



## **OSISKO METALS RELEASES PINE POINT IN-PIT INFERRED RESOURCE:**

**38,400,000 TONNES GRADING 6.58% ZnEq**

**(Montreal – December 6, 2018)** Osisko Metals Incorporated (the “**Company**” or “**Osisko Metals**”) (TSX-V: OM; FRANKFURT: OB51) is pleased to announce an updated Inferred Mineral Resource Estimate (“MRE”) for its 100% owned Pine Point project, located near Hay River, in the Northwest Territories of Canada. The MRE was prepared by BBA Inc. and incorporates an open pit mining scenario with cut-off values based on estimated long-term metal prices, mining costs, metal recoveries, concentrate transport and smelter costs. A conference call webcast will be held by Osisko Metals management at 11:00 am Eastern time today (see conference call details below).

### **Highlights:**

- **The Pine Point in-pit Inferred MRE stands at 38.4 Mt grading 4.58% zinc and 1.85% lead (6.58% ZnEq) containing approximately 3.9 billion pounds of zinc and 1.6 billion pounds of lead.**
- The pit constrained resource is based on optimized pit shells using a zinc price of US\$1.10/lb and a lead price of US\$0.90/lb. The lower cut-off grade varies across the property and ranges between 1.70% ZnEq and 2.00% ZnEq.
- The in-pit Inferred MRE is divided into five geographic zones, each zone composed of individual deposits (see [Pine Point Property Map](#) and Table 1). The MRE incorporates 42 new pits and expansions of 2 historical pits.
- Pine Point’s main core (East Mill, Central and North Zones) contains approximately 23.4 Mt grading 6.30% ZnEq or 2.3 billion pounds of zinc and 0.9 billion pounds of lead.
- At the deposit scale the grade and tonnage show little variability at lower cut-off grades (see Table 2). The in-pit MRE is very robust and is relatively insensitive to metal prices.
- Osisko Metals will continue the infill campaign in early 2019 and begin a substantial exploration program in mid-2019 to test the excellent brownfield mineral potential along the entire 65km Pine Point trend. A new MRE is planned for H2 2019 with the aim of converting a significant proportion of current resources to the Indicated category.

Jeff Hussey, President & CEO of Osisko Metals, commented: “This MRE is robust and confirms that Pine Point is one of the most significant undeveloped zinc-lead projects in the base metal sector with 5.5 billion pounds of combined in-pit zinc and lead resources. The shallow mineralization is unique among zinc projects globally and Pine Point still offers excellent exploration potential both at depth and along the project’s 65km strike length.”

“There is a depleted pipeline of zinc resources globally and we believe Pine Point will place Osisko Metals at the forefront of junior base metal exploration and development companies.”

**Table 1: Pit-constrained Inferred Mineral Resource Estimate as reported by BBA**

Area	Tonnage	ZnEq	Zn	Pb	Strip Ratio
	(Mt)	(%)	(%)	(%)	
Central Zone	4.8	7.69	5.84	1.72	11.7
East Mill Zone	5.5	5.16	3.76	1.30	5.7
North Zone	13.1	6.27	4.26	1.87	5.3
West Zone	6.4	10.09	6.30	3.53	14.5
N-204 Zone	8.6	4.74	3.61	1.02	5.4
<b>Total</b>	<b>38.4</b>	<b>6.58</b>	<b>4.58</b>	<b>1.85</b>	<b>7.7</b>

### Sensitivity to Cut-Off Grades

Variation of cut-off grades does not significantly change the Inferred Mineral Resource with its robust grade and tonnage even at the lower cut-off grades.

**Table 2: Cut-Off Grade Sensitivity**

AREA	Cut-Off Grade (%)	Tonnage	Zn	Pb
		(Mt)	(%)	(%)
ALL	10.00	5.15	10.66	5.34
	9.00	6.39	9.90	4.88
	8.00	8.18	9.07	4.38
	7.00	10.54	8.25	3.89
	6.00	13.87	7.43	3.38
	5.00	18.65	6.58	2.89
	4.00	25.16	5.77	2.43
	3.00	32.14	5.11	2.09
	2.00	37.63	4.64	1.88
	<b>1.80</b>	<b>38.46</b>	<b>4.57</b>	<b>1.85</b>
	1.60	39.19	4.51	1.82
	1.40	39.86	4.46	1.80
	1.20	40.44	4.41	1.78
1.00	40.92	4.36	1.76	

The Inferred Mineral Resource Estimate is constrained with pit shells that were developed from a pit optimization analysis using the economic and operating parameters presented below:

**Table 3: Pit Optimization Parameters**

Parameter	Unit	Input
<b>Mine Site Costs</b>		
Mining Cost – Ore	C\$/t mined	4.00
Mining Cost – Waste	C\$/t mined	4.00
Mine Dewatering Cost <sup>1</sup>	C\$/t mined	0.88
Pre-concentration Cost	C\$/t ore	3.50
Processing Cost <sup>2</sup>	C\$/t milled	22.50
G&A Cost <sup>2</sup>	C\$/t milled	33.60
<b>Recoveries</b>		
Overall Lead <sup>3</sup>	%	87.8%
Overall Zinc <sup>3</sup>	%	83.1%
Pre-concentration Mass Pull	%	37.3%
Zinc Concentrate Grade	%	55%
Lead Concentrate Grade	%	55%
<b>Zinc Concentrate Costs</b>		
Transport to Rail	C\$/wmt	27.00
Transport to Smelter	C\$/wmt	178.00
Smelter Cost	C\$/dmt	295.00
<b>Lead Concentrate Costs</b>		
Transport to Rail	C\$/wmt	27.00
Transport to Smelter	C\$/wmt	221.00
Smelter Cost	C\$/dmt	262.00
<b>Metal Prices</b>		
Zinc	US\$/lb	1.10
Lead	US\$/lb	0.90
Exchange Rate (CAD:USD)		1.31

<sup>1</sup> Applied to both ore and waste tonnages

<sup>2</sup> Costs per tonne milled are based on a 37.27% Pre-concentration Mass Pull

<sup>3</sup> Inclusive of ore sorting test program results

## Metallurgy

Overall metallurgical recoveries of 83.1% for zinc and 87.8% for lead were estimated from recent preliminary bench scale flotation tests, including dry pre-concentration ore sorter test work (full program results to be disclosed in Q1 2019) aimed at reducing haulage and grinding costs.

## Hydrogeology

The hydrogeological setting of the Pine Point area is very well established following a 24-year mining history that benefited from real time pumping data collected during Cominco's historical operational period. Osisko Metals understands that the success of the Pine Point project will rely on developing a mining sequence that is coordinated with a dewatering and water management strategy over the life of mine. The Company does not consider water infiltration to be a material

matter. Analyses of historical infiltration rates resulted in an estimated maximum cost of C\$0.88 per tonne mined, that was included in the pit optimization cost base for all zones except N204 which does not incorporate dewatering cost due to the shallow nature of mineralization.

### **Ongoing Drill Program**

Additional in-fill drilling completed up to the date of this press release and not included in this Inferred MRE consists of 579 drill holes totalling 40,102 metres of drilling. The objective of this ongoing program is to upgrade the Inferred Mineral Resource to the Indicated category by decreasing drill spacing to 30 metres from the current average drill spacing of 40 to 60 metres. The Company expects to drill 900 additional holes totalling approximately 49,000 metres in the remainder of 2018 and in 2019 to meet this objective. The drill database will be further strengthened by incorporating the recent LIDAR topographic survey.

A separate brownfield exploration campaign will investigate high-potential target areas following the analysis of the planned airborne gravity survey that will complement site wide compilation of historical datasets and the recent LIDAR topographic survey.

### **Infrastructure**

The project is located on the south shore of Great Slave Lake in the Northwest Territories, and is accessible directly year-round by an all-weather highway from Hay River, the economic “Hub of the North”, that is located 96 km west of the electrical substation and past concentrator location. Hay River has rail transportation and loadout options as well as other available services. On-site infrastructure consists of approximately 100km of intact haulage roads that link the mineralized zones, as well as the electrical substation located in the middle of the property.

### **Notes Regarding Mineral Resource Estimate**

1. The independent qualified person for the 2018 MRE, as defined by NI43 101 guidelines, is Pierre-Luc Richard, P. Geo, of BBA Inc., who has approved the technical information disclosed in this press release. The effective date of the estimate is November 14, 2018.
2. These mineral resources are not mineral reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred resources in this MRE are uncertain in nature and there has been insufficient exploration to define these Inferred resources as Indicated or Measured, and it is uncertain if further exploration and definition drilling will result in upgrading them to these categories.
3. Resources are presented as undiluted and in situ for an open-pit scenario and are considered to have reasonable prospects for economic extraction. The constraining pit shells were developed using pit slopes of 50 degrees.
4. The MRE was prepared using GEOVIA GEMS 6.8.2 and is based on 18,542 surface drill holes, of which 6,880 intercepted mineralization, and a total of 31,120 assays. The drill hole database includes Osisko Metals infill drilling of 23,751 metres in 318 drill holes and also incorporates Cominco’s historical drill holes, the use of which was validated by a drill hole collar survey and a partial core resampling program. The cut-off date for drill hole assays was September 12th, 2018.
5. The estimate encompasses 243 zinc-lead-bearing zones each defined by individual wireframes with a minimum true thickness of 2.5 m. A value of zero grade was applied in cases of core not assayed.

6. High-grade capping was done on the composited assay data and established on a per zone basis for zinc and lead. Capping grades vary from 10 % to 35 % Zn and 5 % to 40 % Pb.
7. Density values were calculated based on the formula established and used by Cominco during their operational period between 1964 and 1987. Density values were calculated from the density of dolomite, adjusted by the amount of sphalerite, galena, and marcasite/pyrite as determined by metal assays. A porosity of 5% was assumed. Waste material was assigned the density of porous dolomite.
8. Grade model resource estimation was calculated from drill hole data using an Ordinary Kriging interpolation method in a block model using blocks measuring 10 m x 10 m x 5 m (vertical) in size.
9. Zinc equivalency percentages are calculated using metal prices, forecasted metal recoveries, concentrate grades, transport costs, smelter payable metals and charges.
10. The estimate is reported using a Zn Equivalent (ZnEq) cut-off varying from 1.70% to 2.00%. Variations take into consideration trucking distances from the open pits to the mill and metallurgical parameters for each area. The cut-off grade was calculated using the following parameters (amongst others): zinc price = USD1.10/lb; lead price = USD0.90/lb; CAD:USD exchange rate = 1.31. The cut-off grade will be re-evaluated in light of future prevailing market conditions and costs.
11. The MRE presented herein is categorized as an Inferred resource. The Inferred mineral resource category is only defined within the areas where drill spacing is less than 100 m and shows reasonable geological and grade continuity.
12. The pit optimization to develop the resource constraining pit shells was done using Hexagon's MineSight Version 15.10.
13. Calculations used metric units (metre, tonne). Metal contents are presented in percent or pounds. Metric tonnages were rounded and any discrepancies in total amounts are due to rounding errors.
14. CIM definitions and guidelines for Mineral Resource Estimates have been followed.
15. The author is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issues not reported in this Technical Report, that could materially affect the Mineral Resource Estimate.

## **Conference Call Webcast Details**

Those wishing to participate in the Q&A session are asked to dial the following toll-free North American number 1-866-688-0896 (International 1-409-217-8780). The MRE Presentation will be viewable by webcast at <https://edge.media-server.com/m6/p/vroawi9c>. The webcast replay will become available following the call.

## **About Osisko Metals**

Osisko Metals is a Canadian exploration and development company creating value in the base metal space with a focus on zinc mineral assets. The Company controls Canada's two premier zinc mining camps, namely the Pine Point Mining Camp ("PPMC") located in the Northwest Territories, and the Bathurst Mining Camp ("BMC"), located in northern New Brunswick, where it is focused on drilling and developing the Key Anacon Project. The Company is currently completing 100,000 metres of drilling at both camps. In Québec, the Company owns 42,000 hectares that cover 12 grass-root zinc targets that will be selectively advanced through exploration.

## About BBA

BBA has been providing a wide range of consulting engineering services for almost 40 years. Today, engineering, project, geology, environmental and commissioning experts team up to quickly and accurately pinpoint the needs of industrial and institutional clients. The firm's expertise is recognized in the fields of energy, mining and metals, biofuels and oil and gas and is supported by a team of seasoned experts who design reliable, sustainable and innovative solutions every day. Our services for the mining industry include front-end consulting, NI 43-101 technical reports, environmental studies, geology resource modelling, mine planning, metallurgical process development, tailings facility engineering and multidisciplinary infrastructure and process plant design.

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**For further information on Osisko Metals, visit [www.osiskometals.com](http://www.osiskometals.com) or contact:**

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