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The SBH Black Shale Project – A Re-Introduction to Alberta's Critical Minerals and Rare Earth Project

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Introduction

Critical Minerals Americas Inc. (CMAI) is advancing the development of long-term domestic supplies of critical minerals and REE's through it's Alberta based SBH Black Shale Project ("SBH Project"). CMAI holds a 100 per cent (%) interest in nine (9) contiguous Alberta rock-hosted minerals permits collectively comprising an aggregate of 466.66 sq kms (46,666 hectares (ha)) which is located on the eastern slopes of the Birch Mountains of Northeastern Alberta, approximately 120 kilometres north of Fort McMurray in the Athabasca oil sands region. The SBH Project is currently the only active hard rock critical minerals and rare earth project being explored for in the province of Alberta.

Geological Setting and Black Shale Mineralization

The SBH Project is located in the Northwestern portion of the Western Canada Sedimentary Basin near the erosional contact with the Precambrian crystalline basement rocks of the Canadian Shield along the eastern portion of the Birch Mountains which are underlain by the Upper Cretaceous Colorado Group and Lower Cretaceous Mannville Group sedimentary sequences. Known polymetallic and rare earth element mineralization in the SBH Property is hosted in metalliferous black shales in the Labiche (Lea Park), Second White Speckled (Specks), and the Shaftesbury (Belle Fourche and Fish Scales) formations. The Second White Specks Formation is the most carbonaceous of the black shale units and is known to be the best mineralized (i.e. highest grade) black shale, at least in terms of base metals, found in Northeastern Alberta to date.

The Labiche, Second White Specks and Shaftesbury formations are stratigraphically uniform and extend laterally under much of the entire SBH Project area, as proven by Property-wide subsurface stratigraphic correlations using existing oil and gas wire-line logs, and historical 1997-2012 exploration drilling results.

The three known mineralized zones on the Project are: the Lower Buckton Zone, the Buckton South Zone and the Asphalt Zone. Mineralization in these zones consists of stratabound enrichment of one or more of molybdenum (Mo), nickel (Ni), vanadium (V), zinc (Zn), copper (Cu), cobalt (Co), silver (Ag), gold (Au), uranium (U), REEs, yttrium (Y), Li, thorium (Th) and Scandium (Sc), hosted in a continuous 100-150 metre (m) thick "package" of flat-lying black shale formations. All three formations have significant REE content, along with elevated Li-Sc in the Fish Scales/Belle Fourche (Shaftesbury Shale) Formation.

The uppermost black shale units; the Labiche and Second White Specks formation shales, have been the Company's principal focus to date. For the most part, none of the metals are present in sufficiently high enough concentration to be attractive exploration targets on a single element basis, however, the collective metal assemblage (polymetallics, REEs and critical specialty

metals) may represent sufficient mineralization to support future mineral resource and economic studies provided the metals can be efficiently recovered on a combined basis.

Exploration History

Polymetallic potential of the Upper Cretaceous shale units in the Birch Mountains was investigated by a number of companies during the 1990's and into the early to mid 2000's. Much of the current Project area and surrounding areas were actively explored by Tintina Mines Ltd. (Tintina) and Dumont Nickel Inc. / DNI Metals Inc. ("DNI") between 1993-1998 and 2007-2014, respectively. DNI's exploration work program was motivated by technological advances made in the mid 2000's in industrial scale application of bioleaching technology to economic collective bulk extraction of low-grade metals from black shales potentially offering novel opportunities for exploitation of the metals-rich black shale deposits in northeastern Alberta.

DNI's work program consisted of soil and rock sampling, drilling, bioleaching test work (including bioleaching, microbial, acid leaching and column testing), several historical NI 43-101 compliant Mineral Resource Studies, and a historical Preliminary Economic Assessment (PEA) in 2014 over the former Buckton Project This work demonstrated the amenability of the recovery of critical minerals and rare earth elements by the bioleaching process of the mineralized black shale and the overall economic viability of these black shale deposits.

Recent Exploration Results

Since the re-acquisition of the SBH Project in 2022, CMAI's work program has consisted of data compilation, LiDAR (light detection and ranging) imagery interpretation of portions of the Property, a B-zone soil sampling program, a surface bulk sampling program, and the calculation of conceptual exploration targets of the potential size and grade of mineralized shale horizons within the Property (Dufresne and Eccles. 2025). Results of the Conceptual Exploration Targets are listed below:

Table 1. Conceptual Mineralized Shale Exploration Tonnage Target Sizes (Billions of Tonnes - BT)

Target	Areal Extent (km2)	Tonnage range (BT)	
		Low	High
Lower Buckton	9.6	2.3	3.5
Buckton South	66.9	10.3	15.4
Asphalt	47.4	6.9	10.3
Exploration Target Total	**123.9**	**19.5**	**29.2**

Based on average tonnages calculated for the Exploration Target areas, the total expansion potential for the SBH Project is approximately 97.9 km^2 with a potential to host an additional 15 to 23 BT (billion tonnes) of black shale in the Labiche, Second White Specks, and the Upper Belle Fourche/Shaftesbury Formations respectively, ***the total potential tonnage amounts to approximately 34.5 to 52.2 BT*** (Figure 1).

Future Exploration and Development Work Plans

CMAI's exploration and development work programs for the next 18-24 months will consist of a 10,000m +diamond drilling program over the Buckton South and Asphalt Target areas in order to define a minimum 3-5 billion tonne NI 43-101 compliant Mineral Resource Estimates for the Buckton South and Asphalt Target areas respectively as well as collect several tonnes of black shale material from the Labiche, Second White Specks and Shaftesbury Formations for follow up mineral characterization and bioleaching studies designed to improve the recovery rates of the various polymetallic metals and rare earth elements for each formation. Results from these work programs will be used by the Company to complete a NI 43-101 compliant Preliminary Economic Study on the Buckton South and Asphalt Targets for the SBH Project.

References

Dufresne, M. and Eccles, R. (2025). NI 43-101 Technical Report on the SBH Property, Birch Mountains, Athabasca Region, Alberta, Canada for Critical Minerals Americas Inc. Apex Geoscience. August 29, 2015. 134p.

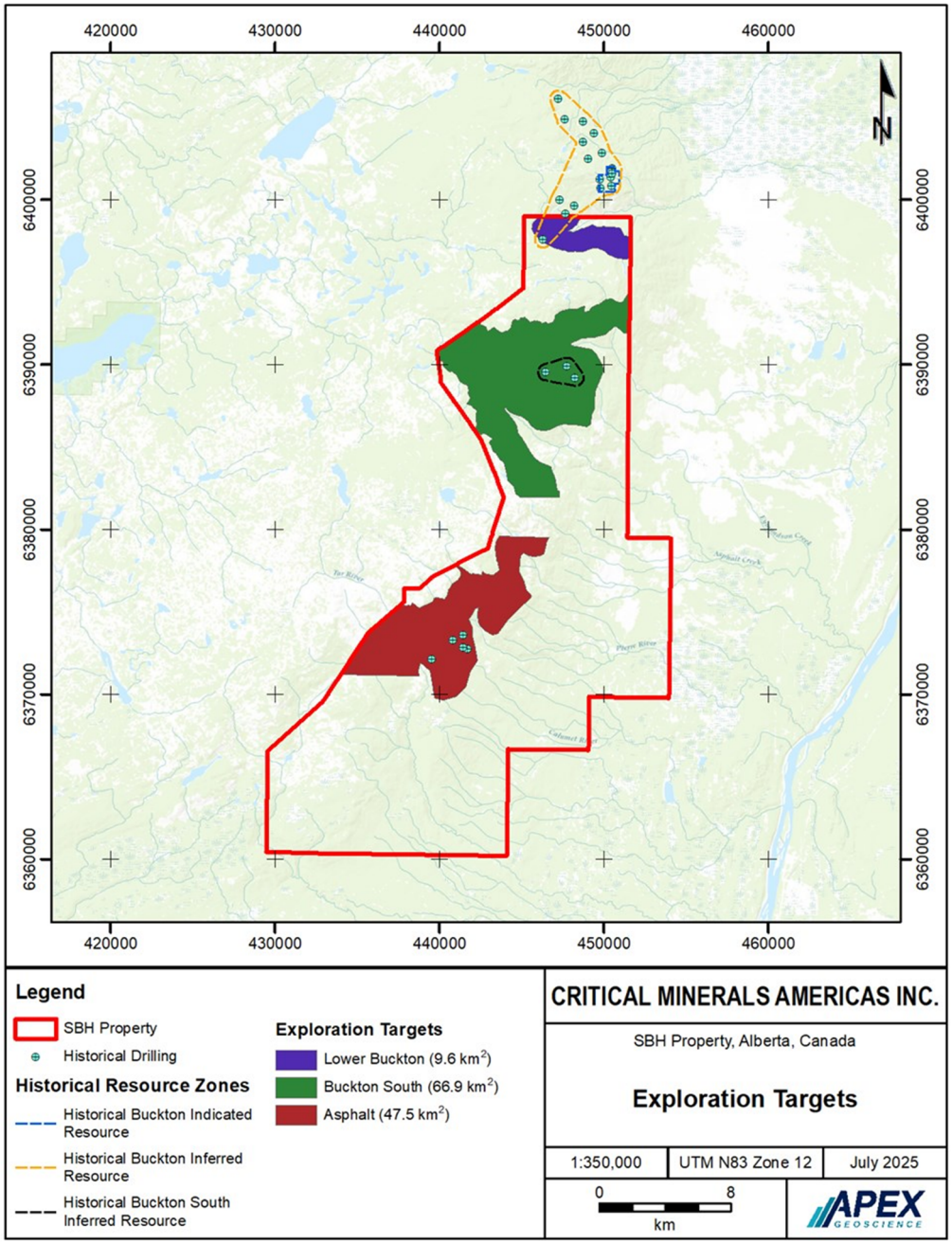


Figure 1. Exploration targets, historical drillholes and historical resource outlines for the SBH Project.