Greenridge Exploration Provides Regional Review of its Nut Lake Uranium Project, Thelon Basin, Nunavut

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VANCOUVER, May 21, 2024 - Greenridge Exploration Inc. ("Greenridge" or the "Company") (CSE: GXP | FRA: HW3), is pleased to provide a regional review of its Nut Lake Project ("Nut Lake Property" or the "Project") located in the Thelon Basin, Nunavut Territory.

Highlights:

- Geologically, the Project is bounded by two basins marking an unconformity that has garnered global attention for uranium exploration (please see Figure 2).
- The Nut Lake Property has the potential to host unconformity vein and breccia type uranium bearing systems.
- The most notable concentrations of this deposit type (better known as "Beaverlodge-Type" vein uranium deposits - please see Figure 2) is situated in the Athabasca basin in northern Saskatchewan and are pegged as being one of the most important sources of uranium in Canada producing ~62.8 M lbs of uranium at ~0.20% U_3O_8.[5]
- The Angilak Deposit (historically known as the Lac 50 Deposit and recently purchased by Atha Energy Corp.) and the Kiggavik Deposit are located ~55km to the south and ~135km to the north respectively of the Nut Lake Property in the Thelon Basin (please see Figure 1).
- Exploration criteria of the Athabasca Basin can be applied to the Thelon Basin due to their similarities including:
  - Similar geologic age;
  - Similar volcanic rocks and alteration products;
  - Reactivated faulting;
  - Multiple stages of uranium remobilization and deposition; and
  - Basement-hosted alteration assemblages exhibiting gravity lows that serve as useful exploration vectors.

Russell Starr, Chief Executive Officer of the Company, commented, *"The Thelon Basin has many similar geological attributes to the Athabasca Basin but is very underexplored. It has been proven that there are at least two significant uranium deposits in the Thelon Basin that have very similar characteristics to that of the prolific Beaverlodge Uranium District in the Athabasca Basin. Historical data from the Nut Lake Property and academic studies suggest that the Project has the potential to host significant unconformity vein type mineralization that could be the start of building the tonnage of a large uranium system. We look forward to continuing to prepare for an exciting 2024 exploration season at the Nut Lake Property."*

Figure 1 - Nut Lake Property Regional Map

Atha Energy Corp. & The Angilak Uranium Deposit (formally known as the Lac 50 Deposit)

The Project is located ~55KM north of the recently acquired Angilak Uranium Deposit with a historical resource of 43Mlbs of U3O8 @ 0.69% by Atha Energy Corp. and ~47km south of a major newly staked land position by Atha Energy Corp. This newly acquired land position was staked approximately one week prior to the acquisition of Latitude Uranium Inc. (the previous owner of the Angilak Deposit) for a valuation of ~CAD $57 million (please see Atha Energy Corp. news release dated December 7, 2023 & recent approval of Latitude Uranium acquisition on March 8, 2024).

Regarding its geological context, the Angilak Project and the Nut Lake Property area resides within the

Western Churchill Province, a vast Archean Craton that underwent structural and metamorphic alterations during the Proterozoic era. Early Proterozoic tectonic movements led to localized collapse and the emergence of rift basins, which were subsequently layered onto the Archean crust. Notably, the Baker Lake Basin, along with the associated Angikuni and Yathkyed sub-basins, formed as a consequence of these tectonic processes. The boundary between these Proterozoic basins and the Archean marks an unconformity that has garnered global attention for uranium exploration, characterized as "unconformity-style uranium" deposits. The most notable concentrations of this deposit type are situated in the Athabasca basin in northern Saskatchewan. These types of uranium deposits are better known as "Beaverlodge-Type" vein deposits.[2]

The Beaverlodge Uranium District is a historically significant area for uranium exploration and mining producing ~62.8 M lbs of uranium at ~0.20% U3O8[5] located in northern Saskatchewan, Canada. It gained prominence during the mid-20th century as one of Canada's major uranium-producing regions.

The following are key points about the Beaverlodge Uranium District:[2]

1. Location: The Beaverlodge Uranium District is situated in the northern part of Saskatchewan, near the town of Uranium City. It lies within the Precambrian Shield, a geological formation rich in uranium deposits.
2. Discovery and Exploration: Uranium deposits in the Beaverlodge area were discovered in the late 1940s, sparking a rush of exploration and development. The district quickly became one of the most important uranium-producing regions in Canada.
3. Geological Characteristics: The uranium deposits in the Beaverlodge District are primarily hosted within metasedimentary rocks of the Wollaston Group, which is part of the Precambrian Shield. These deposits are often associated with unconformities between different rock formations.
4. Mining Operations: Several mines operated within the Beaverlodge Uranium District during its peak production years, including the Beaverlodge Mine, the Lorado Mine, and the Gunnar Mine. These mines produced significant quantities of uranium to support Canada's nuclear energy program and the global demand for uranium during the Cold War era.
5. Legacy: While active mining operations in the Beaverlodge Uranium District have largely ceased, the area remains significant historically and geologically. It serves as a reminder of Canada's role in uranium production and its contribution to nuclear energy globally.

Overall, the Beaverlodge Uranium District has been explored in much more detail than the Thelon Basin and has many similarities indicating that the Thelon Basin is a very prolific area to be exploring for Uranium bearing systems.

The Kiggavik Deposit

The Nut Lake Property is located just ~135KM south of the Kiggavik Uranium Deposit which is operated by Orano and has a historical resource of 133Mlbs of U3O8 @ 0.46%[4].

The geology of the Kiggavik Deposits have been under study since the 1970s, with drilling and ore sampling activities since 2007 largely confirming previous interpretations regarding grade distribution and lithology. The Main Zone, Centre Zone, and East Zone deposits are positioned between two regional ancient fault zones: the Thelon fault to the north and the Sissons fault to the south. Basement host rocks primarily consist of metasediments, with lesser amounts of altered granite and intrusive rocks. Uranium mineralization at Kiggavik occurs predominantly in altered metasedimentary rocks, such as meta-arkose, metapelites, and sericite schist, and to a lesser extent in altered granite and intrusive rocks. Notably, mineralization is absent in the Mackenzie diabase that intersects the Kiggavik property.

Mineralization is generally finely disseminated along foliation planes or in veinlets parallel to the foliation, with occurrences in fracture infills and coatings along cross-cutting structures similar to what has been historically defined at the Nut Lake Property. The primary uranium minerals include pitchblende and coffinite, while secondary uranium minerals are rare. Uranothane, a fine-grained mineral, is present in weathered surface rocks and occasionally at greater depths. Pitchblende and coffinite are commonly associated with marcasite and pyrite, with other sulphides or accessory metals in minor amounts, indicating a predominantly single elemental composition within the Kiggavik ore zones. Uranium mineralization is accompanied by an intensive alteration halo characterized by desilification and the conversion of feldspar and mica to clay minerals, primarily illite and sericite, which is typical of unconformity type deposits.[4]

Exploration Criteria of the Athabasca Basin can likely be applied to the Thelon Basin

Exploration criteria utilized in the Athabasca Basin, such as hydrothermal alteration, reactivated faults, and basement geology, are applicable to the lesser-explored Thelon Basin, supporting the Project's guiding hypothesis. Notable similarities include:[3]

- Both basins' basement terranes feature widespread intrusive and extrusive magmatic events occurring at 2.60, 1.83, and 1.75 billion years ago, with similar volcanic rocks and alteration products, particularly in the latter two events.
- Complex sequences of arkosic lithic sandstone filled each basin post-1.7 billion years ago, originating from uranium-rich terranes and capped by stromatolitic dolostone.
- Pervasive diagenetic events have altered strata in both basins, resulting in quartz becoming the dominant framework mineral, with clay as the matrix.
- Intersecting-reactivated fault systems produce local geochemical anomalies and silicified zones.
- Geophysically translucent strata in both basins show only faint representation of geochemical anomalies, such as U-Th-K, in gamma ray data.
- Deposits included both subvertical fractal riedel-shear arrays with overall dextral transextensional indicators and low-angle compressional to extensional structures.
- Alteration of monazite preferentially released uranium into peak diagenetic saline fluids, leaving behind thorium-bearing aluminium sulfate phosphate (APS) minerals.
- Uranium-bearing fluorapatite locally cemented the lower sequences in each basin, occurring simultaneously with or slightly after the APS minerals, and clearly after regional diagenetic illite.
- Multiple stages of uranium mineralization and remobilization commenced approximately 100 million years after the fluorapatite events, persisting through the Phanerozoic era.
- Basement-hosted alteration assemblages exhibit gravity lows and serve as detailed exploration vectors.

Figure 2- Map showing location of Thelon Basin with respect to Athabasca Basin and the Beaverlodge Uranium district.

Regional Geology at the Nut Lake Property

Regionally, the Project lies along the eastern edge of the northeasterly trending wedge of Paleohelikian or Late Aphebian Dubawnt Group rocks and the contact with Archean basement gneisses. These units are in fault contact along a northerly trending fault zone. Dubawnt Group rocks within the area are basal sedimentary rocks of the South Channel Formation, composed of white quartzites and pink to grey arkose and arkosic rocks. The sedimentary sequences of the lower Dubawnt Group are overlain by volcanic rocks of the Christopher Island Formation, including trachytic lithic and crystal tuffs and mafic to felsic trachyte flows.

Archean gneisses are generally granitic to granodioritic in composition, with thin inter-layered bands of paragneiss or amphibolite. Syenites within the area are predominantly red, aphanitic, microsyenite, with some hornblende syenite locally. Microsyenite dikes intrude all other rock types along a northerly trend, exhibiting varying degrees of brecciation, especially near fault zones. These rocks contain variable amounts of magnetite, chlorite, disseminated hematite, and pyrite, with accessory zircon noted. The microsyenites are the most radioactive rocks in the area, containing an average of 100 ppm U, with uranium believed to be bound up in refractory minerals.

Figure 3 - Localized Nut Lake Property Geology Map. Source GSC Open File 4236. Abbreviations: PDs - Proterozoic Dubawnt Sediments; Agn / Ar-gn - Archean granitic rocks; Pt-g - Undivided Granites

About The Nut Lake Property

The Project is located approximately 55km north of the Angulak Uranium Deposit[2] or 180Km southwest of Baker Lake, Nunavut in the Yathkyed Basin (a sub-basin of the prolific Thelon Basin) in Nunavut Territory,

Canada. The Project consists of three contiguous mineral licences encompassing a total land area of approximately 4,036 hectares (~40km²).

In 1979, Pan Ocean Oil Ltd. performed an exploration program consisting of ground geophysics, geological mapping, prospecting and Winkie drilling as follow up to previous sampling with elevated uranium in dyke swarms, fractures and contacts between syenites and trachytes. The geology of the Project area consists of basal sedimentary rocks of the South Channel Formation, composed of white quartzites and pink to grey arkose and arkosic rocks. The sedimentary sequences of the lower Dubawnt Group are unconformably or disconformably overlain by volcanic rocks of the Christopher Island Formation.

The Project hosts high grade vein hosted grab samples of up to 4.36% U_3O_8, 53.16 oz/t Ag, 1.15% Pb and 7.0% Ni.[1]

During the 1979 field season, geological mapping at a scale of 1:1,000 was completed on a major portion of the Project. This was concurrent with prospecting on, and in the immediate area of the Project. Results from prospecting were the discovery of two (41 m wide) syenite dikes and a frost heaved area of felsic gneiss with up to 3,000 cps on fracture surfaces. Two significant Uranium bearing showings were discovered, the "Lake Showing" and the "Heartbreak Showing". The most noteworthy was the Heartbreak showing which revealed 3.0" and 3.5" samples across a fracture that assayed 2.11% U_3O_8 and 4.36% U_3O_8 respectively. The results were followed up with a radon gal survey, a VLF-EM survey and an overburden sampling program. The radon survey results showed that the response is irregular with several good highs and the VLF-EM survey showed a series of northwesterly trending anomalies. It was concluded that further drilling of the Lake Showing is recommended.

The Project and surrounding proximal area have seen approximately 805ft of Winkie Drilling and 6920ft of diamond drilling completed on it. Multiple holes intersected significant uranium mineralization, with the most noteworthy being at the "Tundra Showing" Hole Winkie AX W-24 intersected 9ft of 0.69% U_3O_8 including 4.90% U_3O_8 over 1ft from 8ft depth.[1] Additional noteworthy holes were hole P049 which returned approximately 0.20% U3O8 over a 1ft interval and hole 068 which was drilled to intersect fracture mineralization and successfully encountered approximately 0.59% over 1ft. (Pan Ocean Oil Ltd., 1979 Assessment Report #81075).

The combination of historically defined anomalies and modern exploration techniques provide prime ingredients for the potential of discovering a high-grade uranium system within the Project area. The Nut Lake Property has the potential to host unconformity vein and breccia type, sygenentic and sandstone-hosted phosphatic type mineralization.

National Instrument 43-101 Disclosure

Nicholas Rodway, P. Geo, (NAPEG Licence # L5576) is a qualified person as defined by National Instrument 43-101 - *Standards of Disclosure for Mineral Projects*. Mr. Rodway has reviewed and approved the technical content in this release.

References

[1] Source: 1978 Assessment report (number 81075) by Pan Ocean Oil Ltd
[2] Source: Reported by ValOre Metals Corp. in a Technical Report entitled "Technical Report and Resource Update For The Angilak Property, Kivalliq Region, Nunavut, Canada", prepared by Michael Dufresne, M.Sc., P.Geo. of APEX Geosciences, Robert Sim, B.Sc., P.Geo. of SIM Geological Inc. and Bruce Davis, Ph.D., FAusIMM of BD Resource Consulting Inc., dated March 1, 2013. Note: The historical mineral resource estimate was calculated in accordance with NI 43-101 and CIM standards at the time of publication and predates the current CIM Definition Standards for Mineral Resources and Mineral Reserves (May, 2014) and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (November, 2019).
[3] Source: Jefferson, C.W., Pehrsson, S.J., Tschirhart, V., Peterson, T.D., Chorlton, L.B., Bethune, K.M., White, J.C., Davis, W.J., McNicoll, V.J., Paulen, R.C., and Rayner, N., 2023. Geology and metallogeny of the northeast Thelon Basin region, Nunavut, and comparison with the Athabasca Basin, Saskatchewan; in Canada's northern shield: new perspectives from the Geo-mapping for Energy and Minerals program, (ed.) S. Pehrsson, N. Wodicka, N. Rogers, and J.A. Percival; Geological Survey of Canada, Bulletin 612, p. xx-xx. https://doi.org/10.4095/xxxxxx
[4] Source: Areva Resources, NIRB File No. 09MN003,. (December 2011) Kiggavik Project Environmental

Impact Statement Tier 2 Volume 2 Project Description and Assessment Basis.
[5] Source: S. Dieng, K. Kyser, and L. Godin. Genesis of Multifarious Uranium Mineralization in the Beaverlodge Area, Northern Saskatchewan, Canada., Department of Geological Sciences & Geological Engineering, Queen's University, Kingston, Ontario K7L 3N6, Canada., 2015 Society of Economic Geologists, Inc. Economic Geology, v. 110, pp. 209-240.

About Greenridge Exploration Inc.

Greenridge Exploration Inc. (CSE: GXP | FRA: HW3) is a mineral exploration company dedicated to creating shareholder value through the acquisition, exploration, and development of critical mineral projects in North America. The Company is led by an experienced management team and board of directors with significant expertise in capital raising and advancing large mining projects.

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