

Perseus Mining Ltd. Increases Edikan's Inventories of Mineral Resources and Ore Reserves

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PERTH, July 18, 2022 - [Perseus Mining Limited](#) (ASX/TSX: PRU) has completed a Feasibility Study on the Nkosuo Project, located approximately seven kilometres north-northwest of its Edikan Gold Mine in Ghana, adding substantial Mineral Resources and Ore Reserves to Edikan's previously published inventory.

HIGHLIGHTS

- Indicated Mineral Resources¹ at Nkosuo amount to 14.5Mt at 0.91g/t for 422,000 ounces of contained gold, and Inferred Mineral Resources are estimated at 0.95 million tonnes grading 0.90 g/t gold containing 27,000 ounces of gold at 30 June 2022.
- Probable Ore Reserves¹ total 10 million tonnes of ore grading 1.04g/t gold and containing 332,000 ounces of gold.
- Planned processing of the Nkosuo Ore Reserves in the Edikan mill is expected to increase the life of the Edikan operation by 18 to 24 months, extending the mine life to FY2027.

Nkosuo Measured and Indicated Mineral Resources as at 30 June 2022

DEPOSIT	MEASURED	INDICATED	MEASURED +	PROJECT TYPE	RESOURCES	RESOURCES	INDICATED	RESOURCES
Quantity	Grade	Gold	Quantity	Grade	Gold	Quantity	Grade	Mt g/t gold '000 oz Mt g/t gold '000 oz Mt g/t gold '000 oz
Nkosuo ¹	- - -	14.5	0.91	422	14.5	0.91	422	
Total	- - -	14.5	0.91	422	14.5	0.91	422	

1 Refer to Notes in the individual tables of Mineral Resources and Ore Reserves.

Nkosuo Proved and Probable Ore Reserves as at 30 June 2022

DEPOSIT	PROVED	PROBABLE	PROVED + PROBABLE				
DEPOSIT TYPE	Quantity	Mt Grade	g/t gold Gold '000 oz				
PROVED	Quantity	Mt Grade	g/t gold Gold '000 oz				
PROBABLE	Quantity	Mt Grade	g/t gold Gold '000 oz				
PROVED + PROBABLE	Quantity	Mt Grade	g/t gold Gold '000 oz				
Nkosuo ¹	- - -	10.0	1.04	332	10.0	1.04	332
Total	- - -	10.0	1.04	332	10.0	1.04	332

1 Refer to Notes in the individual tables of Mineral Resources and Ore Reserves.

Perseus's Managing Director and CEO Jeff Quartermaine said:

"The addition of Mineral Resources and Ore Reserves from the Nkosuo Project adds significantly to the mine life at Edikan Gold Mine, ensuring operations can continue while Perseus conducts further exploration on the recently acquired Agyakusu Exploration Permit and two other adjoining Exploration Permits that are under option to Perseus. We believe that the discovery of additional Ore Reserves in trucking distance of existing infrastructure is the most cost effective means available to Perseus of creating value for shareholders. With

this objective, further exploration on the nearby tenements will be well funded by Perseus and we are optimistic of discovering further deposits of a similar scale to Nkosuo that will further add to the mine life of the Edikan operation.”

OVERVIEW OF NKOSUO

Nkosuo is located in Ghana, West Africa, approximately 40 kilometres southwest of the regional town of Obuasi, 200 kilometres west-northwest of the capital Accra and seven kilometres to the north-northwest of Perseus’s Edikan Gold Mine near the town of Ayanfuri.

A Feasibility Study has been completed on the development of mineralisation discovered by Perseus at Nkosuo resulting in the estimation of an Ore Reserve of 332,000 ounces (contained) producing 272,000 ounces (recovered) over three years of mining. All in site costs (AISCs) are expected to be in the range of US\$870-US\$890 per ounce for Nkosuo.

The area of the Nkosuo Project is underlain principally by Paleoproterozoic Birimian flysch-type metasediments consisting of dacitic volcanoclastics, greywackes plus argillaceous (phyllitic) sediments, intensely folded, faulted and metamorphosed to upper greenschist facies. Numerous small “Basin-type” or “Cape Coast-type” granite bodies have intruded the sediments along several regional structures.

The Nkosuo Project comprises mineralisation hosted by a single north-northeast striking granitoid body measuring at least 600 metres along strike, typically 250 metres horizontal width and dipping approximately 75 degrees toward west-northwest.

Nkosuo will be mined in a single open pit, with a waste dump located to the west of the pit as shown in Figure 1. Ore from the pit will be trucked on a dedicated haul road to the Edikan processing plant for co-processing with ores from existing Edikan open pits and stockpiles.

Figure 1: Nkosuo Project Layout

<https://www.globenewswire.com/NewsRoom/AttachmentNg/b9249679-deca-4d18-9bf5-7767e54bdba7>

MINERAL RESOURCE ESTIMATES

The Mineral Resource estimates are reported in accordance with the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). The classification categories of Measured, Indicated and Inferred under the JORC Code are equivalent to the CIM categories of the same names (CIM, 2014).

For a comprehensive description of the Nkosuo Mineral Resource estimates, refer to the JORC tables included in Appendix 1. The currently estimated Mineral Resources at Nkosuo are summarised in Table 1 and 2 below.

Table 1: Nkosuo Measured and Indicated Mineral Resources –30 June 2022 1,2

PROJECT	DEPOSIT TYPE	MEASURED RESOURCES	INDICATED RESOURCES	MEASURED + INDICATED RESOURCES
		Quantity		
		Mt Grade		
		g/t gold	Gold	
		'000 oz	Quantity	
		Mt Grade		
		g/t gold	Gold	
		'000 oz	Quantity	
		Mt Grade		
		g/t gold	Gold	
		'000 oz		
Nkosuo	3,4 Open Pit	- - - 14.5	0.91 422	14.5 0.91 422
Total	- - -	14.5	0.91 422	14.5 0.91 422

Table 2: Nkosuo Inferred Mineral Resources – 30 June 2022 2

PROJECT
DEPOSIT TYPE
INFERRED RESOURCES

Quantity
Mt Grade
g/t gold Gold
'000 oz
Nkosuo 3,4 Open Pit 0.95 0.9 27
Total 0.95 0.9 27

Notes:

1. Indicated Mineral Resources are inclusive of Ore Reserves.
2. Rounding of numbers to appropriate precisions may have resulted in apparent inconsistencies.
3. Based on June 2022 Mineral Resource model constrained to US\$1,800/oz pit shell.
0.3g/t gold cut-off applied to in situ material.

GEOLOGY

The Nkosuo project is an addition to the Edikan group of gold deposits that occur near the western flank of the Ashanti Greenstone Belt in south-western Ghana. The regional geology of the Edikan property is underlain principally by Paleoproterozoic Birimian metasediments of the Kumasi-Afema basin, positioned between the Ashanti and Sefwi Greenstone Belts.

Nkosuo is a granite-hosted orogenic gold deposit with structurally controlled mineralisation occurring with disseminated pyrite-arsenopyrite mineralisation associated with quartz veining and sericite alteration within the granite. The surrounding metasedimentary rocks are almost entirely devoid of mineralisation.

The granitoid body at Nkosuo hosting the gold mineralisation strikes north-northeast with an identified length of 600 metres along strike and typically 250 metres in horizontal width that dips 75 degrees towards the west-northwest. Drilling has confirmed that the granitoid body is continuous to at least 350 metres vertical depth below surface. The entire granite is not mineralised throughout but drilling to date indicates substantial zones of gold mineralisation up to 100 metres horizontal width.

DRILLING TECHNIQUES

Nkosuo Mineral Resources are delineated by 222 drill holes for a total of 36,982 metres comprised of reverse circulation ("RC") and diamond core drill holes drilled by Perseus since 2021. The global Nkosuo Mineral Resource estimates are informed entirely by Perseus drilling with a breakdown by sample type of 43% RC and 57% diamond. This ratio changes for the Mineral Resource constrained within the US\$1,800 pit optimisation to 22% RC and 77% diamond. RC drilling used face-sampling hammers with 139-millimetre hole diameter and the diamond core was HQ in the weathered material which changed to NQ2 in the fresh material.

Drill hole collar locations have been surveyed by qualified surveyors. Both RC and diamond core holes were down-hole surveyed at nominal 30 metre intervals.

Orientation of most drill holes at Nkosuo is approximately perpendicular to the strike of mineralisation. Drilling has occurred at 20 metres spacing on 40 metre spaced traverses with holes generally dipping at -55 degrees towards 119 degrees azimuth with partial infill to 20 metres by 20 metres in places. Drill coverage generally extends to about 150 metres vertical depth and to a maximum depth of about 380 metres.

SAMPLING

RC drill samples were collected at drill sites at 1 metre intervals and split using multi-stage riffle splitters. For the majority of Perseus's drilling, each two consecutive samples were composited into one sample for assaying. Sample weights were nominally 2.5 kilograms and 5 kilograms for 1 metre and 2 metre samples respectively.

Diamond core was sawn in half using a diamond blade saw, with the right-hand half sent for assaying and the left-hand half stored in core trays for reference. Samples were normally taken at 1 metre intervals.

RC drill samples were logged visually for recovery, sample condition (i.e., dry, damp, wet) and contamination. Sample condition logs are available for 96% of RC samples within the mineralised granite. Recovered sample weights are available for 64% of RC samples and RC sample recoveries ranged from an estimated 46% for highly weathered to 80% for fresh material. Diamond core recoveries were measured linearly per drill run. Core recoveries averaged 67% in weathered materials and 98% in fresh rock. There is

no indication of a relationship between gold grades and RC/Diamond sample recoveries.

SAMPLE ANALYTICAL METHODS

All sample preparation and assaying was carried out by commercial laboratories; no sample preparation was undertaken by Perseus. Preparation of core and RC samples followed a standard path of drying at 105 degrees Celsius for at least 12 hours, crushing the entire sample to 85% passing -2 millimetres and grinding a 1.5 kilogram split to 85% passing 75 microns. 300gram pulp subsamples are selected by multiple scoop passes.

All RC and diamond core samples have been assayed by 50-gram fire assay with AAS determination by Intertek Testing Services Ghana at their Tarkwa assay laboratory. The technique is considered a total extraction technique

Perseus's quality assurance and quality control "QAQC" procedures included submission of coarse blanks inserted at 1 in 20, certified reference standards at 1 in 20, internal laboratory standards, duplicates and repeats.

ESTIMATION METHODOLOGY – OPEN PIT MINERAL RESOURCES

Mineral Resources were estimated by Multiple Indicator Kriging ("MIK") of 2 metre down-hole composited gold grades from RC and diamond drilling. Compositing and wireframing were performed using Micromine software. Exploratory data analysis, variogram calculation and modelling, and resource estimation were performed using FSSI Consultants (Australia) Pty Ltd (FSSI) GS3M software.

A total of 10 holes were excluded from the estimate due to hole twinning to prevent clustering effects in the estimates which represented approximately 3% of the mineralised domain composites being excluded.

Mineralised domains used for resource estimation delineate zones within which the tenor and spatial trends of mineralisation are similar. Sample data were also separated into sub-domains representing weathering horizons using surfaces provided by Perseus. Grade continuity was characterised by indicator variograms modelled at 14 indicator thresholds. At Nkosuo, class grades were derived from class mean grades with the exception of upper bin grades which were derived from class medians.

The above approaches to treatment of high grades reduces the impact of small numbers of extreme grades on estimates of resources.

At Nkosuo, Mineral Resources were estimated into panels with dimensions 20 metres x 20 metres x 5 metres (X, Y, Z), approximating the drill hole spacing in the closer spaced parts of the drill pattern.

The estimates include variance adjustments to provide estimates of recoverable resources expected to be recoverable by open pit mining on the scale presently practiced at Edikan.

CRITERIA FOR RESOURCE CLASSIFICATION

Nkosuo estimates were classified as Indicated and Inferred based on the data collected (geology, survey and assaying data), the density of data, and the confidence in the geological model and mineralisation model. Indicated resources are informed by drilling spaced at up to 40 metres by 40 metres and Inferred resources are on the peripheries of drilling out to a maximum distance of approximately 40 metres from drilling.

CUT-OFF GRADE

The cut-off grade of 0.3g/t gold for the stated open pit Mineral Resource estimates reflects economic parameters deriving from current and anticipated mining practices at Nkosuo and a gold price of US\$1,800/oz.

REASONABLE PROSPECTS FOR EVENTUAL ECONOMIC EXTRACTION

Mineral Resources are reported within an optimal pit shell generated using cost and revenue parameters in the Nkosuo Feasibility Study and a gold price of US\$1,800/oz.

ORE RESERVE ESTIMATE

The Ore Reserve is summarised below in Table 3 and is based on the Nkosuo Mineral Resources as at 30 June 2022. Ore Reserves are reported in accordance with the JORC Code and are reported by category, deposit and type, above variable cut-off grades. The classification categories of Proved and Probable under the JORC Code are equivalent to the CIM Proven Mineral Reserve and Probable Mineral Reserve categories respectively (CIM, 2010). Appendix 1 provides the JORC Table 1 criteria for the Nkosuo Ore Reserves.

The Probable Ore Reserves for Nkosuo are estimated as 10.0 Mt grading 1.04 g/t gold, containing 332,000 ounces of gold, with no Proved Ore Reserves currently identified.

Table 3: Nkosuo Proved and Probable Ore Reserves as at 30 June 2022

DEPOSIT	DEPOSIT TYPE	PROVED	PROBABLE	PROVED + PROBABLE
Quantity	Mt Grade	g/t gold	Gold	'000 oz Quantity
Quantity	Mt Grade	g/t gold	Gold	'000 oz Quantity
Quantity	Mt Grade	g/t gold	Gold	'000 oz
Nkosuo1,2,3,4	Open Pit	- - -	10.0 1.04	332 10.0 1.04
Total	- - -	10.0 1.04	332 10.0 1.04	332

Notes:

1. Based on Mineral Resource Estimates which were current at 30 June 2022.
2. Variable gold grade cut-off for each material type, ranging from 0.35 g/t to 0.45 g/t.
3. Inferred Mineral Resource is considered as waste.
4. Rounding of numbers to appropriate precisions may have resulted in apparent inconsistencies.

ECONOMIC ASSUMPTIONS

- Gold metal price US\$1,300/oz.
- Un-escalated average costs used in optimising pit designs are as shown in Table 4 below.
- A discount rate of 10% (real) has been assumed to calculate net present values of forecast cash flows.

Table 4: Assumed average operating costs

• MINING (OPEN PIT)	• PROCESSING	• G&A	• SELLING	• ROYALTIES
US\$3.61t/mined	US\$8.67/milled		US\$2.31t/milled	US\$2.24/oz sold

Notes:

1. Royalties are 6.5% plus an additional \$2/Reserve oz discovery bonus payable to Adio Mabas Group.

OPEN PIT MINING PARAMETERS

- The chosen method for the Open Pit Reserves is conventional open pit mining utilising hydraulic excavators and trucks, mining bench heights of 5 metres with 2.5 metre flitches to minimise ore loss and waste rock dilution.
- The economic pit shell was defined using Whittle pit optimisation software ("Whittle") with inputs such as geotechnical parameters, metallurgical recovery and mining costs.
- The pit optimisation was run with revenue generated only by Measured and Indicated Mineral Resources.

No value was allocated to Inferred Mineral Resources.

- Whittle input parameters are based on Perseus Mining Limited site operating experience in similar deposits at Edikan and supporting technical studies undertaken as part of the Nkosuo Feasibility study.
- The pit slope designs are based on a geotechnical study by George, Orr and Associates (Australia) Pty Ltd. Overall pit slopes are 30 to 60 degrees inclusive of berms spaced at between 5 and 20 metres vertically and berm widths of 6 to 13 metres.
- Pit ramps have been designed for a 100-tonne payload truck fleet and are set at 24 metres (dual lane) to 16 metres (single lane). Minimum mining width is 40 metres for the 100-tonne class truck fleet.
- Vertical mining advance has been capped based on Perseus's operating experience.
- No environmental issues are known to exist which will prevent open pit mining and ore processing to continue to operate. Perseus has sufficient space available for waste dumps and tailings dams to store the expected quantities of mine waste rock and tailings associated with the Nkosuo open pit Ore Reserve.
- Ore cut-off grades are based on the gold price, cost and mining parameters are as shown in Table 5 below.

Table 5: Open Pit Cut-Off Grades

DEPOSIT	CUT-OFF GRADE BY ORE TYPE (G/T GOLD)		
	Transition	Fresh	Granite
Nkosuo	0.35	0.45	0.45

PROCESSING PARAMETERS

- The process metallurgical recovery for gold is fixed by material type in each deposit. Gold recovery rates range from 55% for oxide ore and 90% for primary ore. Recovery is shown in Table 6.
- No deleterious material has been identified.
- Average annual processing throughput rate of ore is nominally 7.0Mtpa, with throughput rates variable by material type and deposit. The processing circuit involves single stage crushing, semi-autogenous grinding, gravity recovery, flotation, regrind and CIL.

Table 6: Metallurgical Recoveries by Material Type and Pit

DEPOSIT	METALLURGICAL RECOVERIES BY ORE TYPE (%)		
	Transition	Fresh	Granite
Nkosuo	55.1	87.6	90.3

STOCKPILE PARAMETERS

It is assumed that all Ore Reserve material is mined and fed to the processing plant during Edikan's mine life based on the material blending schedule and all the material is rehandled on the ROM stockpile. Stockpiles of Nkosuo low grade material that remain unprocessed at the end of mine life are excluded from Ore Reserves.

CRITERIA FOR ORE RESERVE CLASSIFICATION

Ore Reserves have been classified based on the underlying Mineral Resource classifications and a Feasibility level study for the Nkosuo project. Mineral Resources were classified as Indicated and Inferred. The Ore Reserves, based only on the Indicated Resources, have been classified as Probable Ore Reserves, respectively.

The Ore Reserve is classified as Probable in accordance with the JORC Code, corresponding to the Mineral Resource classification of Indicated and taking into account other modifying factors where relevant. The

deposit's geological model is well constrained. The Ore Reserve classification is considered appropriate given the nature of the deposit, the moderate grade variability, drilling density, structural complexity and mining and processing history of similar deposits at Edikan. Therefore, it was deemed appropriate to use Indicated Mineral Resources as a basis for Probable Ore Reserves.

No Inferred Mineral Resources were included in the Ore Reserve estimate.

NEXT STEPS

- With the completion of the Nkosuo Feasibility Study, an application will be lodged with the Ghanaian Minerals Commission (Mincom) acting on behalf of the Ministry for Lands and Natural Resources.
- In parallel with the Mincom submission, an application will be lodged with the Environmental Protection Agency (EPA) of Ghana which paves the way for community baseline studies and public hearings. These activities culminate in generation of an Environmental Impact Assessment.
- Perseus will then submit an Environmental Impact Statement, which is the final document required for granting of an Environmental Permit for mining at the Nkosuo project.
- Conversion of the Agyakusu Prospecting Licence to a Mining Lease and granting of an Environmental Permit for Nkosuo is expected to take 18 to 24 months.

This announcement was approved for release by Managing Director and CEO, Jeff Quartermaine.

Competent Person Statement:

The information in this report that relates to Mineral Resources for Nkosuo is based on information compiled by Mr Gary Brabham, a Competent Person who is a Fellow of The Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr Brabham was until 1 July 2022 a full-time employee and is currently a consultant of Perseus Mining. Mr Brabham has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activities which he is undertaking 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" and a Qualified Person as defined in NI43-101. Mr Brabham consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Ore Reserves for the Nkosuo deposit is based on information compiled by Mr Adrian Ralph, a Competent Person who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Ralph is a full-time employee of Perseus Mining. Mr Ralph has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activities which he is undertaking 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" and a Qualified Person as defined in NI43-101. Mr Ralph consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Caution Regarding Forward Looking Information:

ASX/TSX CODE: PRU

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This report contains forward-looking information which is based on the assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management of the Company believes to be relevant and reasonable in the circumstances at the date that such statements are made, but which may prove to be incorrect. Assumptions have been made by the Company regarding, among other things: the price of gold, continuing commercial production at the Sissingué Gold Mine, the Edikan Gold Mine and the Yaouré Gold Mine without any major disruption due to the COVID-19 pandemic or otherwise, the receipt of required governmental approvals, the accuracy of capital and operating cost estimates, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used by the Company. Although management believes that the assumptions made by the Company and the expectations represented by such information are reasonable, there can be no assurance that the forward-looking information will prove to be accurate. Forward-looking information involves known and unknown risks, uncertainties, and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any anticipated future results, performance or achievements expressed or implied by such forward-looking information. Such factors include, among others, the actual market price of gold, the actual results of current exploration, the actual results of future exploration, changes in project parameters as plans continue to be evaluated, as well as those factors disclosed in the Company's publicly filed documents. The Company believes that the assumptions and expectations reflected in the forward-looking information are reasonable. Assumptions have been made regarding, among other things, the Company's ability to carry on its exploration and development activities, the timely receipt of required approvals, the price of gold, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers should not place undue reliance on forward-looking information. Perseus does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

JORC TABLE 1 – NKOSUO PROJECT

<https://www.globenewswire.com/en/news-release/2022/07/18/2481420/0/en/Perseus-Increases-Edikan-s-Inventories-o>

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