Osisko Releases Mineral Resource Estimate for Garrison Gold Deposit

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TORONTO, Feb. 19, 2019 - Osisko Mining Inc. (OSK:TSX, "Osisko" or the "Corporation") is pleased to provide a mineral resource estimate for its 100% owned Garrison gold deposit, located along the Destor Porcupine Fault Zone in the Abitibi Greenstone Belt, Garrison Township, Ontario. This mineral estimate is the result of 1,115 drill holes (342,874 metres) in the resource area completed by previous operators on the project since 1985 and includes 197 new drill holes (87,251 metres) completed by Osisko between 2016 to July 2018.

Table 1 below outlines the mineral resource estimate for the Garrison gold deposit with grade sensitivity shown in Tables 2 and 3.

Table 1: Garrison Gold Deposit Measured, Indicated and Inferred Mineral Resources by Zone and mining method

	Open pit (0.4 g/t cut-off)			Underground (3.0 g/t cut-off)		
Zone	Tonnes[1] (000 t)	Grade (g/t)	Ounces Au[2] (000 oz)	Tonnes[1] (000 t)	Grade (g/t)	Ounces Au[2] (000 oz)
Garrcon						
Measured	13,259	0.88	377	-	-	-
Indicated	7,388	1.09	259	64	4.10	8
Inferred	2,091	1.01	68	743	4.15	99
Jonpol						
Measured	4,027	1.67	216	58	3.83	7
Indicated	2,984	1.47	141	96	4.00	12
Inferred	335	0.99	11	136	4.00	18
903						
Measured	4,862	1.27	198	-	-	-
Indicated	10,862	1.00	349	10	3.21	1
Inferred	6,765	0.94	204	196	3.33	21
Total M&I	43,382	1.10	1,541	228	3.95	29
Total Inferred	9,190	0.96	283	1,075	3.98	138

[1] and [2] indicate that values are rounded to nearest thousand which may cause apparent discrepancies

Table 2: Garrison Gold Deposit Measured & Indicated and Inferred Mineral Resource sensitivity table for open pit scenario (all zones)

	Measured & Indicated			Inferred		
Cut-off Grade	Tonnes[1] (000 t)	Grade (g/t)	Ounces Au[2] (000 oz)	Tonnes[1] (000 t)	Grade (g/t)	Ounces Au[2] (000 oz)
0.2 g/t Au	53,951	0.95	1.648	10,388	0.88	295
0.3 g/t Au	50,085	1.00	1,617	10,011	0.91	292
0.4 g/t Au	43,382	1.10	1,541	9,190	0.96	283
0.5 g/t Au	36,365	1.23	1,439	8,072	1.03	266
0.6 g/t Au	30,275	1.37	1,332	6,421	1.15	237

[1] and [2] indicate that values are rounded to nearest thousand which may cause apparent discrepancies

Table 3: Garrison Gold Deposit Measured & Indicated and Inferred Mineral Resource sensitivity table for underground scenario (all zones)

	Measured & Indicated			Inferred		
Cut-off Grade	Tonnes[1] (000 t)	Grade (g/t)	Ounces Au[2] (000 oz)	Tonnes[1] (000 t)	Grade (g/t)	Ounces Au[2] (000 oz)
2.0 g/t Au	608	2.98	58	3,522	2.85	323
2.5 g/t Au	352	3.53	40	1,727	3.51	195
3.0 g/t Au	228	3.95	29	1,075	3.98	138
3.5 g/t Au	138	4.43	20	536	4.75	82
4.0 g/t Au	78	4.95	12	300	5.55	54

[1] and [2] indicate that values are rounded to nearest thousand which may cause apparent discrepancies.

Global non-pit constrained resources at a 0.4 g/t Au cut-off to 300 metres below surface are 1.87 million ounces gold at 1.06 g/t Au in the measured & indicated category and 0.61 million ounces gold at 0.92 g/t Au in the inferred category.

John Burzynski, President and Chief Executive Officer of Osisko, commented: "We are pleased with our mineral resource estimate at Garrison and the first mineral resource estimate for the 903 Zone. Our work continues to better define the gold-bearing zones and highlight areas for future expansion and exploration. We also have numerous targets that warrant follow-up on our claim package along the significant Destor Porcupine Fault Zone."

The mineral resource estimate has been prepared by RockRidge, from Vancouver, British Columbia, and has been reviewed and audited by Micon International Limited, Toronto, Ontario. The full technical report, which is being prepared in accordance with National Instrument 43-101 ("NI 43-101"), will be available on SEDAR (www.sedar.com) under the Corporation's issuer profile within 45 days. The effective date of the current mineral resource estimate is February 19, 2019.

This mineral resource estimate reflects geological modeling of the Garrison deposit (Garrcon, Jonpol, and 903 zones) as lying at the confluence of the Destor Porcupine Fault and the Munro fault (a splay structure of the Destor Porcupine). Mineralization in the Garrcon Zone is in a brittle fault and fracture zone hosted within silicified metasediments. Mineralization in the Jonpol Zone is shear hosted with quartz-albite veins in sheared ultramafic volcanics within the footwall of the Munro fault. Mineralization in the 903 Zone is hosted in syenites within sheared ultramafics of the Destor Porcupine Fault.

Mineralized domain wireframes were constructed within lithological and structural boundaries modeled in Leapfrog using a 0.2 g/t Au grade shell. The estimate only considers mineralized zones potentially minable by open-pit or underground methods at lower cut-off grades of 0.4 g/t Au and 3.0 g/t Au, respectively. The cut-off calculation is based on the assumed parameters listed below:

Table 4: Parameters used for Resource Estimate Pit Optimization

Parameters	Unit	Value
Gold Price	US$/oz	1,300
Exchange Rate	US$/C$	0.76
Mill Recovery	%	93.0
Open Pit Mining Cost	C$/T milled	2.50
Underground Mining Cost	C$/T milled	120.00
Overburden cost	C$/T milled	1.96
G&A Cost	C$/T milled	2.00
Processing Cost	C$/T milled	11.00
Pit Slope in Rock	Degrees (°)	50
Pit Slope in Overburden	Degrees (°)	20

Selected Cut-off Grade Open pit*	Au g/t	0.40
Selected Cut-off Grade Underground**	Au g/t	3.00

*The parameters above resolve to a 0.26 g/t open pit cut-off. The QPs elected to report at 0.40 g/t.
** The parameters above resolve to a 2.60 g/t open pit cut-off. The QPs elected to report at 3.00 g/t.

Garrison Gold Deposit Mineral Resource Estimate Notes:

- The Garrison mineral resource estimate has been prepared pursuant to CIM standards and guidelines for reporting mineral resources and reserves.
- Resources are presented undiluted and *in situ* and are considered to have reasonable prospects for economic extraction.
- The database comprised a total of 1,115 drill holes for 342,873.7 metres of drilling in the extent of the mineral resource, of which 197 drill holes (87,250.8 metres) were completed and assayed by Osisko as of July 31, 2018.
- All NQ core assays reported by Osisko were obtained by analytical methods described below under *"Quality Control and Reporting Protocols"*.
- Geological interpretation of the deposits was based on the Garrison deposit (Garrcon, Jonpol, and 903) as lying at the confluence of the Destor Porcupine Fault and the Munro fault (a splay structure of the Destor Porcupine) and mineralization hosted in structurally controlled domains. Interpretation was initially made from cross-sections at 25 or 50 metre intervals, and then completed in Leapfrog Software, where selections of mineralization intervals were combined to generate mineralization wireframes.
- The mineralized domains used for the mineral resource estimate were constructed in Leapfrog Software using 0.2 g/t Au interpolant grade shells with 0.5 ISO values limited by hard boundaries to modeled lithological and structural zones.
- Samples were composited within the mineralization domains into 2.0 metre length composites for all areas except the Garrcon Main Metasedimentary zone, where 2.5 metre composites were more appropriate.
- High grade capping was done on composite data and established using a statistical analysis on a per-zone basis for gold. Capping values of between 10 g/t to 40 g/t were used depending on mineralized domain.
- Density values were applied on the following lithological basis (t/m^3): 2.79 for all metasedimentary units and 2.82 for all igneous units.
- Ordinary Kriging (OK) based interpolation was used for the estimation of all zones of the Garrison gold deposit. Estimates are based on a block dimension of 10 metres NE, 2 metres NW and 10 metres height for all zones except the Garrcon Main Metasedimentary unit where 5 metre x 5 metre x 5 metre blocks were used. Estimation parameters were based on variography. Strong anisotropies were observed in all cases, and variograms were rotated to reflect the best major, semi-major and minor ranges. Spherical models were fitted to pairwise relative semi-variograms. Search radii reflected the orientations of the variography. Search distances were used in three passes, where the first pass equaled two thirds of the variogram range, the second pass was equal to full variogram range and the third pass was double the respective range.
- The Garrison mineral resource estimate is categorized as Measured, Indicated and Inferred mineral resource as follows:
    - The measured mineral resource category is generally based on a minimum number of six informing composites using a minimum of three drill holes located within the first estimation pass (two thirds variogram range)
    - The indicated mineral resource category is largely based on using a minimum of four composites from two drill holes located in the second estimation pass
    - The inferred mineral resource category is based on a minimum of four composites from two drill holes located in the third pass.
    - After initial coding of each pass, results were further refined in Leapfrog to establish continuous volumes for each resource category.
- Estimates use metric units (metres, tonnes and g/t). Metal contents are presented in troy ounces (metric tonne x grade / 31.10348).
- Micon International Limited is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issue not reported in the technical report, that could materially affect the mineral resource estimate.
- These mineral resources are not mineral reserves as they have not demonstrated economic viability. The quantity and grade of reported Inferred resources in this Mineral Resource Estimate are uncertain in nature and there has been insufficient exploration to define these inferred resources as indicated or measured. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration though not guaranteed.

Qualified Person

The Garrison gold deposit mineral resource estimate, with an effective date of February 19, 2019, was prepared under the direction of B. Terrence Hennessey, P.Geo., who is a “qualified person” within the meaning of NI 43-101. Mr. Hennessey is an employee of Micon International Limited and is considered to be “independent” of Osisko for purposes of section 1.5 of NI 43-101.

The scientific and technical content of this press release has been reviewed and approved by Ms. Alexandria Marcotte, P.Geo. Vice President Project Coordination for Osisko Mining Inc., who is a “Qualified Person” as defined by National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”).

Quality Control
True widths of the new exploration intercepts reported in this press release have yet to be determined, but are typically 65 – 90% of reported core lengths. Assays are uncut except where indicated, and calculated intervals are reported over a minimum length of 2 metres using a lower cutoff of 1.0 g/t Au. All HQ core assays reported were obtained by either whole sample rock metallic screen/fire assay or standard 30 gram fire-assaying with ICP finish at SGS Minerals Services in Cochrane, Ontario; and Bureau Veritas in Timmins, Ontario. The whole sample metallic screen assay method is selected by the geologist when samples contain coarse gold or any samples displaying gold initial fire assay values greater than 3g/t. Drill program design, Quality Assurance/Quality Control and interpretation of results is performed by qualified persons employing a Quality Assurance/Quality Control program consistent with NI 43-101 and industry best practices. Standards and blanks are included with every 20 samples for Quality Assurance/Quality Control purposes by the Corporation as well as the lab. Approximately 5% of sample pulps are sent to secondary laboratories for check assays.

About the Garrison Project
The Garrison Project area is comprised of 4 cell mineral claims and 63 patent claims encompassing approximately 770 hectares within the larger Great Bear project area which totals 517 cell mineral claims, 25 mining leases, and 87 patent claims encompassing approximately 8,000 hectares. The Garrison Project area contains the Garrcon, Jonpol, and 903 zones.

Garrcon Zone
The Garrcon Zone has a shallow plunge eastward along the footwall of the Destor-Porcupine Fault Zone with the bulk of the resource in the western, more densely drilled area. The zone is exposed at surface and has potential for open pit bulk mining. There is potential for additional underground resources below the pit and along the easterly plunge of the zone, which is open for further exploration down dip and along strike.

The Garrcon shaft was sunk in 1935 and 1936 by the Consolidated Mining and Smelting Co. of Canada (“Cominco”) and the Shaft and South Zones were tested for high grade gold mineralization. Cominco drove approximately 1,430 metres of drifts and cross cuts, mining underground veins. Diamond drilling by Cominco and Lac Minerals Ltd. in the mid-to-late 1980s identified broad sections of low grade mineralization. In 2006-2007, ValGold Resources Ltd. conducted additional drilling confirming these zones. From 2009-2013 Northern Gold Mining Inc. conducted 97,000 metres of diamond drilling. In 2014, Northern Gold Mining Inc. was granted a trial mining permit allowing the extraction of up to 150,000 tonnes. Northern Gold Mining Inc. mined 73,534 dry tonnes which was processed at the nearby Holt mill facility recovering 3,516 oz at an average head grade of 1.55 g/t and recovery of 95.9%.

Jonpol Zone
Jonpol is situated in the Munro Fault Zone, a west striking splay off the north side of the Destor-Porcupine Fault. Hosted in a shear zone tens of metres wide in altered mafic volcanic rocks. Gold mineralization is hosted in quartz carbonate veins, in mafic and ultramafic host rocks, and is associated with intense albite and/or sericite alteration and pyrite mineralization.

In 1997, a 49,087 tonne bulk sample was extracted from the central part of the JP zone by Hillsborough Resources Limited with an average grade of 6.7 g/t which produced 9,476 ounces Au. From 1985-2013, over 130,000 metres of drilling was completed on the property by previous operators. Development work on the Jonpol zone included the sinking of a 184 metre shaft as well as development of a ramp to the 150 metres level with mining on six sublevels. The Jonpol infrastructure underwent reclamation in the late 1990s and was closed out in 2001, but the existing ramp and shaft are preserved.

903 Zone
This third mineralized zone present at Garrison was not included in the resource estimate reported by the

previous operator in 2013. Mineralization at the 903 was discovered in 1945 by Wright-Hargreaves Mines Ltd. In 1988 Lac Minerals acquired the claims covering the current 903 Zone and completed 17 drill holes totaling 4,823 metres. The property was optioned in 1990 to Jonpol and T&H Resources and subsequently returned to Lac Minerals in 1991. The claims were acquired from a subsidiary of Barrick Gold in 2013.

About Osisko Mining Inc.
Osisko is a mineral exploration company focused on the acquisition, exploration, and development of precious metal resource properties in Canada. Osisko holds a 100% in the high-grade Windfall Lake gold deposit located between Val-d'Or and Chibougamau in Québec and holds a 100% undivided interest in a large area of claims in the surrounding Urban Barry area and nearby Quévillon area (over 3,300 square kilometres), a 100% interest in the Marban project located in the heart of Québec's prolific Abitibi gold mining district, and properties in the Larder Lake Mining Division in northeast Ontario, including the Jonpol and Garrcon deposits on the Garrison property, the Buffonta past producing mine and the Gold Pike mine property. The Corporation also holds interests and options in a number of additional properties in northern Quebec and Ontario.

Cautionary Statements Regarding Estimates of Mineral Resources
This news release uses the terms measured, indicated and inferred resources as a relative measure of the level of confidence in the resource estimate. Readers are cautioned that mineral resources are not economic mineral reserves and that the economic viability of resources that are not mineral reserves has not been demonstrated. The estimate of mineral resources may be materially affected by geology, environmental, permitting, legal, title, socio-political, marketing or other relevant issues. The mineral resource estimate is classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum's "CIM Definition Standards on Mineral Resources and Mineral Reserves" incorporated by reference into NI 43-101. Under Canadian rules, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies or economic studies except for Preliminary Assessment as defined under NI 43-101. Readers are cautioned not to assume that further work on the stated resources will lead to mineral reserves that can be mined economically.

Cautionary Note Regarding Forward-Looking Information
This news release contains “forward-looking information” within the meaning of the applicable Canadian securities legislation that is based on expectations, estimates, projections and interpretations as at the date of this news release. The information in this news release about the mineral resource estimate; the ability of future drill results to demonstrate potential for expansion of the previously defined Garrcon, Jonpol and 903 mineralized zones at the Garrison project; potential mineralization; the ability to realize upon any mineralization in a manner that is economic; the ability to complete any proposed exploration activities and the results of such activities; the continuity or extension of any mineralization; and any other information herein that is not a historical fact may be “forward-looking information”. Any statement that involves discussions with respect to predictions, expectations, interpretations, beliefs, plans, projections, objectives, assumptions, future events or performance (often but not always using phrases such as “expects”, or “does not expect”, “is expected”, “interpreted”, “managements view”, “anticipates” or “does not anticipate”, “plans”, “budget”, “scheduled”, “forecasts”, “estimates”, “believes” or “intends” or variations of such words and phrases or stating that certain actions, events or results “may” or “could”, “would”, “might” or “will” be taken to occur or be achieved) are not statements of historical fact and may be forward-looking information and are intended to identify forward-looking information. This forward-looking information is based on reasonable assumptions and estimates of management of the Corporation, at the time it was made, involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Osisko to be materially different from any future results, performance or achievements expressed or implied by such forward-looking information. Such factors include, among others, risks relating to the ability of exploration activities (including drill results) to accurately predict mineralization; errors in management’s geological modelling; the ability of Osisko to complete further exploration activities, including drilling; property interests; the ability of the Corporation to obtain required approvals and complete work on terms announced; the results of exploration activities; risks relating to mining activities; the global economic climate; metal prices; dilution; environmental risks; and community and non-governmental actions. Although the forward-looking information contained in this news release is based upon what management believes, or believed at the time, to be reasonable assumptions, Osisko cannot assure shareholders and prospective purchasers of securities of the Corporation that actual results will be consistent with such forward-looking information, as there may be other factors that cause results not to be as anticipated, estimated or intended, and neither Osisko nor any other person assumes responsibility for the accuracy and completeness of any such forward-looking information. Osisko does not undertake, and assumes no obligation, to update or revise any such forward-looking statements or forward-looking information contained

herein to reflect new events or circumstances, except as may be required by law.

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