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## Re: Critical Minerals Discussion Paper ("DP")

Ministry of Energy, Mines and Low Carbon Innovation ("EMLI")

**Stuhini Exploration Ltd.** is pleased to provide thoughts on the Critical Minerals Discussion Paper space from our perspective as an exploration company with its primary focus on projects in the critical metals sector located in BC. While we have interest in all 6 of the key themes of the discussion paper, given the short time frame we would like to concentrate them on "A Competitive Fiscal and Regulatory Environment" and "Infrastructure and Climate Action."

**About Stuhini:** Stuhini is a TSX-Venture and OTCOB listed junior exploration company headquartered in Vancouver, BC with its focus on Western North America. Although the DP does not list molybdenum ("Mo") as one of the critical minerals on the "advanced exploration project" list, 1 we believe that Stuhini's flagship project, the Ruby Creek Project is a highly advanced project. The Project is road accessible and located 14 km east of Atlin, BC. The Project contains the highly advanced Ruby Creek Molybdenum Deposit which is a rare pure-play Climax style Mo deposit ("Deposit"). During the last base metals cycle, the former operator, Adanac Molybdenum, advanced the Project through feasibility, permitting and funding into mine construction which was derailed as a result of the 2008 financial crisis and the ensuing collapse in the price of Mo. The Deposit has an intact BC Mines Act Permit.

In 2022, Stuhini hired Mine Development Associates of Nevada to calculate a Mineral Resource Estimate (MRE).<sup>2</sup> The MRE, using a 0.02% Mo cut-off, reported a pit constrained Mo resource of 432,991,000 lbs measured and indicated plus an inferred resource of 43,650,000 lbs.

**About Molybdenum:** Molybdenum ("Mo") is a listed critical mineral (Federally) but is currently NOT on the list of critical minerals eligible for the enhanced 30% Critical

<sup>&</sup>lt;sup>1</sup> See discussion paper at p 5

<sup>&</sup>lt;sup>2</sup> Technical Report, Ruby Creek Project, Northern British Columbia, Canada effective March 10, 2022.

Minerals Exploration Tax Credit ("CMETC").<sup>3</sup> Given that BC is the ONLY Canadian producer of Mo<sup>4</sup>, it is incumbent on the provincial government to support a sector in which BC holds a leading role and in fact the only producing role in Canada. Mo is listed by the World Bank as one which is necessary in 7 of 9 green energy technologies. It is a key steel alloy for which there is no substitute, and green energy technology like offshore wind turbines require 130 kg of Mo per megawatt of capacity due to its ability to not only aid in corrosion resistance, but also provide high strength for the turbines, and the rigs necessary to construct the turbines<sup>5</sup>.

Not only is Mo critical for infrastructure and wind turbines, but there also is the potential for battery use as Mo has been shown to have up to 4 times the electrical capacity of lithium.<sup>6</sup> In addition, Mo is a key steel additive in natural gas pipelines due to anti-corrosive properties.

## Competitive Fiscal Environment - Provincial government support.

Natural gas is a key cog in the provincial strategy to export a natural resource that will be critical in helping Asia to wean itself off of thermal coal. Therefore, it is incumbent on our provincial government to advocate strongly on our behalf to persuade the federal government to add Mo to the list of critical minerals eligible for enhanced tax credits since we are competing for scarce exploration dollars and the lack of that additional credit hampers our ability to raise the critical financing to further develop this Deposit.

Regardless of federal action and helpful **lobbying by the BC government to add Mo to the list of minerals eligible for CMETC**, the provincial government should, in our opinion, champion the mineral exploration space and make BC the premiere exploration jurisdiction in the country. This can be done by **enhancing the Super Flow Through Tax Credit in BC from 20% so that it is the most generous tax credit in the country.** BC is considered a global centre of excellence for the sector with approximately 1,100 mineral exploration companies like Stuhini and is not only host to world class mineral resources but also a diverse reliable and regionally dispersed exploration and mining supply chain that is vital to regional development. <sup>7</sup>

While the current assistance by the BC government in geological mapping will assist in finding **new deposits** of copper and molybdenum, it does not address the need for assistance in further exploring and developing **known deposits** from discovery through to production.

**Competitive Regulatory Environment.** Respectfully, although some strides at lessening red tape have occurred, we also need to have greater resources put immediately into reducing time lines for project approvals and combining various levels of approvals. As it stands, in the 2022 Fraser Institute survey of attractiveness as a mining jurisdiction, BC

<sup>&</sup>lt;sup>3</sup> The Canadian Critical Minerals Strategy, From Exploration to Recycling: Powering the Green and Digital Economy for Canada and the World.

<sup>&</sup>lt;sup>4</sup> See discussion paper at p 5

<sup>&</sup>lt;sup>5</sup> Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition, World Bank 2020.

<sup>&</sup>lt;sup>6</sup> Mugyeom Choia, Jieun Hwanga, Handi Setiadib, Wonyoung Changc, Jaehoon Kima,b; Journal of Supercritical Fluids 127, April 4, 2017

<sup>&</sup>lt;sup>7</sup> Association for Mineral Exploration, Explore Our Economy Report, Jan 2022 at p 5.

<sup>&</sup>lt;sup>8</sup> Annual Survey of Mining Companies, 2022, Fraser Institute, May 2023

ranked in the bottom half of the provinces and behind Yukon as well. For example, the same survey found the amount of time respondents expected to spend getting the Permits, Licences, or Notices of Work, etc. to conduct exploration activities the same study found that out of 15 mining "friendly jurisdictions surveyed" BC ranked second last in terms of time perceived by executives to exceed 11 months. So, a lot of work remains to be done. Mining executives AND investors pay attention to these statistics in terms of attractiveness of investing in companies and deposits. In this era of rising interest rates time is of the essence in moving projects along the development timeline since ANY delays lead to substantial increases in costs.

Climate Action. In addition to Mo being integral to BC's strategy in support of addressing climate change by exporting our natural gas to Asia to replace thermal coal, the Deposit is conveniently located just 12 km from Surprise Lake. Taku River Tlingit First Nation (TRTFN) through its Tlingit Homeland Energy Limited Partnership, has received federal and provincial grants to expand its hydro project on Surprise Lake from 2.1 to 8.5 MW. We understand from informal discussions with the Partnership that as current demand for the power is primarily to provide green hydro for the Yukon during the winter months (reduce current dependence on diesel generation), the increased capacity is forecast to be in excess of peak Yukon and local Atlin demand for the summer and part of the shoulder seasons, and that this potential summertime surplus will potentially make any Mo produced at Ruby Creek a much more environmentally friendly Mo than that produced by coal fired, natural gas or diesel power generation.

Molybdenum also has potential as a battery metal, and a recent Korean study has shown that a Mo Graphene Anode has a specific energy of 4 times that provided by the current commercial lithium ion battery. An Australian university study has encouraging data that Mo has the potential to be the key catalyst in producing green hydrogen from seawater without the need for desalination and the associated savings in electric energy and not producing excess toxic chlorine. 11

Summary The Federal Government has stated that "Canada is well positioned to become a secure and reliable supplier of critical minerals and value-added products for global markets". Given that BC is the ONLY jurisdiction in Canada with identified deposits of Mo. there is the opportunity to make BC the secure and reliable supplier of the critical mineral molybdenum and value-added molybdenum products for global market. In addition to Ruby Creek, BC is host to the known, and all highly developed Kitsault, Endako, Huckleberry and Ajax molybdenum deposits. By adding molybdenum to the list of minerals eligible for CMETC as well as additionally enhancing provincial tax credits it would perhaps provide the incentive for not only Ruby Creek, but these other highly developed exploration or on care and maintenance BC projects to come on or back on line but also potentially attract investment to create a long term value added sector by perhaps making adding a roaster or other additional secondary manufacturing capability for Mo to utilize our abundant clean natural gas and hydro resource

<sup>&</sup>lt;sup>9</sup> Business in Vancouver Magazine, Yukon to tie into B.C. First Nation power project Atlin hydropower project to be expanded, tied into Yukon grid. <u>Nelson Bennett</u>, October 14, 2022

<sup>&</sup>lt;sup>10</sup> Mugyeom Choia, Jieun Hwanga, Handi Setiadib, Wonyoung Change, Jaehoon Kima,b; Journal of Supercritical Fluids 127, April 4, 2017

<sup>&</sup>lt;sup>11</sup> How to make hydrogen straight from seawater – no desalination required - RMIT University

<sup>&</sup>lt;sup>12</sup> The Canadian Critical Minerals Strategy, From Exploration to Recycling: Powering the Green and Digital Economy for Canada and the World.

Therefore, we believe that the provincial government has an opportunity here through: 1. ADDITIONAL supports to the current fiscal regime in terms of both an enhanced Super Flow Through credit and persuading the federal government to add Mo to the list of mineral eligible for CMETC to assist not only Stuhini, but also a number of other explorers and developers in BC with highly advanced projects; 2. Reducing timelines for Regulatory Approval to make raising capital for exploration and development if not easier and less expensive at least competitive with other jurisdictions; and 3. Advancing the BC government and resident's desire to aid in addressing climate change through providing Molybdenum a key mineral resource that is necessary for the green transition.

Thank you for this opportunity to provide our commentary and thoughts on this Discussion Paper.

Regards,

Charles Kamimura
Corporate Secretary