3.22 g/t Au over 11.6 metres located 3.7 kilometres west of Windfall deposit

MONTREAL, QUEBEC--(Marketwired - Aug 29, 2016) - Osisko Mining Inc. (TSX:OSK) ("Osisko" or the "Corporation") is pleased to announce a new discovery from the ongoing exploration drill program on its 100% owned Urban-Barry Project located in Urban Township, Québec. The exploration drill program currently involves one drill and is part of the ongoing 100,000 metre drill program at Osisko's Windfall Lake gold project.

The discovery was made in DDH OSX-W-16-717, which returned an average of 3.22 g/t Au over 11.6 metres. DDH OSX-W-16-717 is located approximately 3.7 kilometres west - northwest of the main Windfall deposit, and lies approximately 1.4 kilometres northwest of exploration hole OBX-16-666 (183.5 g/t Au over 0.3 metres, see Osisko press release dated June 3, 2016). DDH OSX-W-16-717 is part of a fence of holes currently testing the westerly strike of the Windfall Deposit geological trend. A number of target styles are being investigated along this fence, including geophysical anomalies and as follow-up to earlier identified gold-in-till anomalies.

The new drill hole underscores the strong potential for new gold mineralization on the Urban-Barry Project, which has historically seen limited exploration work. The table below details results from the new hole:

Hole	From (m)	To (m)	Interval (m)	Au (g/t)	Zone
OSX-W-16-717	243.9	255.5	11.6	3.22	Fox
including	243.9	245.0	1.1	3.83	
including	245.0	246.0	1.0	1.85	
including	246.0	247.0	1.0	5.38	
Including	247.0	248.0	1.0	2.16	
including	248.0	249.0	1.0	5.50	
including	249.0	250.0	1.0	5.20	
including	250.0	251.0	1.0	1.65	
including	251.0	252.0	1.0	4.56	
including	252.0	253.0	1.0	2.10	
including	253.0	254.0	1.0	1.23	
including	254.0	255.0	1.0	1.74	
including	255.0	255.5	0.5	3.66	

Notes:
(1) For complete drilling results please see www.osiskomining.com.

Drill Hole Collar Coordinates and Information:

Hole Number	Azimuth (°)	Dip (°)	Length (m)	UTM E	UTM N
OSX-W-16-717	331	-45	526.5	448759	5435644

OSX-W-16-717 targeted the contact between a magnetic high and low, 3.7 km to the WNW of the Main Zone at Windfall. The gold mineralization occurs within a zone of strong texturally-destructive sericite and silica alteration in andesite volcanics containing 2-3% pyrite stringers, with tourmaline, fine grained pyrite disseminations and zones of silica-filled brecciated stringers cross-cutting the interval. The mineralization is very similar to that seen at the nearby Windfall gold deposit.

Qualified Person

The scientific and technical content of this press release has been reviewed, prepared and approved by Mr. Jean-Philippe Desrochers, Ph.D., P.Geo. Senior Project Manager of the Windfall Lake 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

True widths of the new exploration intercepts reported in this press release have yet to be determined. Additional drilling is planned for the immediate area which will enable the true width determination. Assays are uncut except where indicated. All NQ core assays reported were obtained by either 1 kg whole rock metallic screen/fire assay or standard 50 gram fire-assaying with AA or gravimetric finish at ALS Laboratories in Val d'Or, Québec or Sudbury, Ontario. The 1 kg metallic screen assay method is selected by the geologist when samples contain coarse gold or present a higher percentage of pyrite than surrounding intervals. All samples are also analysed for multi-elements, including silver, using an Aqua Regia-ICP-AES method at ALS laboratories. Drill program design, Quality Assurance/Quality Control 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 assays.

About the Windfall Lake Gold Deposit

The Windfall Lake gold deposit is located between Val-d'Or and Chibougamau in the Abitibi region of Québec, Canada. The current mineral resource comprises 2,762,000 tonnes at 8.42 g/t Au (748,000 ounces) in the indicated category and 3,512,000 tonnes at 7.62 g/t Au (860,000 ounces) in the inferred category (sourced from a technical report dated June 10, 2015 entitled "Preliminary Economic Assessment of the Windfall Lake Gold Property, Quebec, Canada" with an effective date of April 28, 2015, prepared in accordance with NI 43-101). The Windfall Lake gold deposit is currently one of the highest grade resource-stage gold projects in Canada. The bulk of the mineralization occurs in the Main Zone, a southwest/northeast trending zone of stacked mineralized lenses, measuring approximately 600 metres wide and at least 1,400 metres long. The deposit is well defined from surface to a depth of 500 metres, and remains open along strike and at depth. Mineralization has been identified only 30 metres from surface in some areas and as deep as 870 metres in others, with significant potential to extend mineralization up and down-plunge and at depth.

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 (82,400 hectares), 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 Ontario. Osisko continues to be well financed and has approximately $50 million in cash and cash equivalents as well as marketable securities of approximately $60 million.

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 and projections as at the date of this news release. The information in this news release about pending transactions, 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, beliefs, plans, projections, objectives, assumptions, future events or performance (often but not always using phrases such as "expects", or "does not expect", "is expected", "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 Osisko, 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 property interests; ability to obtain required approvals, complete definitive documentation and complete transactions on the terms announced, ability of Osisko to complete further exploration activities, including drilling; 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 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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