

# ENDEAVOUR INCREASES RESERVES AT HOUNDÉ BY 41%; KARI PUMP HIGH-GRADE DISCOVERY ADDS 710KOZ

## KARI PUMP HIGHLIGHTS:

- **Kari Pump maiden reserve of 7.3Mt at 3.01 g/t Au for 710koz lifts Houndé’s total reserves by 41%**
  - › High M&I resource to reserve conversion rate: 89% based on a gold price of \$1,250/oz
  - › Significantly higher grade: 53% higher than the Houndé mine reserve grade of 1.97g/t Au
  - › Advantageous ore type: 53% oxide and transition ore compared to only 12% for the Houndé mine
  - › Located only 7km directly west of the processing plant and in proximity to an existing haul road
  - › Amenable to open pit mining as mineralization starts at surface
- **Significant exploration underway as Kari Pump represents only 35% of the large Kari gold-in-soil anomaly**
  - › Kari Pump is one of three discoveries made in the large Kari gold-in-soil anomaly where more than 270,000 meters have been drilled over the past two years
  - › An additional aggressive 200,000 meter drilling campaign with a budget of \$17 million is underway, mainly focused on the adjacent Kari West and Kari Center discoveries
  - › Drill results for Kari West and Kari Center are expected to be published in early Q3-2019, with maiden resource and reserve estimates expected in Q4-2019

**Abidjan, June 24, 2019** – Endeavour Mining (TSX:EDV)(OTCQX:EDVMF) is pleased to announce a 41% increase of reserves at its flagship Houndé mine in Burkina Faso as a large portion of the Kari Pump maiden Measured and Indicated (“M&I”) resource was converted to reserves.

Sébastien de Montessus, President and CEO of Endeavour Mining, stated:

*“We are very pleased with the maiden Kari Pump reserve announced today as we enjoyed a very high conversion rate of resources to reserves. Moreover, it demonstrates the value unlocked through exploration as these high-quality ounces were discovered at a cost of less than \$13.50/oz of reserve and have the potential to be produced at an All-In Sustaining Cost of below \$800/oz. We therefore look forward to producing from Kari Pump as it is expected to improve the mine’s production profile due to its higher-grades and attractive ore characteristics.*

*Looking ahead, we are excited to soon publish drill results from the ongoing 2019 Houndé exploration program, which is mainly focused on the nearby Kari West and Kari Center discoveries where we expect to delineate maiden resources and reserves later this year.”*

Kari Pump, located only 7km directly west of the processing plant, is one of three discoveries made in the large Kari gold-in-soil anomaly which covers a 6km-long by 2.5km-wide area. In 2017 and 2018, exploration efforts focused mainly on the Kari Pump discovery with over 200,000 meters drilled. This led to the successful delineation of a maiden resource, announced on November 15, 2018. The Kari Pump resource covers an area 1.3km long by 0.8km wide and remains open towards the east, north, northwest and southwest. As such, extension drilling is underway with the goal of delineating additional resources and reserves. The reserve announced today only includes drilling conducted prior to 2019 and is based on the previously published resource.

The Kari Pump maiden reserve estimate has increased Houndé’s M&I resources by 41%, as presented in Table 1 below, while adding high-grade material. In addition, the mine is expected to benefit from Kari Pump’s favorable ore characteristics, with 53% of gold content located within the softer oxide and transition zones, compared to only 12% for the Houndé mine. As the mineralization starts at surface, it is amenable to open pit mining.

Table 1: Kari Pump June 2019 Reserves

	HOUNDÉ MINE			KARI PUMP			TOTAL			Δ GOLD CONTENT
	(as at Dec. 31, 2018)			(as at June 15, 2019)			(Current as at Dec. 31, 2018)			
	Tonnage	Grade	Content	Tonnage	Grade	Content	Tonnage	Grade	Content	
<i>On a 100% basis</i>	(Mt)	(Au g/t)	(Au koz)	(Mt)	(Au g/t)	(Au koz)	(Mt)	(Au g/t)	(Au koz)	
Proven Reserves	3.5	1.53	174	-	-	-	3.5	1.53	174	0%
Probable Reserves	24	2.03	1,566	7.3	3.01	710	31.3	2.26	2,276	+45%
<b>P&amp;P Reserves</b>	<b>27.5</b>	<b>1.97</b>	<b>1,740</b>	<b>7.3</b>	<b>3.01</b>	<b>710</b>	<b>34.8</b>	<b>2.19</b>	<b>2,450</b>	<b>+41%</b>

Mineral Reserve estimates follow the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") definitions standards for mineral resources and reserves and have been completed in accordance with the Standards of Disclosure for Mineral Projects as defined by National Instrument 43-101. Reported tonnage and grade figures have been rounded from raw estimates to reflect the relative accuracy of the estimate. Minor variations may occur during the addition of rounded numbers. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Kari Pump reserves were calculated based on a gold price of \$1,250/oz and a cut-off of 0.6 g/t Au. Houndé Mine reserves are current as at December 31, 2018 and therefore exclude ounces mined for the year to date. For notes concerning the Houndé Mine reserve, please consult the press release dated March 5, 2019. For more details on the Kari Pump reserve calculation please consult the below section entitled "Kari Pump Design Study Parameters".

## ABOUT THE KARI PUMP RESERVE

As demonstrated in Table 2 below, based on a gold price of \$1,250/oz, a total of 710koz were converted into Probable reserves out of an Indicated resource base of 796koz, representing a high conversion ratio of 89%.

Table 2: Kari Pump Reserve and Resource Estimate

<i>On a 100% basis</i>	Tonnage (Mt)	Grade (Au g/t)	Content (Au koz)
<b>PROBABLE RESERVE</b>			
Based on a gold price of \$1,250/oz	7.3	3.01	710
<b>INDICATED RESOURCE (INCLUSIVE OF RESERVES)</b>			
Based on a gold price of \$1,250/oz	7.86	3.15	796
Based on a gold price of \$1,500/oz	11.33	2.71	987
<b>INFERRED RESOURCE</b>			
Based on a gold price of \$1,250/oz	0.20	2.36	15
Based on a gold price of \$1,500/oz	0.28	2.21	20

No Measured resources and Proven reserves have been estimated. Mineral Reserve estimates follow the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") definitions standards for mineral resources and reserves and have been completed in accordance with the Standards of Disclosure for Mineral Projects as defined by National Instrument 43-101. Reported tonnage and grade figures have been rounded from raw estimates to reflect the relative accuracy of the estimate. Minor variations may occur during the addition of rounded numbers. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Resources were constrained by MII \$1,500/oz Pit Shell and for sensitivity purpose by MII \$1,250/oz pit shell and based on a cut-off of 0.5 g/t Au. Reserves were calculated based on a gold price of \$1,250/oz and a cut-off of 0.6 g/t Au. For more details on the Resource calculation please consult the press release dated November 15, 2018. For more details on the Reserve calculation please consult the below section entitled "Kari Pump Design Study Parameters".

The Kari Pump reserve has favorable ore characteristics due to greater quantities of softer oxide and transition ore, as demonstrated in Table 3 below.

Table 3: Kari Pump Reserves by Ore Type

	HOUNDÉ MINE			KARI PUMP			TOTAL			Δ GOLD CONTENT
	(as at Dec. 31, 2018)			(as at June 15, 2019)			(Current as at Dec. 31, 2018)			
	Tonnage	Grade	Content	Tonnage	Grade	Content	Tonnage	Grade	Content	
<i>On a 100% basis</i>	(Mt)	(Au g/t)	(Au koz)	(Mt)	(Au g/t)	(Au koz)	(Mt)	(Au g/t)	(Au koz)	
Oxide	2.2	1.32	92	3.3	2.52	265	5.4	2.05	357	+290%
Transitional	2.0	1.78	113	1.3	2.77	112	3.2	2.17	225	+99%
Fresh	23.4	2.04	1,535	2.8	3.67	334	26.2	2.22	1,869	+22%
<b>Total</b>	<b>27.5</b>	<b>1.97</b>	<b>1,740</b>	<b>7.3</b>	<b>3.01</b>	<b>710</b>	<b>34.9</b>	<b>2.19</b>	<b>2,451</b>	<b>+41%</b>

Kari Pump is expected to have low production costs, as summarized in Table 4 below.

*Table 4: Kari Pump Production Cost Summary*

	<b>TOTAL FOR THE DEPOSIT</b>
Mining and haulage cost, inclusive of pre-stripping (\$2.18/t moved)	\$274m
Processing cost (\$13.98/t of ore processed)	\$102m
G&A cost (\$5.62/t of ore processed)	\$41m
Transport and refining cost (\$6.40/oz sold)	\$4m
<b>Total production costs</b>	<b>\$421m</b>
Divided by gold recovered	625koz
<b>Production Cost (inclusive of all waste extraction)</b>	<b>\$674/oz</b>

*Mining costs include all pre-stripping and waste extraction costs. Production costs exclude royalties and non-mining related sustaining capital.*

## NEXT STEPS

- › Environmental studies on Kari Pump have been launched and an application for a mining license is scheduled to be submitted later in 2019, with the goal of initiating mining activities in late 2020 or early 2021, following the completion of mining at the nearby high-grade Bouere deposit.
- › A 200,000 meter drilling program is underway with the following main objectives:
  - Pursue Kari Pump extensions with the goal of delineating additional resources
  - Delineate a maiden resource and reserve for both the Kari West and Center discoveries before year end, with interim drilling results expected to be published by early Q3-2019
  - Explore other highly ranked targets including Vindaloo Deep and South, and Grand Espoir
- › An updated mine plan and technical report are expected to be released following the publication of maiden reserves at the Kari West and Center discoveries.

## KARI PUMP DESIGN STUDY PARAMETERS

Exhaustive metallurgical testing and geotechnical and mining studies performed since November 2018 have allowed for the present Probable Reserves definition to be performed through Whittle optimization and subsequent mine stage designs by Calsta Pty Ltd based on the following inputs:

- › Gold price of US\$1,250/oz
- › 0.6 g/t Au cut-off for mine design stages
- › Ore dilution and recovery incorporated within a reblocked resource model
- › Average mining and haulage unit cost of US\$2.18 per total of material tonne mined, average processing unit cost of US\$13.98/ore tonne, and average G&A unit cost of US\$5.62/ore tonne
- › Gold recovery rates are estimated at 94% for oxide ore, 90% for transition ore, and 82% for fresh ore, averaging 88% for the deposit
- › Doré freight security and refining rate of US\$6.40/oz

Calsta have completed pit staging designs and resultant mining and ore processing schedules. The mining method planned for Kari Pump is conventional selective open pit mining, with the run of mine ore hauled for processing to the Houndé CIL plant. Ore and waste mining are expected to be conducted with owner operator equipment whilst overland ore haulage via a specialized contractor. Based on the selected pit shell and resultant design stages (four primary stages), the average strip ratio (waste t: ore t) for Kari Pump is 16:1.

A geotechnical program has been completed to determine parameters for pit shell optimization and the pit stage designs. The geotechnical program was initiated in September 2018 and incorporates five geotechnical boreholes to investigate the rock mass for the Kari Pump project. The boreholes were sited to cover as much of the various rock types at Kari Pump as possible. All geotechnical drill hole collars were surveyed with a differential GPS. Down hole surveys of the holes were carried out to confirm the borehole orientation.

Endeavour undertook a metallurgical testwork program at ALS Global Laboratories in Perth on 650kg of NQ and HQ drill core samples from the Kari Pump deposit. Samples were selected to represent the various lithologies and weathered rock types across the Kari Pump deposit, both spatially and at depth. Testwork included:

- › Eight selected samples from the core delivered to ALS. Each comminution test comprises a suite of SMC tests, a Bond Abrasion Index (Ai) and a Bond Ball Mill Work Index (BBWi) determination
- › 36 hydrometallurgical variability tests to compare the gold extraction under the same set of standard cyanidation leach conditions for each of the various lithologies and weathered rock types across the Kari Pump deposit
- › A range of ancillary testwork for mineralogical analysis, oxygen uptake rate tests, slurry rheology and thickening, gold carbon loading kinetics and cyanide detoxification, to understand and compare the behavior and characteristics of ore to key design criteria from the existing Houndé Processing Plant.

The testwork program confirmed similar metallurgical properties to that of ores from the Houndé Deposit, providing confidence that Kari Pump ore can be processed via the existing Houndé processing plant. Ore recoveries based on this testwork are estimated at 94% for oxide ore, 90% for transition ore, and 82% for fresh ore, averaging 88% for the deposit.

Lycopodium Limited were engaged to review testwork results and determine processing impacts for Kari Pump ore via the Houndé processing plant and determine process unit operating costs.

## QUALIFIED PERSONS

The scientific and technical content of this news release has been reviewed, verified and compiled by David Clark, Principal Mining Engineer, Calsta Pty Ltd for Endeavour Mining. David Clark has more than 30 years within the mining industry in both technical and operational capacities and is a Fellow of the AusIMM and therefore qualifies as a "Qualified Person" as defined by National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") in regard to reserve estimation. The resource estimation was completed by Kevin Harris, CPG, VP Resources for Endeavour Mining and "Qualified Person" as defined by National Instrument 43-101.

## CONTACT INFORMATION

### **Martino De Ciccio**

VP – Strategy & Investor Relations  
+44 203 640 8665  
mdeciccio@endeavourmining.com

### **Brunswick Group LLP in London**

Carole Cable, Partner  
+44 7974 982 458  
ccable@brunswickgroup.com

## ABOUT ENDEAVOUR MINING CORPORATION

*Endeavour Mining is a TSX listed intermediate African gold producer with a solid track record of operational excellence, project development and exploration in the highly prospective Birimian greenstone belt in West Africa. Endeavour is focused on offering both near-term and long-term growth opportunities with its project pipeline and its exploration strategy, while generating immediate cash flow from its operations.*

*Endeavour operates 4 mines across Côte d'Ivoire (Agbaou and Ity) and Burkina Faso (Houndé, Karma) which are expected to produce 615-695koz in 2019 at an AISC of \$760-810/oz.*

*For more information, please visit [www.endeavourmining.com](http://www.endeavourmining.com).*

### **Corporate Office: 5 Young St, Kensington, London W8 5EH, UK**

This news release contains "forward-looking statements" including but not limited to, statements with respect to Endeavour's plans and operating performance, the estimation of mineral reserves and resources, the timing and amount of estimated future production, costs of future production, future capital expenditures, and the success of exploration activities. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "expects", "expected", "budgeted", "forecasts", and "anticipates". Forward-looking statements, while based on management's best estimates and assumptions, are subject to risks and uncertainties that may cause actual results to be materially different from those expressed or implied by such forward-looking statements, including but not limited to: risks related to the successful integration of acquisitions; risks related to international operations; risks related to general economic conditions and credit availability, actual results of current exploration activities, unanticipated reclamation expenses; changes in project parameters as plans continue to be refined; fluctuations in prices of metals including gold; fluctuations in foreign currency exchange rates, increases in market prices of mining consumables, possible variations in ore reserves, grade or recovery rates; failure of plant, equipment or processes to operate as anticipated; accidents, labour disputes, title disputes, claims and limitations on insurance coverage and other risks of the mining industry; delays in the completion of development or construction activities, changes in national and local government regulation of mining operations, tax rules and regulations, and political and economic developments in countries in which Endeavour operates. Although Endeavour has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Please refer to Endeavour's most recent Annual Information Form filed under its profile at [www.sedar.com](http://www.sedar.com) for further information respecting the risks affecting Endeavour and its business. AISC, all-in sustaining costs at the mine level, cash costs, operating EBITDA, all-in sustaining margin, free cash flow, net free cash flow, free cash flow per share, net debt, and adjusted earnings are non-GAAP financial performance measures with no standard meaning under IFRS, further discussed in the section Non-GAAP Measures in the most recently filed Management Discussion and Analysis.