CANADIAN PROVINCES ADVANCE CRITICAL MINERALS PLANS: DECEMBER 2021 UPDATE

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This article updates the author's article "Canadian Provinces Advance Critical Minerals Plans," which was published in the July 2, 2021, edition of the *Natural Resources Law Network* and described critical mineral plans and activities in Saskatchewan, Ontario and Québec. This update covers recent critical mineral legal and policy developments for Alberta, Saskatchewan and Ontario.

On November 9, 2021, the U.S. Geological Survey, Department of the Interior, published a 2021 Draft List of Critical Minerals in the U.S. Federal Register, 86 Fed. Reg. 62199, that would effect certain changes to the U.S. critical minerals list. Among other changes, the proposal would remove potash and helium from the list and add nickel and zinc. Provinces such as Ontario and Manitoba have well-recognized strengths in base metals.

The overall number of critical minerals increased from 35 in the 2018 final list to 50 in the 2021 draft list because rare earth elements and platinum group elements were disaggregated and set out as individual entries. "Fuel minerals" have been legislatively excluded from the definition of a critical mineral under *The Energy Act of 2020* so uranium was not evaluated. Critical minerals on either the U.S. or Canadian lists are considered below.

Alberta

The Province of Alberta released a minerals sector strategy in November 2021 entitled *Renewing Alberta's Mineral Future: A Strategy to Re-energize Alberta's Minerals Sector* (the Alberta Strategy). The Alberta Strategy encompasses strategic, critical, and non-critical minerals and highlights Alberta's potential for minerals such as lithium, uranium, vanadium, nickel, rare earth elements (REEs), potash, and diamonds.

The Alberta Strategy begins by observing that "lithium-rich brines occur in Devonian aquifers" in parts of west-central Alberta. It notes that Alberta shares the uranium-rich Athabasca Basin with Saskatchewan and that Alberta supports the planned deployment of small-scale or modular reactors to reduce its reliance on coal-fired power (p. 9).

Unconventional or Secondary Extraction

The Alberta Strategy emphasizes mineral extraction from unconventional or secondary sources, although not exclusively. As the Alberta Strategy explains:

> … titanium, vanadium, rare earth elements, and other critical minerals are found in oil sands, oil sands products, and oil sands processing waste streams, as well as lithium from oil and gas wastewater. (p. 13)

On REEs, the Alberta Strategy elaborates:

> Research has shown increased concentration of rare earth elements in oil sands from treatment tailings and other waste streams from oil sands processing, along with the presence of other metals, such as titanium and zircon. (p. 9)

The Alberta Strategy indicates that new data collection activities and requirements may be introduced to avoid the problem of wasted minerals from petroleum and other operations, potentially including:

> … more routine sampling of oil and gas wastewater across Alberta to scan for lithium and other valuable minerals and improved data collection requirements for exploration wells. (p. 13)

The Alberta Strategy also contemplates that remediation and reclamation plans will have to be "optimized" to allow future access to wastes for economic recovery opportunities (p. 16). The Alberta Strategy states an intention to modify existing environmental regulations to facilitate and "maximize" recovery of mineral resources from secondary sources "such as minerals contained in produced water, oil sands tailings, petroleum coke fly ash, and coal fly ash" (p. 16).

The Alberta Strategy is supported by a new *Mineral Resource Development Act* that received Royal assent December 2, 2021. The Act places mineral development under the authority of the Alberta Energy Regulator. It includes provisions to approve and facilitate mineral development from unconventional or secondary sources and to avoid the waste of mineral resources in connection with petroleum and other industries.

Planned but Unspecified Changes to Mineral Tenure and Regulations

The Alberta Strategy states, without providing details, that it will update Alberta's regime for mineral tenure and regulatory matters to attract investment. Unlike British Columbia, Manitoba, Ontario or Québec, Alberta's minerals legislation is not based on the system of free entry in respect of Crown lands (or private lands containing Crown minerals). Mineral exploration in Alberta is licence-based, including as to operating in the province, making use of exploration equipment, and the requirement of approval for a particular program at a particular site. There are no immediate indications this will change.

The historic free entry system is already highly attenuated, including by the impact of constitutionally based Indigenous title and rights. As such, it is unclear whether the lack of the free entry system will place Alberta at any disadvantage. The setting aside of the free entry system from neighboring Saskatchewan has not hindered its success in exploration expenditures or mining investment.

The Alberta Strategy notes that much of Alberta's mineral resources are unmapped and unexplored. To address this problem, it prioritizes investments in public geoscience. Although no "metallic mines" currently exist in Alberta, the Alberta Strategy and new legislation show that Alberta is now serious about competing for exploration and mining capital.

Saskatchewan

Rare Earth Elements

The July 2021 article reported that the Saskatchewan Research Council (SRC) was building a Rare Earth Processing Facility, unique in North America and the first in Canada. Australia-based Vital Metals Ltd. is building its own REE processing facility in Saskatchewan near the SRC facility, where it will process REEs by the end of 2021 from the Northwest Territories (NWT) extracted by its subsidiary, Cheetah Resources, at the Nechalacho project. The product is expected to be shipped to Norway-based REEtec for separation into individual REEs by mid-2022.

Cheetah Resources is working together with Det'on Cho Nahanni Construction Ltd., a corporation 51% owned by the Yellowknives Dene First Nation, in the NWT as the contract miner. It is believed to be the first time that a First Nation has conducted industrial-scale mining on its own territory.

Helium Action Plan

In November 2021, Saskatchewan released its *Helium Action Plan: From Exploration to Exports* (the Saskatchewan Plan). Helium is a critical mineral on Canada's federal critical minerals list but is proposed for removal from the U.S. critical minerals list in the U.S. Geological Survey's aforementioned proposal published in the U.S. Federal Register. Helium is a chemical element not found directly in minerals, and it is typically captured as a by-product of natural gas or extracted from helium wells in select formations. Saskatchewan's geology allows for the drilling of dedicated helium wells.

Saskatchewan currently has issued more than 500 combined helium leases and permits for exploration and production activities that cover over 4 million hectares of land. In April 2021, North American Helium's new Battle Creek Purification Facility began operating the largest helium purification facility in Canada. Under the Saskatchewan Plan, the province would produce 10% of the world's helium by 2030.

Saskatchewan has put new measures in place to support helium development such as including helium processing facilities in its Oil and Gas Processing Investment Incentive program. The Saskatchewan Plan sets out ten new actions to support helium, including expanding the exploratory well drilling program to include the helium sector and expanding the Saskatchewan Petroleum Innovation Incentive program to include innovative commercialization projects across all segments of the helium sector value chain.

While Saskatchewan does not have a critical minerals plan by name, as noted in the July 2021 article, the Saskatchewan Growth Plan 2020-2030 sets out specific goals for expanding the sales of the critical minerals uranium and potash. As previously noted, potash is on the Canadian critical minerals list but is proposed to be removed from the U.S. critical minerals list.

Ontario

Following the close of the public comment period for the *Critical Minerals Framework Discussion Paper* posted for comment on the Ontario Environmental Registry, Ontario's Ministry of Northern Development, Mines, Natural Resources and Forestry released two further proposals for public comment. The two proposals are *Recovery of Minerals* and *Improving the graduated regulatory approach to mine closure: A proposal to review requirements for low-impact mining projects*. The first proposal is most relevant to critical minerals. The second is concerned with measures to streamline aspects of projects under the *Mining Act* generally. The *Critical Minerals Framework Discussion Paper* had not been finalized at the time of this writing.

Recovery of Minerals

Ontario is "developing a legal framework to facilitate waste reprocessing initiatives that would improve public health and safety and the environment while creating economic opportunities" (p. 1). A broad enabling authority for recovery of minerals from mining wastes has been provided in the proposed *Supporting People and Business Act, 2021*, which includes amendments to the Ontario *Mining Act.*

Under the government's proposed legislation, upon receiving an application that includes a recovery and remediation plan, the recovery of minerals from mining wastes could be specifically licenced as a "recovery permit" by the Director of Mine Rehabilitation (the Director). The Director could specify terms and conditions and the form and amount of financial assurance and determine if Indigenous consultation requirements have been met. The Director would also have order-making authority such as stop-work or ordering specific remedial measures to be taken (section 4.0).

The proponent would be required to demonstrate that following recovery and remediation, the completion of the project would result in an improvement to the condition of the land that is of net benefit to health and safety or the environment. Recovery permits would be potentially available for tailings and mining waste sites at currently operating, abandoned, or closed mines. Some areas could be designated as off limits to recovery permits such as where radioactive materials have been deposited. The written consent of landowners would be required.

Unlike closure plans under the *Mining Act* at the mine production stage that require a proponent to provide a rehabilitation plan for all mine hazards in accordance with the Mine Rehabilitation Code, including legacy hazards, "a proponent will only be required to remediate any existing features they impact or new hazards they create" (section 8.0). In other words, the scope of the remediation is limited to the disturbance caused by the proponent in the course of carrying out recovery and remediation activities, not the entire extent of hazards at the site. Net benefit refers only to an overall improvement. If mine wastes have not been disturbed or affected by the project, they are outside the scope of an activity-specific remediation plan. Some specific remediation standards would be prescribed by regulation. The issuance of the recovery permit would not necessarily obviate the need for other permits. The proposal is open for public comment at the time of writing.

Conclusion

Although the focus of critical mineral discussion has centered recently on the clean energy transition, a common theme is emerging that links critical minerals to the emergence of a circular economy. Canadian provinces with critical mineral plans or major critical mineral initiatives continue to increase their advantage while Alberta has made a serious bid to join the pack. The new U.S. critical minerals list would create significant advantages for base metals producers, but it remains to be seen if such jurisdictions will develop critical minerals strategies of their own.

References

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