

OSISKO HITS NEW DISCOVERY ONE KILOMETRE NORTH OF WINDFALL

Recon Drilling Returns High-Grade: 27.4 g/t Au Over 6.7 Metres

(Toronto, June 15, 2021) Osisko Mining Inc. (OSK:TSX. "Osisko" or the "Corporation") is pleased to announce that a significant new high-grade gold discovery has been made north of its 100% owned Windfall gold project located in the Abitibi greenstone belt, Urban Township, Eeyou Istchee James Bay, Québec.

Reconnaissance drilling approximately one kilometre north of Windfall identified the discovery area ("Golden Bear"), located along a sub-parallel splay of the Windfall Bank Fault.

Osisko Mining Chief Executive Officer John Burzynski commented: "It's early days, but it looks like we've found another new high-grade system near Windfall in an area with little drilling. We are very excited by the Golden Bear discovery, particularly as this new mineralization is located less than a kilometre from the footprint of where we hope to build the Windfall mine and milling facility. When Osisko discovered the Lynx deposit in 2016 it was a game-changer for the overall scale and grade of Windfall. We believe that this new high-grade discovery may similarly have a significant positive effect on our development plans for the Windfall camp. It certainly underscores the highly prospective nature of Osisko's strategic land package surrounding Windfall, the vast majority of which has yet to see any drilling."

Golden Bear is situated within a package of andesitic to dacitic rock intruded by felsic porphyries. Mineralization in the discovery intersection consists of pyrrhotite ± pyrite-sphalerite-chalcopyrite with local visible gold in pervasive silica alteration and quartz-carbonate veins. Drilling on Golden Bear is now focused on confirming the discovery, its orientation and the extent of the mineralization. Additional drilling will include tight and wide step outs, and new results will be released as they are received.

Maps showing the drill hole location and full analytical results are available at www.osiskomining.com

Discovery Hole OSK-UB-21-232

Discovery Hole OSK-OB-21-232												
Hole No.	From (m)	To (m)	Interval (m)	Au (g/t) uncut	Au (g/t) cut to 100 g/t	Zone	Corridor					
OSK-UB-21-232	503.0	509.7	6.7	27.4	17.2	New	Golden Bear					
including	507.0	509.7	2.7	63.6	38.2	New	Golden Bear					

Notes: True widths are estimated at 55 – 80% of the reported core length interval. See "Quality Control and Reporting Protocols" below.

Discovery Hole Location

Hole Number	Azimuth (°)	Dip (°)	Length (m)	UTM E	UTM N	Elevation	Section
OSK-UB-21-232	350	-50	552	453190	5436568	408	N.A.

Golden Bear Discovery

Mineralization is hosted in an altered andesite and occurs as pyrrhotite replacement in grey to translucent pervasive silica and guartz-carbonate-pyrrhotite veins. Replacement mineralization is associated with

strong pervasive silica alteration and contains trace to 15% disseminated and clustered pyrrhotite with local visible gold and trace amounts of sphalerite-chalcopyrite. Vein-type mineralization is associated with a halo of pervasive sericite-chlorite ± ankerite alteration containing sulphides (predominantly pyrrhotite with trace sphalerite, chalcopyrite, pyrite, galena and arsenopyrite) and local visible gold.

Qualified Person

The scientific and technical content of this news release has been reviewed, prepared and approved by Mr. Louis Grenier, M.Sc.A., P.Geo. (OGQ 800), Director of Exploration for Osisko's Windfall gold project, who is a "qualified person" as defined by National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101").

Quality Control and Reporting Protocols

True width determination is estimated at 55-80% of the reported core length interval for the zone. Assays are uncut except where indicated. Intercepts occur within geological confines of major zones but have not been correlated to individual vein domains at this time. Reported intervals include minimum weighted averages of 3.0 g/t Au diluted over core lengths of at least 2.0 metres. NQ core assays were obtained by either 1-kilogram screen fire assay or standard 50-gram fire-assaying-AA finish or gravimetric finish at (i) ALS Laboratories in Val d'Or, Québec, Vancouver, British Colombia, Lima, Peru or Vientiane, Laos (ii) Bureau Veritas in Timmins, Ontario. The 1-kilogram screen assay method is selected by the geologist when samples contain coarse gold or present a higher percentage of pyrite than surrounding intervals. Selected samples are also analyzed for multi-elements, including silver, using a Four Acid Digestion-ICP-MS method at ALS Laboratories. Drill program design, Quality Assurance/Quality Control ("QA/QC") and interpretation of results is performed by qualified persons employing a QA/QC program consistent with NI 43-101 and industry best practices. Standards and blanks are included with every 20 samples for QA/QC purposes by the Corporation as well as the lab. Approximately 5% of sample pulps are sent to secondary laboratories for check assay.

About the Windfall Gold Deposit

The Windfall gold deposit is located between Val-d'Or and Chibougamau in the Abitibi region of Québec, Canada. The Mineral Resource Estimate ("MRE") defined by Osisko is supported by the technical report entitled "Preliminary Economic Assessment Update for the Windfall Project" dated April 26, 2021 (that includes Windfall Mineral Resource Estimate with an effective date of November 30, 2020) (the "2021 Windfall PEA"), and assuming a cut-off grade of 3.50 g/t Au, comprises 521,000 tonnes at 11.3 g/t Au (189,000 ounces) in the measured mineral resource category, 5,502,000 tonnes at 9.4 g/t Au (1,668,000 ounces) in the indicated mineral resource category and 16,401,000 tonnes at 8.0 g/t Au (4,244,000 ounces) in the inferred mineral resource category. The key assumptions, parameters and methods used to estimate the MRE are further described in the 2021 Windfall PEA prepared by BBA Inc. in accordance with NI 43-101, which is available on SEDAR (www.sedar.com) under the Corporation's issuer profile. The Windfall gold deposit is currently one of the highest-grade resource-stage gold projects in Canada and has world-class scale. Mineralization occurs in three principal zones: Lynx, Main Zone, and Underdog. Mineralization is generally comprised of sub-vertical zones following intrusive porphyry contacts plunging to the northeast. The resources are defined from surface to a depth of 1,600 metres as it now includes the Triple 8 (T8) zone. The resources excluding T8 are defined from surface to a depth of 1,200 metres. The deposit remains open along strike and at depth. Mineralization down-plunge and at depth.

About Osisko Mining Inc.

Osisko is a mineral exploration company focused on the acquisition, exploration, and development of gold resource properties in Canada. Osisko holds a 100% interest in the high-grade Windfall 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 2,700 square kilometres).

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. Any statement that involves 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", "management's view", "anticipates" or "does not anticipate", "plans", "budget", "scheduled", "forecasts", "estimates", "potential", "feasibility", "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 news release contains the forward-looking information pertaining to, among other things: the significance of the new high-grade gold discovery; the prospects, if any, of Golden Bear; the mineralization of Golden Bear; the significance of drill results; the Windfall gold deposit being one of the highest-grade resource-stage gold projects in Canada and having world-class scale; the prospects, if any, of the Windfall gold deposit; the Lynx zone remaining open to expansion down plunge; upgrading a inferred mineral resource to a measured mineral resource or indicated mineral resource category; future drilling at the Windfall gold deposit; the significance of historic exploration activities and results. 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 (infill) drilling; property and royalty interests in the Windfall gold deposit; the ability of the Corporation to obtain required approvals; 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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