut using a diamond saw and $\frac{1}{2}$ core is submitted for assaying.					
and sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	N/A					
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Core sample preparation at Intertek Laboratory (Intertek – Libreville, Gabon) consists of crushing entire ½ core samples (up to 3kg) to 80% passing -10 mesh, splitting 300 grams, and pulverizing to 95% passing -150 mesh. The 300g pulp is then assayed in Perth by Intertek.					
		Drill core was scanned for 30 seconds every 20cm by Olympus Vanta XRF for the entire length of the drill hole to give a qualitative/empirical assessment of the Zn and Pb mineralisation.					
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All half core samples are selected from the same side to remove sample bias.					
		Internal QA/QC procedures involve the use of standards, blanks and duplicates which are inserted into sample batches at a frequency of approximately 5-10%.					
	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.	Core is marked for sampling along an orientation line and a consistent half of core is sampled along the drill hole. A combination of field duplicates and laboratory coarse are used to test for sample reproducibility at this stage of exploration.					
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate to give an indication of mineralisation.					
Quality of assay data and laboratory	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Core samples- entire sample was crushed and split for pulverisation in Intertek-Libreville, a 300g pulp split is transported to Intertek Pert where a split of the 300g pulp is digested by ore grade multi-acie digest and analysed by ICP-MS or ICP-OES.					
tests		Drill core was scanned for 30 seconds every 20cm by Olympus Vanta XRF for the entire length of the drill hole to give a qualitative assessment of the Zn and Pb. The results are intended primarily for understanding potential enrichment zones; and are not meant to provide a quantitative/empirical measure of mineralisation.					
	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.	Olympus Vanta M series handheld XRF with 30 sec reading times. XRf unit is calibrated using internal calibration prior to analysing each drill hole. Unit is tested against commercial pulp standards regularly during the field season.					
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Certified reference material (CRM) samples sourced from Geostats and were inserted every 25 samples and Blank samples.StdZn ppmPb ppmSourceGBM310-197533035Geostats Pty LtdGBM310-1417910689465Geostats Pty LtdGBM319-14224917331Geostats Pty Ltd					
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Core samples are analysed by a commercial laboratory, and these results will be reported when received and processed. Significant intercepts are validated back to original laboratory received sheets; and check against geology. Hand Held XRF analysis is also undertaken on core and used as a guide to assess early stage understanding of mineralisation.					
	The use of twinned holes.	Where core loss has been significant and visual mineralisation is noted in drill core a twin hole has been completed.					
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All drill hole logging is completed on digital logging templates with built-in validation. Logging spreadsheets are uploaded and validated in a central MS Access database. All original logging spreadsheets are also kept in archive					
	Discuss any adjustment to assay data.	Zinc and lead combined assays are discussed in the text.					
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.	GPS coordinates of drill hole locations were captured using a Garmin GPS in UTM WGS84 Easting/Northing coordinates with metric accuracy in horizontal and vertical position.					



Criteria	JORC Code explanation	Commentary
	Specification of the grid system used.	Sample locations are provided as UTM co-ordinates within Zone 32, southern hemisphere using WGS 84 datum.
	Quality and adequacy of topographic control.	Topographic control is based on topographic contours sourced from SRTM data.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing for the 2022 drill program is variable as most drilling to date is either first pass drilling of new ETs or step-out brownfields drilling along strike from existing intercepts.
	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.	Further work is required at the Project to test for extension of mineralisation potential. Some drilling is on a spacing which is sufficient to test the grade continuity of mineralisation for this style of mineralisation. The current data set is considered potentially appropriate for use in a future Mineral Resource providing further drilling is completed.
	Whether sample compositing has been applied.	No compositing of samples in the field was undertaken.
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.	It is considered the orientation of the bulk of the drilling and sampling suitably captures the dominant "structure" of the style of mineralisation at the Project. Indications of some structure in the drill core will require follow up angled drilling to assist in structural interpretation.
	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.	This is not currently considered material.
Sample security	The measures taken to ensure sample security.	All core sample intervals are labelled in the core. Cut core samples are collected in bags labelled with the sample number and a sample tag. Samples are delivered to the Intertek, Libreville sample preparation facility directly by AON personnel or transport contractors. The samples were then transported to the Intertek Genalysis Laboratory in Perth for geochemical analysis.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	All QAQC data is reviewed to ensure quality of assays; batches containing standards that report greater than 2 standard deviations from expected values are re-assayed.
		A comprehensive review and data validation exercise was completed on input data used for estimation purposes by RWA. Significant high- grade intercepts were scrutinised and validated separately for estimated Targets.

# Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Kroussou Project consists of two Prospecting License (Kroussou- G4-569 & Keri- G4-456), covering approximately 2,363.5km <sup>2</sup> located in Ngounié Province, western Gabon. Apollo Minerals owns 100% of the Kroussou Project through its 100% wholly owned Gabonese subsidiary, Select Explorations Gabon SA.
		Havilah Consolidated Resources (HCR) holds a 0.75% NSR in the Kroussou Prospecting License (G4-569). This royalty may be bought back from HCR for US\$250,000.
		The Kroussou Prospecting License was granted in July 2015 and renewed in July 2018 and again in November 2021 for an additional three years to November 2024.
		The Keri Prospecting licence was granted in August 2022 for a period of three years.
		No historical sites, wilderness or national parks are located within the Prospecting License.



Criteria	JORC Code explanation	Commentary
	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.	Tenure in the form of a Prospecting License ( <i>Permis de Recherche</i> ) which has been granted and is considered secure. In accordance with the Gabonese Mining Code, the Prospecting Licenses may be extended for a further three years.
		Apollo Minerals are not aware of any impediments relating to the license or area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Intermittent historical exploration as conducted by French Bureau de Recherches Géologiques et Minières (BRGM) at Kroussou from 1962 - 1963, the project was then later re-examined in 1979-1981 by the BRGM in joint venture with Comilog which is a Gabonese government owned mining company.
		BRGM discovered the Kroussou Pb-Zn-(Ag) mineral occurrences as well as others along various river systems on the Kroussou license.
		BRGM conducted drilling on the project in 1962 and 1977-1980.
		Metals of Africa (renamed Battery Minerals) obtained historical reports and drill logs relating to BRGM's field program and completed cursory rock chip and mapping work in 2015 and 2016.
		Trek completed soil surveying, mapping, rock chip sampling, ground geophysics and two drilling programs to confirm historical results during 2017 and 2018.
Geology	Deposit type, geological setting and style of mineralisation.	The deposit style reported in BRGM historical files is Mississippi Valley Type (MVT) sedimentary mineralisation of Pb-Zn-(Ag) where mineralisation is similar to the Laisville (Sweden) style with deposition within siliciclastic horizons in a reducing environment.
		On a regional scale, the Pb-Zn mineral concentrations are distributed at the edge of the continental shelf which was being eroded during Lower Cretaceous time.
		Mineralisation is located within the Gamba Formation part of the N'Zeme Asso Series and was deposited during the Cretaceous as part of the Cocobeach Complex deposited during formation of the Cotier Basin.
		Mineralisation is hosted by conglomerates, sandstones and siltstones deposited in laguno-deltaic reducing conditions at the boundary of the Cotier Basin onlapping continental basement rocks.
		Large scale regional structures are believed to have influenced mineralisation deposition.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole	Drill core is sampled onsite under the direction of AON geologists with samples defined by geology with half core samples cut onsite. For the Apollo and Trek drilling the entire hole is logged for Lithology, Mineralisation, Recovery, and RQD (Rock Quality Designation). There were 5,470 drill hole samples in total within the Apollo database providing an extensive dataset to assist in the grade estimation process.
	<ul> <li>o down hole length and interception depth</li> <li>o hole length.</li> </ul>	QAQC programs completed by Apollo and Trek include the use of certified reference material (CRM), blank material and quarter core duplicate samples. CRM are included in every sample batch at a rate of 1:20 samples and blanks included at 1:30. All CRMs are purchased from Geostats Pty Ltd and are appropriate for the mineralisation style with variable grades.
		Apollo Minerals additionally undertakes handheld XRF readings on the diamond drilling with measurements completed every 20cm downhole on all drilling. The XRF provides a guide to geologists logging and selection of samples for analysis.
	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.	N/A



Criteria	JORC Code explanation	Commentary				
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	Significant intercepts are reported as down-hole length-weighted averages of contiguous grades above approximately 0.5% Zn+Pb and above a nominal length of 1m. Intersection considered potentially economically viable reported as part of estimation. No top cuts have been applied to the reporting of the assay results. Overall sample recovery is predominantly > 80%; intervals with no sample recovery have not been diluted in the compositing process. Composite intervals with significant core loss have not been reported as drill core assays. Drill core was scanned for 30 seconds every 20cm by Olympus Vanta XRF for the entire length of the drill hole to give a qualitative/empirical assessment of the Zn and Pb. Only drillholes drilled by Apollo Minerals and Trek were used to determine grade estimates, whereas drillholes from BRGM was utilised to supplement continuity interpretation. The main reason for this being that the QA/QC cannot verified for these and were only assayed for Pb where visual lead sulphides were logged.				
	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.	Higher grade intervals are included in the reported grade intervals; and have also been split out on a case-by-case basis where relevant.				
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Zinc plus lead have been combined on an equal basis for summary reporting in the body of the report; however complete element results are shown in the drill summary table. No other metal equivalent values are used				
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.	The exploration drilling was conducted as that results would be also				
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').					
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 diagrams, including geological plans, are included in the main body of this release.				
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.	The exploration results should be considered indicative of mineralisation styles in the region. Exploration results stated indicated highlights of the drilling and are not meant to represent prospect scale mineralisation. As the projects are brownfields Exploration Targets, and there are large numbers of holes drilled over the region, it is considered appropriate to illustrate mineralised and non-mineralised drill holes by the use of diagrams, with reference to the table of significant intercepts. An additional separate independent estimate was completed on Dikaki to test the viability of estimation ranges. The estimates returned similar results which serves as additional level of scrutiny for reported ranges.				
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	All meaningful and material information is reported.				
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step- out drilling).	Future work will consider Infill and extensional drilling at the Dikaki Prospect and phase 2 drill testing at the Niambokamba and Niamabimbou Prospect, envisaged to occur in the 2023 field season. Additional surface exploration programs comprising soil surveying, geological mapping, rock chip sampling to further assess identified prospects and to generate new targets within the broader project area				



Criteria	JORC Code explanation	Commentary
		during the 2023 field season.
		Further drill testing of multiple identified additional targets across the project area after ranking and prioritisation once completed.
		Additional, geophysics on regional targets and close spaced geophysics on existing targets.
		Additional metallurgical test work over all prospective targets to assess recovery characteristics, concentrate quality, and variability.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	These diagrams are included in the main body of this release.

#### **Additional Information Sources - Figure 2**

Table summarising comparative publicly reported Zn/Pb JORC Exploration Targets. Note: Mid-point grade and tonnage data has been plotted in the scatter plot to display a representation of the Exploration Tonnage ranges. The width of each bubble represents the mid-point metal range, as combined Zn+Pb. The data set used is a representation of available peer Exploration Targets and it is probable that it may not be a complete. Projects displayed will have differing deposit types.

Exploration Target Benchmarking <sup>*</sup>									
		Tonnage (Mt) Min. Max.		Zn Grade (%)		Pb Grade (%)		Zn + Pb% (if stated)	
Company	Project			Min.	Max.	Min.	Max.	Min.	Max.
Rumble Resources Limited	Earaheedy	100	120					3.5	4.5
Ironbark Zinc Limited	Citronen	40	90	4.6	6.5	0.4	0.6	5.0	7.1
South 32 Limited	Taylor	10	95	3.6	3.8	4	4.2		
Kidman Resources Limited	Browns Reef	27	37	1.3	1.4	0.6	0.7		
Variscan Mines Limited	Novales-Udias	16.5	34	6.3	9.1	1.1	1.8		
Sabre Resources Limited	The Border	15	30					2.0	5.0
RMG Limited	Kamarga Zinc	5	10	5	10				
Heron Resources Limited	Kangiara	2	3	1.3	1.9	1	1.6		

Company	Project	Source
Rumble Resources Limited	Earaheedy	ASX Announcement "Earaheedy Zn-Pb-Mn-Ag Project" released 18 October 2021
Ironbark Zinc Limited	Citronen	ASX Announcement – "Citronen Project – Exploration Target" released 11 February 2021
South 32 Limited	Taylor	ASX Announcement "Hermosa Project Update" released 17 January 2022
Kidman Resources Limited	Browns Reef	ASX Announcement "Improved Exploration Potential at the polymetallic Brown's Reef Project" released 20 January 2015
Variscan Mines Limited	Novales-Udias	ASX Announcement "Significant Initial Exploration Target Highlights Scale Potential and High Grade of Novales-Udias Project" released 28 July 2022
Sabre Resources Limited	The Border	https://www.sabresources.com/view.php?id=28
RMG Limited	Kamarga Zinc	ASX Announcement "Company Update – Hong Kong Mines and Money Conference" released 21 March 2012
Heron Resources Limited	Kangiara	https://www.skymetals.com.au/index.cfm/projects/kangiara/