

# A SIGNIFICANT FUTURE GLOBAL PRODUCER OF CRITICAL METALS TUNGSTEN & MOLYBDENUM IN CANADA, MAJOR PERMITS IN HAND

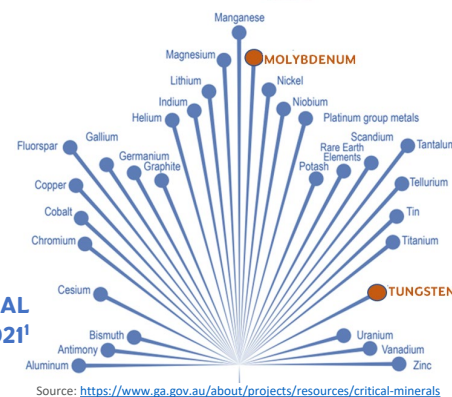
## WHAT ARE CRITICAL MINERALS?

- Metals & non-metals considered vital for the economic well-being of the world's major & emerging economies, yet supply may be at risk due to geological scarcity, geopolitical issues, trade policy or other factors
- Tungsten and Molybdenum among the minerals ranked most critical by a number of countries
- Tungsten virtually irreplaceable due to its characteristics
- Active discussions with various government agencies (Canada & USA) regarding funding support for critical minerals projects



## BATTERY DEVELOPMENT

- UK-based Nyobolt commercializing lithium-ion batteries with record power density & ultra-fast charge capabilities using tungsten in its battery anode
- H.C. Starck Tungsten Powders and the Center for Solar Energy and Hydrogen Research Baden-Württemberg investigating the use of tungsten-based cathode coatings in lithium-ion batteries



## SISSON PROJECT, NEW BRUNSWICK

### PERMITTING

- All Federal approvals received
- All major Provincial approvals received, (construction start deadline extended to Dec 2025), EIA conditions being addressed
- Minor construction & mining permits applied for as project advances

### RESERVE AND RESOURCE

- A large structurally controlled, intrusion-related tungsten-molybdenum deposit amenable to open-pit mining
- Largest western-world resource of tungsten

**SISSON DEPOSIT MINERAL RESERVES  
(JANUARY 2013 AT \$8.83/TONNE NSR CUT-OFF<sup>1</sup>)**

Category	Cut-Off Grade (NSR \$/t)	Tonnes (Mt)	NSR (\$/t)	WO <sub>3</sub> (%)	Mo (%)	Tungsten (WO <sub>3</sub> ) (million mtu)	Contained Mo (Mlb)
Proven	8.83	105.4	25.48	0.069	0.023	7.3	53.0
Probable	8.83	228.9	23.54	0.065	0.020	14.9	101.7
<b>Total</b>	<b>8.83</b>	<b>334.4</b>	<b>24.15</b>	<b>0.066</b>	<b>0.021</b>	<b>22.2</b>	<b>154.8</b>

1. Contained within Ultimate Pit Limit. Metal Prices: WO<sub>3</sub> – US\$350/ mtu, Mo – US\$15/lb; Assumed Concentrator Recoveries: WO<sub>3</sub> – variable with feed grade, Mo – 82%; APT Plant Recovery of WO<sub>3</sub> – 97%; US\$-CDN50.9:1; NSR = (WO<sub>3</sub>% \* NSP WO<sub>3</sub>\*Recovery WO<sub>3</sub>\*22.046) + (Mo%\*NSP Mo Recovery Mo\*22.046); Net Smelter Price (NSP) WO<sub>3</sub> = CDN\$17.46/lb; Mo = CDN\$14.50/lb. Sisson Reserve is contained within the Measured and Indicated (or M+I) Resource. Reserve estimate by independent qualified person Jim Gray, P.Eng, Moose Mountain Technical Services. For further details see March 2013 Technical Report filed under the Northcliff profile at www.sedar.com

### COMMUNITY

- Cooperation Agreement with Woodstock FN
- NB Province and 6 Maliseet FNs have a signed accommodation agreement

### EXISTING INFRASTRUCTURE & WORKFORCE

- Well established power, roads & rail lead to Project site
- Access to low-cost power & qualified workforce
- Deep sea ports located both north and south of Sisson - accessible year-round by road & rail
- Close proximity to urban areas accessing local skilled workforce
- New Brunswick can supply all considerable supplies & commercial services for site preparation, mining & construction
- Daily international commercial air service from Fredericton, as well as rail, bus, courier & truck transport
- Principal water requirements for mine operation will be supplied by recycling & reuse of water captured in the tailings storage facility

## TECHNICAL STUDIES

- Conventional open-pit mining at strip ratio 1:1 (LOM)
- LOM 27 years at 30,000 tpd
- Three-stage crushing, grinding and flotation
- Owner operated, contractor option
- Project projected to be in the lowest quartile of cash cost curve
- Feasibility Study update planned as part of project financing process, consider project optimization work
  - ↳ Metallurgical program to increase tungsten concentrate grade without recovery loss
  - ↳ Throughput flexibility (capacity changes and expansion considerations)
  - ↳ Production options – concentrate & ammonium paratungstate (APT)
  - ↳ Capital and operational cost savings & trade-offs
  - ↳ Maximum flexibility to respond to market demand

## INDICATIVE PROJECT DEVELOPMENT PHASES

### PHASE 1

- ENVIRONMENTAL: Addressing EIA conditions & update studies
- MINOR PERMITTING: Minor permits to be applied for as required by stage of activities
- ENGINEERING & DESIGN: Advance project engineering & design to construction stage

### PHASE 2

- UPDATE FEASIBILITY STUDY: Finalize project engineering & design to construction stage
- OPERATIONAL PERMITS: Required at start of construction & operations
- OFFTAKE AGREEMENTS: Secure offtake agreements for tungsten & molybdenum
- OWNERS EQUITY: Secure sources of owners equity required for construction
- PROJECT FINANCE: Secure project finance (debt) to fund balance of construction costs

## OWNERSHIP

- Northcliff holds 88.5% interest in the Sisson Partnership
- Todd Corporation owns 11.5% in the Sisson Partnership & 56.23% of Northcliff
- Issued shares - 255,722,217

## OFFTAKE

- Indicative offtake interest received from key western offtakers for both tungsten & molybdenum
- Samples provided to key offtakers confirming quality & specifications

## PROJECT FINANCING CONSIDERATIONS

- Tungsten & Molybdenum concentrates (offtaker-based) eligible for untied Export Credit Agency (ECA) support to guarantee commercial bank debt (up to 90%)
- Tied ECA financing available depending on EPC strategy and equipment sourcing
- Independent engineering review conducted by Societè Générale

### PHASE 3

- FINAL INVESTMENT DECISION
- FUNDING DRAWDOWN
- OPERATIONAL PERMITS: Required at start of construction & operations
- CONSTRUCTION START

### PHASE 4

- OPERATIONS START



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This document contains "forward-looking statements" that are based on Northcliff's expectations, estimates and projections as of the dates as of which those statements were made. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "outlook", "anticipate", "project", "target", "believe", "estimate", "expect", "intend", "should" and similar expressions. Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking statements. The assumptions used by Northcliff to develop forward-looking statements include the following: that the COVID-19 outbreak will not materially impact or delay our ability to advance the Sisson Project; the Sisson Project will obtain or retain all required licences, leases and permits for construction of the mine, the Sisson Project will achieve targeted production levels; study and development of the Sisson Project will continue to be positive; contracted parties provide goods and/or services on the agreed timeframes; equipment necessary for construction and development is available and does not incur unforeseen breakdowns; no material labour slowdowns or strikes are incurred; plant and equipment functions as specified; geological or financial parameters do not necessitate future mine plan changes; and no geological or technical problems occur; and that we will be able to secure sufficient capital necessary for continued permitting activities and engineering work which must be completed prior to any potential development of the Sisson Project which would then require detailed engineering and financing in order to advance to ultimate construction. The factors used include, but are not limited to government efforts to curtail the COVID-19 pandemic may delay the Company in completion of its work relating to permitting and engineering on the Sisson Project; uncertainties and costs related to process and the Company's exploration and development activities, such as those associated with determining whether mineral resources or reserves exist on a property; uncertainties related to feasibility studies that provide estimates of expected or anticipated costs, expenditures and economic returns from a mining project; uncertainties related to expected production rates, timing of production and the cash and total costs of production and milling; uncertainties related to the ability to obtain necessary licenses, permits, electricity, surface rights and title for development projects; operating and technical difficulties in connection with mining development activities; uncertainties related to the accuracy of our mineral reserve and mineral resource estimates and our estimates of future production and future cash and total costs of production, and the geotechnical or hydrogeological nature of ore deposits, and diminishing quantities or grades of mineral reserves; uncertainties related to unexpected judicial or regulatory proceedings; changes in, and the effects of, the laws, regulations and government policies affecting our mining operations, particularly laws, regulations and policies relating to mine expansions, environmental protection and associated compliance costs arising from exploration, mine development, mine operations and mine closures; expected effective future tax rates in jurisdictions in which our operations are located; the protection of the health and safety of mine workers; and mineral rights ownership in countries where our mineral deposits are located; changes in general economic conditions, the financial markets and in the demand and market price for tungsten, molybdenum and other minerals and commodities, such as diesel fuel, coal, petroleum coke, steel, concrete, electricity and other forms of energy, mining equipment, and fluctuations in exchange rates between the value of the U.S. dollar and Canadian dollar; unusual or unexpected formation, cave-ins, flooding, pressures, and precious metals losses, or other similar events (and the risk of inadequate insurance or inability to obtain insurance to cover these risks); changes in accounting policies and methods we use to report our financial condition, including uncertainties associated with critical accounting assumptions and estimates; the exploration and development of properties located within First Nations treaty and asserted territories may affect or be perceived to affect treaty and asserted aboriginal rights and title, which may cause permitting delays or opposition by First Nation communities; environmental issues and liabilities associated with mining including processing and stock piling ore; geopolitical uncertainty and political and economic instability in countries in which we operate; and labour strikes, work stoppages, or other interruptions to, or difficulties in, the employment of labour in markets in which we operate mineral projects or mines, or environmental hazards, industrial accidents, our ability to obtain funding for working capital, other corporate purposes and associated with advancement of the Sisson Project or other events or occurrences, including third party interference that interrupt the production of minerals in our mines. For further information, investors should review the Company's filings that are available at [www.sedar.com](http://www.sedar.com).

#### CAUTIONARY NOTE TO U.S. INVESTORS CONCERNING RESOURCE AND RESERVE ESTIMATION

The mineral resource and reserves and other technical terms used in this presentation are defined under the CIM Definition Standards on mineral resources and reserves (the "CIM Definition Standards") adopted by the Canadian Institute of Mining, Metallurgy and Petroleum in 2014, in accordance with Canadian National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"), as required by Canadian securities regulatory authorities. Although the Company is not subject to the reporting requirements of section 13(a) of section 15(d) of the United States Securities Exchange Act of 1934, as amended, the Company's U.S. investors should be aware that the SEC has adopted amendments to modernize the mineral property disclosure requirements for issuers whose securities are registered with the SEC (the "SEC Modernization Rules") with definitions which are "substantially similar" to the corresponding terms under the CIM Definition Standards under NI 43-101. The SEC now recognizes estimates of "measured mineral resources", "indicated mineral resources" and "inferred mineral resources" and has amended its definitions of "proven mineral reserves" and "probable mineral reserves to be substantially similar" to the corresponding CIM Definitions. Accordingly, there is no assurance any mineral reserves or mineral resources that we may report under 43-101 would be the same had we prepared the resource estimates under the standards adopted under the SEC Modernization Rules.

Technical information contained in this presentation has been reviewed and approved by Tanya Yang PEng (engineering) and James Lang, PGeo, (geology). Both are qualified persons and are not independent of Northcliff Resources Ltd