



## Aboriginal Mineral Resource Centre: A Concept Paper

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**Abstract:** Through collaborative First Nation, Inuit and Métis community driven research and directed education with appropriate Faculty at the Aboriginal Mineral Resources Centre the goal is to address challenges related to Mineral Resource Development and the intersection of Aboriginal and Treaty rights. This is founded on collaboration between the related Natural Resource, Business, Arts, Health and Law units at UBC. In addition to Graduate research, emphasis will be placed on First Nation, Inuit and Métis Undergraduate recruitment into the Bachelor of Applied Science Mining Engineering programme through linkages with regional colleges and other Universities that do not have a mining engineering degree. To complete the knowledge exchange, the AMRC sees value in developing specific online and seminar courses that can be delivered to Natural Resource and Economic Development Officers in First Nation, Inuit and Métis communities and Government related the Mine Life Cycle. Lastly, to drive and showcase this process, it is anticipated that there will be an annual symposium, which brings together AMRC Members, students, Aboriginal communities and the mining industry collaborators. The Centre will be managed by an Executive Committee (comprised of representatives from UBC and its collaborating units) and supported by an Advisory Council (comprised of representatives from collaborating First Nation, Inuit and Métis Communities, and Industry).

**Context:** Canada through our Constitution has affirmed the sanctity of Aboriginal and Treaty rights, as well as rights that have been acquired through Land Claims or Agreements. Mineral resource development drastically disturbs the landscape. As such, it sets off a series of competing rights and interests amongst Aboriginal peoples, Government and Industry. Intrinsic to this recognition is the reconciliation of justifiable legislative objectives that take into consideration the First Nation, Inuit and Métis Aboriginal or Treaty Rights. This necessitates different sets of perspectives to be brought into discussion during mine planning, accommodations to be made when the mine is in operation, and decisions to be carried out in a manner over the lifetime of a mineral resource development that are in keeping with the exercise of Aboriginal and Treaty rights. It is within this context that the Norman B. Keevil Institute of Mining Engineering (NBKI) proposes the creation of the Aboriginal Mineral Resource Centre (AMRC). AMRC aims to foster deeper relationships with First Nations, Inuit and Métis communities associated with mineral exploration, mining development, mineral processing and post-closure through community driven applied research projects and a variety of educational opportunities.

**Community driven research and capacity building:** Mineral resource development entails a variety of disciplines ranging from geology, mining engineering, ecological management (forestry, soils and fisheries), financing, regulatory and policy experts, as well as a business expertise. The AMRC, as part of the NBKI, is in a position to engage First Nation, Inuit and Métis in community driven research and capacity building through various educational opportunities such as the Mining and Mineral Processing Engineering Undergraduate program, the Graduate program, (the MEng, MASc, and PhD) and the Mining Certificate Programme.



**Objectives:** As part of a consortium of other University of British Columbia Aboriginal initiatives, AMRC sees the benefit of inter-Faculty and inter-Departmental collaboration<sup>1</sup>. The aim of community driven research initiatives lends itself to this collaboration. That is, where the mineral resource research project requires related expertise, AMRC would extend an invitation to collaborate with other UBC faculty expertise. Other initiatives, such as symposia, workshops and visiting scholars would bring together the First Nation, Inuit or Métis communities who are forwarding the research, Aboriginal graduate students associated with the particular research projects, and interaction with the NBKI/UBC Faculty and, Mining Industry collaborators.

More specifically, AMRC aims to stimulate a positive dialogue through applied research and education associated with activities in traditional territories, or on Treaty lands associated with: Mineral Resource Development and Processing on Reserve, Treaty Land Entitlement, First Nations Lands, or Land Claim areas; Associated Economic Development related to the Mineral Resource Development; and lastly Mineral Resource Development Educational opportunities.

Possible projects associated with Inter-Provincial and Inter-Treaty Relationship land use could include:

- Surface rights and right-of-way issues<sup>2</sup>;
- Water use and watershed management<sup>3</sup>;
- Environmental integrity during mine life<sup>4</sup>;
- Reclamation<sup>5</sup>; and,
- Tailings Pond Management<sup>6</sup>

Similarly, many First Nations and Inuit peoples hold mineral title to their Reserve, Treaty Lands, First Nations Lands, or Land Claims lands. There is the potential to bring to their communities both education and training, as well as collaborative research projects associated with related business development. As such the research opportunities could be associated with:

- Gravel, Industrial Minerals and Base Metals<sup>7</sup>
- Management and Planning<sup>8</sup>
- Environmental and Mining Concerns<sup>9</sup>

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<sup>1</sup> The Native Indian Teacher Education Program (Faculty of Education); First Nations Studies Program (Faculty of Arts); Community and Aboriginal Forestry Program (Faculty of Forestry); First Nations Legal Studies Program (Faculty of Law); ISIS Research Centre and the CH'NOOK programs (Sauder School of Business); School of Community and Regional Planning initiatives related to complex planning needs in First Nation communities and the Res'EAU WaterNET (Faculty of Applied Science); related research at the Fisheries Centre, and the Division of Aboriginal Peoples Health within the Department of Family Practice (Faculty of Medicine).

<sup>2</sup> Involvement with: Law

<sup>3</sup> Involvement with: Civil and Geological Engineering, Fisheries Centre, & SCARP

<sup>4</sup> Involvement with: Fisheries Centre, Biodiversity Research Centre & Faculty of Land and Food Sciences

<sup>5</sup> Involvement with: Material, Geotechnical, Chemical, & Geochemical Engineering, Law & Sauder School of Business

<sup>6</sup> Involvement with: Geotechnical, Chemical, & Geochemical Engineering & Law

<sup>7</sup> Involvement with: Material, Chemical Engineering & Sauder School of Business

<sup>8</sup> Involvement with: Sauder School of Business & SCARP



- Secondary Recovery<sup>10</sup>
- Regulatory Reform<sup>11</sup>

Mining involves many different disciplines that come together to form the mineral development project. In addition to mining and mineral processing activities, there are satellite industries that service the mine. First Nation, Inuit and Métis communities are strategically placed to take advantage of these other economic development opportunities. Research projects associated with potential collaborations with other areas of interests at UBC:

- Community Planning related to Mining Projects<sup>12</sup>
- Sustainable Business Development<sup>13</sup>
- Mining Support Businesses<sup>14</sup>

**Capacity Building:** The placement of the AMRC within the NBKI permits the emphasis on capacity building at various levels of a First Nation, Inuit and Métis community. This can be achieved by various means. For example, the Mining and Mineral Processing Undergraduate stream is drawn from a 2<sup>nd</sup> year engineering cohort. This includes, students who transfer from 1<sup>st</sup> year outside of the UBC from accredited engineering programme (this would include Universities that do not have Mining Engineering, regional colleges and institutions such as BCIT). Additionally, at the Graduate level (MAsc, MEng or PhD), acceptance is based on GPA, the research project and fundability; thus the potential research endeavour is the most significant aspect under consideration. Besides the academic streams available, through UBC Continuing Studies, the NBKI has created the Mining Certificate Programme. This programme, delivered through a combination of internet courses and seminars, would be capable of adaptation to be delivered to First Nation, Inuit, and Métis Land and Resource Coordinators, Education Coordinators, Economic Development Officers, as well as Government personnel.

- Undergraduate Mining and Mineral Processing
- Graduate Research at either the Master's or Doctoral level related to Planning, Mineral Processing, Mining, or Environmental Challenges
- Development and delivery of an Certificate in Mining programme tailored to First Nation, Inuit and Métis Land and Resource Coordinators, Education Coordinators, Economic Development Officers and Government personnel

The most important aspect of the AMRC is to provide a means for both education and dialogue amongst Students, Community, Faculty and Industry. This interface would include areas of mutual interest in mineral resource development such as: mine feasibility requirements; legislative reform related to permitting (from claims through reclamation); mineral processing; long term regional

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<sup>9</sup> Involvement with: Faculty of Forestry, Fisheries Centre, Biodiversity Research Centre, Faculty of Land and Food Sciences, & Faculty of Medicine – Division of Aboriginal People's Health

<sup>10</sup> Involvement with: Mineral Processing & Materials

<sup>11</sup> Involvement with: Law

<sup>12</sup> Involvement with: SCARP and Faculty of Education

<sup>13</sup> Involvement with: Law, SCARP & Sauder School of Business

<sup>14</sup> Involvement with: Law, SCARP & Sauder School of Business



sustainability; long term community health and wellbeing that is in keeping with Aboriginal or Treaty Rights.

The fundamental objective of AMRC is a focus on aboriginal students. At the Undergraduate level<sup>15</sup> the aim is to impart the technical skills necessary to be engaged in the self-regulating mining industry<sup>16</sup>. The general aim for Graduate Research is to engage community and to address concerns related to mineral resource development and processing that intersects with Aboriginal and Treaty Rights<sup>17</sup>. Included in education would be the development of online and seminar courses taught through NBKI's existing Life Long Learning's Mining Certificate programme<sup>18</sup> that relates to Exploration and Mining Financing, Investment Planning, and the development of subsidiary businesses.

In addition to the educational goals of Undergraduate, Graduate and Community Learning<sup>19</sup>, AMRC aims to create a positive environment for dialogue amongst other educational and research institutions, as well as industry, by providing the opportunity for a Visiting Scholar to engage with the Undergraduate and Graduate cohort at NBKI. This residency would foster a greater understanding of the particular regional activity through the delivery of a seminar, public lecture and the publication of the related research topic. In addition to residency of the Visiting Scholar, an annual Symposium would highlight research results associated with the current Aboriginal Graduate Students, their Communities and Government/Industry. Within the Symposium, the programme would invite a speaker that will have a mandate to deliver a guest lecture to the UBC community and to both the undergraduate and graduate seminars. In addition, all of these lectures would be broadcast via the Web, as well as recorded onto DVD's.

AMRC has a Canadian First Nation, Métis, and Inuit focus, and as such the issues addressed need to reflect community involvement. This may well be achieved by the acceptance of community-driven research proposals that are developed through collaborative discussion with AMRC faculty and its Advisory Council, Potential Graduate Student, Community and the Mining Industry.

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<sup>15</sup> Bachelor of Applied Science in Mining Engineering is usually a four year degree with at least two work terms of four months each. The Norman B. Keevil Institute of Mining Engineering accepts first choice 2<sup>nd</sup> year students from the Faculty of Applied Science – UBC and transfer students from BC Universities, Junior Colleges and BCIT who have the requisite Applied Science Accreditation.

<sup>16</sup> The mining industry relies on the expertise of Professional Mining Engineers, and as such, a Mining Engineer is expected to hold a Provincial and/or Territorial professional engineering designation.

<sup>17</sup> This would include forestry, fisheries, related economic development and investment, cultural and social concerns and overall community health.

<sup>18</sup> Certificate course design would be developed in tandem with the Faculty of Education Indigenous Education division and Cando for effective delivery and endorsement. For example coursework could include: Overview of Mining Activities specific to particular mining activity and region; Assessment and compliance with specific provincial regulations; Mine Feasibility (including Environment and Financial Assurances); Mine Closure and Reclamation; Consultation and related Business Opportunities.

<sup>19</sup> Community learning includes: First Nation, Metis and Inuit community members at the administration of Band, or Community, as well of Territorial and Aboriginal Affairs Personnel; as well as, members of the community who presently employed within the Mining Industry.