

# **Nighthawk's Latest Metallurgy Continues to Show Strong Gold Recoveries for Colomac**

23.04.2020 | [CNW](#)

TORONTO, April 23, 2020 - [Nighthawk Gold Corp.](#) ("Nighthawk" or the "Company") (TSX: NHK; OTCQX: MIMZF) is pleased to provide an update of the latest heap leach testwork from ongoing preliminary metallurgical studies on the Colomac Gold Deposit ("Colomac"). Four (4) bulk drill core samples collected in 2018 were previously submitted for SAGDesign, gravity concentration, bottle roll cyanide leaching, and column heap leach testing. Standard metallurgical test results for those samples were reported earlier (see press release dated March 19, 2019) and are referenced in this release which covers the 2018 bottle roll and column heap leach testwork findings.

Dr. Michael Byron, President & CEO commented, "Metallurgical studies completed to-date have continued to show that Colomac rock performs exceptionally well in terms of its grind characteristics, gold recoveries, purity, and responsiveness to all standard recovery technologies. Although our ongoing heap leach bottle roll and column tests are still at a preliminary stage, results show a favourable response to the deposit's heap leach potential.

"Standard metallurgical testing on four Colomac 2019 samples is almost complete. Additional heap leach testwork is also underway, which will then give us a total of ten bottle roll and nine column leach tests and will shed considerable insight into the ongoing assessment of the deposit's heap leach and primary processing potential."

#### Testwork Highlights:

- Testing to-date has shown that Colomac rock is amenable to all standard gold recovery technologies including, flotation, gravity separation, and heap leaching.
- Minimal variation in rock hardness is noted for all test samples indicating a relatively homogeneous host rock across the deposit.
- Utilising a combination of gravity and cyanide leach recovery processes, testing has shown that gold recoveries for all samples tested to-date when ground to a size of 80% passing 106 microns, range from 96.3% to 98.0%.
- Current column leach tests on the four 2018 samples posted gold recoveries that varied from 54.9% to 69.7% and 59.4% for the 206 day run, representing an average increase of 9.6% in recoveries when the leach time was extended by an additional 3 months (~100 additional days)(Table 2).
- Current bottle roll leach tests on four samples (minus half (½) inch crushed material ran for 10 days) posted gold recoveries between 31.5% and 49.6% with an average gold recovery of 44.3%. Samples of lower-grade and higher-grade material collected in 2016 and 2017 returned recoveries of 81.8% and 57.5% respectively (see press release dated May 2, 2018).
- Cyanide heap leach results show considerable variability between testing methods and grade of material processed, but within an expected performance range for crushed material (recoveries between 31.5% up to 81.8% in all samples tested to-date).

#### Metallurgical Testwork

Testing was completed at Bureau Veritas in Richmond, BC, and audited by Starkey & Associates Inc., in Oakville, Ontario. Testwork completed to-date include the four latest 2018 composite samples (standard testing, four bottle roll and four column leach tests), one higher grade sample (standard testing, two bottle roll and one column leach tests) from Zone 1.5 (see press release dated February 21, 2018 and May 22, 2018), and lower-grade material (standard testing and one bottle roll leach test) consisting of four composite samples from various areas of the Colomac Main Sill (see press release dated April 19, 2017).

The 2018 campaign broadened sampling (21 boreholes covering seven (7) mineralized zones within the Colomac Main Sill and Goldcrest sills), to other areas of the deposit including Zones 1.0, 2.0-2.5, 3.0-3.5 and Goldcrest North (Table 1, Figure 1). The testwork program was identical to previous campaigns, with each sample consisting of approximately 70 kg of drill core material collected from the respective zones. As in the previous studies, samples were assayed for gold and tested for grindability using SAGDesign methodology, and for amenability to several gold recovery processes (see press release dated March 19, 2019). For illustrative purposes, a comparison of the latest heap leach test results to previously reported 2017 metallurgical testing results is presented in Table 3.

Calculated head grades from the various tests show that Colomac material has a pronounced nugget effect in most samples studied to-date. Fire assay results are consistently low while metallic assays and screen analysis assays of all the size fractions gives a much better indication of the amount of gold present. This is confirmed given the extent to which gold is recovered in the tests completed (Table 1). As expected for material with gold nuggets, the calculated heads for various tests are erratic.

### Heap Leach Testwork

The first heap leach test conducted was a bottle roll leach test on a composite sample of Colomac Main sill lower-grade material from the initial 2016 sampling program. It returned a highly favourable gold recovery of 81.8%, prompting additional heap leach testing to ascertain the opportunity for the use of heap leach recovery methods at Colomac. To date, four bottle rolls and five column leach tests have now been completed on minus half (½) inch crushed material.

An initial single high-grade sample (from the 2017 sampling program) reported a column leach test recovery of 34.3% after leaching for 107 days (see press release dated May 22, 2018). Considering the additional results now available, it appears the previous low result, being the first column test done by the Company may have had insufficient cyanide added to the column which due to its high-grade nature, probably had more cyanicides (a substance that attacks or destroys the cyanide salt used to dissolve precious metals) in it than the lower-grade samples.

Current column leach tests on the four samples posted gold recoveries that varied from 45.6% to 61.1% and averaged 54.4% over the 107-day run. Extending the leach time for an additional 3 months (~100 more days) resulted in an average increase in gold recoveries varying from 54.9% to 69.7% and averaging 59.4% (Table 2).

Bottle roll leach tests on the four samples ran for 10 days and posted gold recoveries between 31.5% and 49.6% with an average gold recovery of 44.3%. Samples of lower-grade and higher-grade material collected in 2016 and 2017 returned recoveries of 81.8% and 57.5% respectively (see press release dated May 22, 2018).

Gold recoveries from the 2018 column leaching (107 days), when compared with the bottle roll tests, were significantly higher for Zone 1.0 and Goldcrest North but showed similar gold recoveries for Zones 2.0-2.5 and Zones 3.0-3.5 (Table 3). Therefore, the bottle roll tests seem to give a rough indication of the recovery that can be achieved but not the cyanide consumption (which is due to the high agitation levels used).

Results from the current study, as well as studies completed on 2017 sampling are summarized in the tables below and show that the materials tested respond favourably to the proposed process options.

Table 1. Head Assays of Samples Tested Using Column Leach

Sample ID	Zone	Au Grade, g/mt			Average*
		Fire Assay	Metallics	Screen Analysis	
2018 Sample 1	1.0	1.67	2.28	3.77	2.57
2018 Sample 2	2.0-2.5	2.15	2.05	2.29	2.16
2018 Sample 3	3.0-3.5	2.38	2.41	2.81	2.53
2018 Sample 4	Goldcrest	1.34	2.29	1.48	1.71
Average 2018		1.88	2.26	2.59	2.24
2017 High-Grade		2.83	7.16	Assay not done**	4.99

\* Note: Average value is calculated as the average of the three determinations

\*\* Screen analysis assay was added to the 2018 samples because of the nugget effect

Table 2. Column Leach Tests at Minus ½ Inch

Sample ID	Leach	P <sub>80</sub>	Size	NaCN	Measured	Calc.	Head Recovery	Residue
	Days	inch		g/L	Au, g/t	Au, g/t	Au, %	Au, g/t
2018 Sample 1	107	0.5		0.5	2.57	1.66	45.6	0.76
	206	0.5		0.5	2.57	1.66	57.4	
2018 Sample 2	107	0.5		0.5	2.16	2.71	46.4	1.34
	213	0.5		0.5	2.16	2.71	55.5	
2018 Sample 3	107	0.5		0.5	2.53	2.54	46.1	1.24
	213	0.5		0.5	2.53	2.54	54.9	
2018 Sample 4 (Goldcrest)	107	0.5		0.5	1.71	1.02	61.1	0.35
	206	0.5		0.5	1.71	1.02	69.7	
2018 Average after ~107 days (3.5 months)					2.24	1.98	49.8	0.92
2018 Average after ~210 days (7 months)					2.24	1.98	59.4	
2017 High-Grade	107	0,5		0.5	4.99	4.70	34.3	3.15

Table 3. Bottle Roll & Column Leaching Results (compared to other methods of gold recovery)

Test	Description	Particle Size ~P <sub>80</sub>  (Microns)	Au Recovery (%)					
			Samples Tested					
			2017	2018	2018	2018	2018	2018
			High	Zone	Zone	Zone	Zone	Average
			Grade 1.0	2.0-	3.0-	Goldcrest		
				2.5	3.5			
	Bottle Roll	12700	57.5	31.5	49.1	47.1	49.6	44.3
Crushed	(10 days)							
	Column	12700	34.30*	45.6	46.4	46.1	61.1	49.8
	Leach (1/2") (~107 days)							
	**Column	12700	N/A	57.4	55.5	54.9	69.7	59.4
	(~210 days)							
Ground	Whole Ore	150	96.4	97.1	96.8	96.7	96.8	96.9
Leach	Gravity + Leach	106	98.0	98.0	97.3	96.3	97.2	97.2
***Gravity	Fine	75	54.3	53.0	42.0	27.2	58.3	45.1
Pan Cl.	Medium	106	40.5	48.2	48.8	24.5	44.4	41.5
Conc.	Coarse	150	42.8	34.4	34.1	20.4	52.0	35.2
	Fine	75	94.6	94.9	94.8	92.1	98.1	95.0
Flotation	Medium	106	93.5	94.5	94.5	88.6	94.9	93.1
	Coarse	150	90.7	92.8	94.2	84.8	95.5	91.9

\* Low recovery after 107 days probably due to low cyanide (high grade sample). 1.3 kg/t Vs 4.06 kg/t for the bottle roll test.

\*\* Column leach time was extended after 107 days for the 2018 samples to study effect on recovery of longer leach times.

\*\*\* The gold recovery shown is the pan (cleaner) concentrate after panning of the gravity rougher concentrate. Average gold rougher recovery was 70.5% to gravity rougher concentrates in 3.4% of feed mass for 2018 samples.

#### Future Testing

Preliminary testwork indicates that the Colomac deposit is amenable to all standard recovery technologies. Future studies will be broadened to include samples from other satellite gold zones and other zones to depth within the mineralized sills. Future work will also continue scrutinizing the heap leach potential of the Colomac deposit. The main objective is to confirm that the metallurgical responses observed so far will apply over a broader range of head grades, zone locations, and depths within the deposit.

## Quality Control and Qualified Persons

The technical information disclosed herein was prepared under the supervision of Dr. Alice Shi of Bureau Veritas and Mr. John Starkey of Starkey & Associates Inc., who is considered an independent "Qualified Person" as defined by NI 43-101 for the metallurgical testing performed on behalf of [Nighthawk Gold Corp.](#) Mr. Starkey has supervised the metallurgical work reported on and has reviewed and approved the technical disclosure contained in this news release with respect to such work.

Dr. Michael J. Byron, Ph.D., P.Geo., President & Chief Executive Officer of Nighthawk, who is the "Qualified Person" as defined by NI 43-101 for this project, has reviewed and approved of the technical disclosure contained in this news release. Please refer to NI 43-101 technical report "Technical Report and mineral resource estimate update on the Colomac Project of the Indin Lake Property", dated June 13, 2018, as filed under the company's profile on [www.sedar.com](http://www.sedar.com)

## About Nighthawk

Nighthawk is a Canadian-based gold exploration company with 100% ownership of a district-scale land position within the Indin Lake Greenstone Belt, located approximately 200 km north of Yellowknife, Northwest Territories, Canada. Nighthawk is focused on advancing the Colomac Gold Project with a current inferred resource of 2.6 million ounces of gold (50.3 million tonnes at an average grade of 1.62 grams per tonne gold), as well as advancing its other regional gold deposits and showings within this largely underexplored Archean gold camp.

The Company has an experienced and dedicated team and is well funded to complete its goals and objectives over the next 12 months.

The Toronto Stock Exchange has neither reviewed nor accepts responsibility for the adequacy or accuracy of this news release.

## Forward-Looking Information

This news release contains "forward-looking information" within the meaning of applicable Canadian securities legislation. Forward-looking information includes, but is not limited to, information with respect to the Company's continued metallurgical testing at Colomac and the timing and results thereof. Generally, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects", or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "does not anticipate", or "believes" or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might", or "will be taken", "occur", or "be achieved".

Forward-looking information is based on the opinions and estimates of management at the date the information is made, and is based on a number of assumptions and is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of Nighthawk to be materially different from those expressed or implied by such forward-looking information, including risks associated with the exploration, development and mining such as economic factors as they effect exploration, future commodity prices, changes in foreign exchange and interest rates, actual results of current exploration activities, government regulation, political or economic developments, environmental risks, permitting timelines, capital expenditures, operating or technical difficulties in connection with development activities, employee relations, the speculative nature of gold exploration and development, including the risks of diminishing quantities of grades of reserves, contests over title to properties, and changes in project parameters as plans continue to be refined as well as those risk factors discussed in Nighthawk's annual information form for the year ended December 31, 2018, available on [www.sedar.com](http://www.sedar.com). Although Nighthawk has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, readers should not place undue reliance on forward-looking information. Nighthawk does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

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Die URL für diesen Artikel lautet:

<https://www.rohstoff-welt.de/news/349433--Nighthawkund039s-Latest-Metallurgy-Continues-to-Show-Strong-Gold-Recoveries-for-Colomac.html>

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