



PRESS RELEASE

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SEMAFO: Positive PEA Results for Nabanga

After-tax Net Present Value of \$100 Million

Montreal, Quebec, September 30, 2019 – SEMAFO Inc. (TSX, OMX: SMF) is pleased to announce positive results from a preliminary economic assessment (“PEA”) for its Nabanga project in Burkina Faso.

Highlights

- Pre-tax NPV of \$147 million and after-tax NPV of \$100 million, using a 5% discount rate
- LoM gold production of 571,000 ounces at AISC of \$760/oz and a gold recovery of 92% during the 8 years of operations
- Pre-production capital expenditure of \$84 million, including 20% contingency, and \$56 million in LoM sustaining capital
- Project economics (base case at \$1,300/oz gold price):
 - After-tax 5% NPV: \$100 million
 - After-tax IRR: 22.6%
 - Payback period: 4.4 years
- Preferred mining method – open-pit/ underground mining on the upper and at-depth portions of the ore zone, respectively
- Opportunities exist to improve returns through an increase in resources and additional cost saving measures in the mining operations and development

Benoit Desormeaux, President and CEO, stated, “The results in today’s PEA highlight attractive economics for Nabanga including how the project can be developed with modest initial capital by combining open-pit and underground mining operations. The goal of the PEA study was to assess the initial economic viability and to identify areas for improvement to rank Nabanga within SEMAFO’s development pipeline. We believe we can improve the project economics through additional work on mining cost optimization for open-pit operations, underground operations, and underground capital development expenditures. Furthermore, there remains potential to extend resources through additional exploration drilling as some mineralized zones remain open and further exploration potential exists on the property. As we move beyond the PEA, we will be looking to maximise the potential to generate shareholder value.”

Mineral Resources

The PEA is based on mineral resources estimated on December 31, 2018 for the Nabanga deposit.

Category		Tonnes Mt	Au g/t	Ounces K oz
Inferred resources ¹		3.4	7.7	840

¹ Nabanga mineral resource is reported above a cut-off grade of 3.0 g/t Au.

Mineralization

The mineralization at the Nabanga deposit is predominately hosted within a granodiorite intrusive. The gold mineralization is associated with quartz veining and a distinctive sheared alteration zone developed around the central quartz filled structure. The mineralized structure dips approximately 65 degrees towards the northwest and has an average horizontal thickness of 4 meters.

Exploration Potential

On the exploration front, the Nabanga deposit remains open to the north and many of the ore shoots are open at depth. Hole NADD18 0005, drilled on the northernmost section, to date returned 5.17 g/t Au over 3.4 meters along the plunge direction, confirming the continuity of the mineralized shoot. In addition, the remainder of the 800-km² property is largely underexplored with many untested soil and auger anomalies within trucking distance of the deposit. More specifically, auger drilling carried out in 2019 within a 10-kilometer radius of the deposit identified gold geochemical anomalies that could offer proximal satellite zones of gold mineralization.

Gold Price Sensitivity Analysis

The Nabanga project sensitivity analysis was performed using a \$100 variation from the base case gold price as illustrated in the following table:

	Base Case \$1,300 oz gold	\$1,400 oz gold	\$1,500 oz gold
After-tax 5% NPV (\$M)	\$100	\$130	\$160
After-tax IRR (%)	23	28	32
Payback period (years)	4.4	3.8	3.4

Mining

The PEA envisions a combination of contract-operated open pit and underground mining methods for the Nabanga deposit. The top portion of the mineralized zone is projected to be recovered by conventional truck & shovel open-pit mining down to a maximum depth of 60 to 70 meters. Open-pit production is contemplated at a rate of 16,000

tonnes per day (tpd) for a total of 14.7 million tonnes of material, including 616,000 tonnes of mineralized material at an average grade of 6.45 g/t Au. Drill and blast will be required almost at the beginning of the excavation work because there is almost no overburden. The open-pit operation is planned over a period of 2.5 years, including the pre-production period.

Below the open pit, recovery of the mineralized zone is foreseen using an underground mining method (sublevel long hole stoping) with the use of cemented rock fill. In the scenario presented in the PEA, development of the underground mine would commence in the second year of operations, starting from one of the small satellite pits located towards the central portion of the Nabanga deposit. More than 9,600 meters of underground development are planned over the project LOM to unlock the different mineralized zones. Approximately 2,365 million tonnes of material with an average head-grade of 6.48 g/t Au are projected to be mined from underground operations at an average of 1,000 tpd during the seven-year projected LoM.

Over the project LOM, combined open-pit and underground production is estimated at 2.98 million tonnes at an average grade of 6.47 g/t Au. A cut-off grade of 2 g/t Au has been used for the open-pit mineralized material while a cut-off grade of 3.7 g/t Au has been used for the underground mineralization.

	Tonnes Kt	Au grade g/t	Ounces K oz
PEA open pit mineralization ¹	616	6.45	128
PEA underground mineralization ²	2,365	6.48	498
Total PEA (OP & UG) mineralization	2,980	6.47	626

¹ Nabanga PEA open pit mineralization is reported above a cut-off grade of 2.0 g/t Au and includes 12% dilution.

² Nabanga PEA underground mineralization is reported above a cut-off grade of 3.7 g/t Au and includes 0.5 meters of dilution in both the hanging wall and foot wall of the mineralization.

Metallurgy and Processing

The Nabanga process plant will be based on a conventional crushing and grinding circuit, with the crushing circuit composed of a single-stage jaw crusher. Crushed ore will then be conveyed to the grinding circuit using a SAG mill and ball mill circuit. Following that, a flotation circuit is expected to recover some 80% of the gold-bearing minerals, with the remaining 20% treated in CIL leach tanks. The flotation concentrate will pass to the regrind mill to reduce the particle size, before being sent to an intensive leach reactor. The CIL stream will undergo pressure elution, after which both pregnant solutions will be sent to electrowinning cells for gold recovery.

A gold recovery of approximately 92% is expected in fresh ore and 90% in oxide ore based on metallurgical test results obtained by Orbis Gold Limited in 2013 and 2014.

Capital expenditures

Initial capital costs are estimated at \$84 million with LoM sustaining capital expenditure estimated at \$56 million. See below for more detail.

Pre-production Expenditures	\$M
OP mine development	8.7
Surface infrastructure	7.1
Process plant	27.6
Tailings & water management	2.4
Power plant & distribution	6.6
Indirect costs	17.2
Contingency	13.9
Total initial capital expenditures	84

Pre-production Expenditures per Year

In millions of \$	Year 1	Year 2
Pre-production expenditures	17	67

LoM Total Cash and All-in Sustaining Costs

The table below gives the LoM AISC per tonne processed at Nabanga, which includes the government royalties and sustaining capital expenditures.

	\$M	\$/oz produced
Mining	154.6	271
Processing	139.1	244
General & administration costs	39.9	70
Government royalties	44.4	78
Sustaining capital expenditures	55.9	98
All-in sustaining cost (AISC)	433.9	760

Next Steps

Recommended next steps in the PEA include drilling the mineral resources up to the measured and indicated categories and launching a feasibility study to demonstrate the anticipated economic and technical parameters. From a corporate perspective, we will evaluate the best alternative to generate shareholder value.

Qualified Persons & Technical Report

The Nabanga deposit PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no guarantee that inferred resources can be converted to indicated or measured resources and as such, there is no certainty that the PEA will be realized. A technical report for the PEA prepared in accordance with National Instrument 43-101 will be filed at www.sedar.com within 45 days of this news release.

The PEA was conducted by the firm DRA Met-Chem and revised by Patrick Moryoussef, Eng., Vice-President, Mining Operations, SEMAFO and Qualified Person, as defined by National Instrument 43-101. Patrick Moryoussef has reviewed this press release for accuracy and compliance with National Instrument 43-101. The PEA is based on SEMAFO's technical report on the resources of the Nabanga gold deposit as at December 31, 2018, available on SEDAR at www.sedar.com.

About SEMAFO

SEMAFO is a Canadian-based intermediate gold producer with over twenty years' experience building and operating mines in West Africa. The Corporation operates two mines, the Boungou and Mana Mines in Burkina Faso. SEMAFO is committed to building value through responsible mining of its quality assets and leveraging its development pipeline.

CAUTION CONCERNING FORWARD-LOOKING STATEMENTS

This press release contains forward-looking statements. All statements other than statements of present or historical facts are forward-looking. Forward-looking statements involve known and unknown risks, uncertainties and assumptions and accordingly, actual results and future events could differ materially from those expressed or implied in such statements. You are hence cautioned not to place undue reliance on forward-looking statements. Forward-looking statements include words or expressions such as "preliminary", "payback period", "opportunities", "improve", "increase", "initial", "development", "pipeline", "believe", "potential", "expand", "additional", "move beyond", "will", "maximise", "generate", "remainder", "could", "contemplated", "planned", "LOM", "estimated", "expected", "initial", "next steps", "launching", "demonstrate", "evaluate", "committed", "building", "leveraging", and other similar words or expressions. Factors that could cause future results or events to differ materially from current expectations expressed or implied by the forward-looking statements include the ability to (i) deliver the results of the Nabanga PEA, including its highlights, (ii) capitalize on Nabanga's exploration potential, (iii) meet Nabanga's expected mining, metallurgy and processing methods, capital expenditures, pre-production expenditures, LOM and AISC, (iv) be in line with all assumptions contained in the PEA, (v) execute on our strategic focus, fluctuation in the price of currencies, gold or operating costs, mining industry risks, uncertainty as to calculation of mineral reserves and resources, delays, political and social stability in Africa (including our ability to maintain or renew licenses and permits) and other risks described in SEMAFO's documents filed with Canadian securities regulatory authorities. You can find further information with respect to these and other risks in SEMAFO's 2018 Annual MD&A, as updated in SEMAFO's 2019 First Quarter MD&A and 2019 Second Quarter MD&A and other filings made with Canadian

securities regulatory authorities and available at www.sedar.com. These documents are also available on our website at www.semafo.com. SEMAFO disclaims any obligation to update or revise these forward-looking statements, except as required by applicable law.

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TABLE 1 – NABANGA LOM PLAN AND CASH FLOW

	Total or Average LoM	Construction Period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
MINE SCHEDULE											
Open-pit ore (t)	615,974	88,067	308,251	219,657							
Open-pit grade (g/t)	6.45	6.20	6.33	6.70							
Open-pit waste (t)		2,894,907	5,401,199	5,762,218							
Underground ore (t)	2,364,459			88,411	359,981	358,593	360,361	360,726	391,598	360,883	83,907
Underground grade (g/t)	6.48			6.96	5.75	6.87	7.14	6.81	5.51	6.67	6.96
Total ore mined (t)	2,980,434	88,067	308,251	308,068	359,981	358,593	360,361	360,726	391,598	360,883	83,907
Ore grade (g/t)	6.47	6.20	6.33	6.78	5.75	6.87	7.14	6.81	5.51	6.67	6.96
PROCESSING SCHEDULE											
Ore processed	2,980,434		330,000	360,000	360,000	360,000	360,000	360,000	360,000	360,000	130,434
Grade processed (g/t)			6.3	6.69	5.79	6.83	7.13	6.82	5.55	6.54	6.81
Recovery (%)	92		92	92	92	92	92	92	92	92	92
Production (oz)			61,531	71,263	61,602	72,750	75,897	72,649	59,151	69,656	26,268
REVENUES (in \$)			79,806,232	92 427 652	79 897 446	94 357 380	98,438,174	94,226,215	76,718,696	90 344 453	34,069,843
OPERATING COSTS (in \$)			(40,893,017)	(46 773 854)	(48 473 535)	(44 778 921)	(46,829,207)	(49,732,430)	(44,887,293)	(42 833 341)	(12,734,303)
EBITDA (in \$)			38,913,215	45 653 798	31 423 911	49 578 459	51,608,968	44,493,785	31,831,403	47,511,113	21,335,540
Accounts receivable (in \$)			9,975,779	11,553,457	9,987,181	11,794,672	12,304,772	11,778,277	9,589,837	11,293,057	4,258,730
Accounts payable (in \$)			(3,407,751)	(3,897,821)	(4,039,461)	(3,731,577)	(3,902,434)	(4,144,369)	(3,740,608)	(3,569,445)	(1,061,192)
Working capital (in \$)			6,568,028	7,655,635	5,947,720	8,063,096	8,402,338	7,633,908	5,849,229	7,723,612	3,197,538
Change in working capital (in \$)		(6,568,028)	(1,087,608)	1,707,916	(2,115,376)	(339,242)	768,430	1,784,678	(1,874,382)	4,526,073	3,197,538
Initial capex	(83,695,551)	(83,695,551)									
Sustaining capex	(55,914,520)		556,818	19,500,314	13,722,562	13,730,456	7,357,276	1,047,095			
Capitalized stripping activity (part of initial capex)	(13,923,466)	(13,923,466)									
Rehabilitation & closure costs	(5,000,000)								(1,250,000)	(1,250,000)	(2,500,000)
CASH FLOW		(90,263,579)	37,268,790	27,861,401	15,585,973	35,508,761	45,020,122	45,231,369	28,707,020	50,787,186	22,033,079
Total cash cost /oz	662		665	656	787	616	617	685	759	615	485
All-in sustaining cost /oz	760		665	664	1,103	804	798	786	777	615	485