**NOVEMBER 2022** 

CRITICAL MINERALS

CENTRATION

# 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 tungstenbased cathode coatings in lithium-ion batteries

# s battery anode ergy and euse of tungsten CANADA'S CRITICAL MINERALS LIST 2021 Bismuth Antimony Aluminum Aluminu

Source: https://www.ga.gov.au/about/projects/resources/critical-minera

# SISSON PROJECT, NEW BRUNSWICK PERMITTING

## • All Federal approvals received

- All major Provincial approvals received, 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-OFF¹)

| Category | Cut-OffGrade<br>(NSR \$/t) | Tonnes<br>(Mt) | NSR<br>(\$/t) | WO3<br>(%) | Mo<br>(%) | Tungsten (WO <sub>3</sub> )<br>(million mtu) | Contained Mo<br>(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                 |
| Total    | 8.83                       | 334.4          | 24.15         | 0.066      | 0.021     | 22.2   | 154.8                 |

Contained within Ultimate Pit Limit. Metal Prices: WO3 – US\$350/ mtu, Mo – US\$15/lb; Assumed Concentrator Recoveries: WO3 – variable with feed grade, Mo – 82%, APT Plant Recovery of WO3 – 97%; US\$:CDN\$0.9:; NSR = (WO3% \* NSP WO3\*Recovery WO3\*22.046) + (Mo%\*NSP Mo Recovery Mo\*22.046); Net Smetter Price (NSP) WO3 = 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 forfile 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 & 51.77% of Northcliff
- Issued shares 232,066,303



IFFRESOURCES.COM

14<sup>th</sup> Floor 1040 W. Georgia Street Vancouver, BC Canada V6E 4H1 Tel: +1.604.684.6365 SISSON PARTNERSHIP

SISSONPARTNERSHIP.COM

## 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 Gènèrale

#### PHASE 3

**OFFTAKE** 

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

#### PHASE 4

OPERATIONS START

Suite 211 212 Queen Street, Fredericton, NB Canada E3B 1A8 Tel: +1.506.455.0530

this document contains "forward-looking statements" that are based on Northciff's expectations, estimates and projections as of the dates as of which those statements were made. Cenerally, these forward-looking statements can be identified by the use of forward-looking statements in control and the control of a child project will be able to expect a control of a children project will be able to expect a control of a children project will be able to expect and primit for project

The mineral resource and reserves and other technical terms used in this presentation are defined under the CLM Definition Standards on mineral resources and reserves (the "CLM Definition Standards") adopted by the Canadian scription and Proceedings of the Canadian Standard of Definition Standards of Discover for Mineral Projects ("Nia 2,500"), a required by Canadian securities, at though the Company is not subject to the reporting requirements of section 18/g) of section 18/g)