Executive Summary

In the past year CESME has achieved the following:

- Co-sponsored two day workshop on “Geology, Mineralogy, Geochemistry, and Genesis of Magmatic Ni-Cu-PGE Deposits” and a second one on “Geology, Geochemistry and Exploration of VMS Deposits.
- Co-sponsored the visit of SEG Distinguished Lecturer Alan Wilson
- Sponsored the visit of alumnus Iain Kelso “Geology and Mineralization of the Cerro Negro LS Epithermal District, Santa Cruz, Argentina
- Held three meetings of the Advisory Board and developed a strategic plan
- Provided scholarships to support graduate research
- Began the development of an “Indigenous Certificate in Geological Studies”

CESME goals & objectives

As outlined in the original proposal to the Senate Research Committee the purpose, rationale, mission and goals of the Centre of Excellence in Sustainable Mining and Exploration (CESME) are as follows:

Purpose

CESME will encourage and support research, education and outreach activities regarding the nature and impacts of mineral resource exploration and extraction particularly in Northern Ontario.

Rationale

Northern Ontario’s dynamic mining sector is booming, creating challenges regarding how best to undertake sustainable economic development while ensuring environmental protection and respecting constitutionally protected Aboriginal and Treaty rights. CESME will help address these challenges by linking Lakehead University researchers with partners from First Nation, Métis and local communities, government, and industry. This collaborative approach recognizes that Canadian natural resource development requires sophisticated planning, collaboration, assessment, implementation, and remediation strategies that are calculated to minimize negative environmental, socio-economic, and cultural impacts. CESME uses the term “sustainable” to imply reconciliation of the three pillars of environmental, social equity, and economic demands (2005 World Summit on Social Development) that is now widely recognised by the mining industry. To this end, CESME is structured under three pillars: 1) Mining, Exploration and Mineral Processing; 2) Environmental Impacts; and 3) First Nation, Métis and Local Community Engagement.

Through the Centre academic, community, government, and industry partners will carry out cutting-edge research in discovery, advanced exploration, and development, and address the environmental, social and cultural aspects of mineral extraction.
Mission

CESME will:

- Support the development of community-based research and outreach activities in both the Lakehead University community and the region as a whole;
- Generate research projects that facilitate sustainable resource development in Northern Ontario and evaluate the current and future ecological, social, cultural and economic impacts of development; and
- Apply research outcomes from Northern Ontario projects to broader sustainable development issues in other northern Canadian and international jurisdictions and apply the lessons learned in other jurisdictions to Northern Ontario.

Goals

CESME will:

- Increase the capacity for mineral deposit research at Lakehead University and enhance the reputation of the institution in the region, nationally and internationally;
- Increase the capacity for research into the environmental impacts of mining and the sustainability of this activity in Northern Ontario;
- Increase the capacity for research into the social and cultural impacts of mining, especially the involvement of local and First Nation and Métis communities and the recognition of Aboriginal and treaty rights;
- Increase the capacity for research into mining and mineral processing;
- Initiate interdisciplinary research into these fields and develop multidisciplinary research proposals for funding agencies and research partners;
- Bring together a diverse range of researchers at Lakehead University working in fields related to mining exploration, sustainable mining, and environmental and community impacts; and
- Make Lakehead University the hub for sustainable resource extraction research in Northern Ontario.

Progress towards the Centre’s goals

In our original proposal to the Senate Research Committee we indicated that we would achieve the goals of the Centre by undertaking a number of activities. This section lists those activities and highlights progress made.

1. Initiate discussions with the wider community to shape the research activities of the Centre.

We have continued to engage with the local mining community to promote the goals of the Centre and enhance mineral development in N. Ontario. We have initiated discussions with local Indigenous and Metis Communities in order to establish an “Indigenous Certificate in Geological Studies”. This is designed to provide a more
approachable version of the first year of the Geology degree that can be delivered through a combination of remote and online courses.

2. **Generate multidisciplinary research proposals and apply for external funding**

   We continue to seek additional funding to support research projects both through philanthropy and research councils. Dr. Baoqiang Lao applied for an NSERC Engage grant with Goldcorp Inc. as a direct result of engagement initiated by CESME. CESME Director, Hollings has just completed an NSERC CRD grant with Barrick and is initiating another one with Freeport-McMoRan Mineral Properties Canada Inc.

3. **Invite and fund proposals for research and outreach activities**

   Thanks to an excellent ongoing partnership with staff of the External Relations office, particularly Kathryn Davidson and Deb Comuzzi, we have continued to award the John R. Craig Memorial CESME Awards intended to support graduate students undertaking research related to First Nations and Métis issues. We hosted another successful Alumni and Friends breakfast at the 2018 PDAC meeting in Toronto in March.

   Working with Deb Comuzzi, Vice-President, External Relations a report was prepared for the Interim President, Dr. Moira McPherson, highlighting CESME’s achievements and laying out the case for additional, sustained funding.

4. **Recruit and foster faculty, postdoctoral fellows, postgraduate, graduate, and undergraduate student participation**

   CESME’s first PDF, Dr. Karl Skogstad, has completed his Fellowship and gone on to become an Assistant Professor in the Department of Economics at Lakehead, where he continues his research into the economics of mining. Funding from Churchill Diamonds and CEMI is supporting a second PDF, Dr. Shiwei Wang, to investigate the “Geochronology and mineral chemistry as exploration tools for economic diamond deposits in the Superior Province”. Finally, thanks to support from the Provost and Dean of SES Dr. Dawn Mills has been recruited Program Development Coordinator to develop a certificate program to train First Nations community members.

5. **Establish working relationships with similar national and international centres (e.g., Mineral Deposit Research Unit (MDRU) at the University of British Columbia, Mineral Exploration Research Centre (MERC) at Laurentian, CODES – ARC Centre of Excellence in Ore Deposits at the University of Tasmania, Centre for Exploration Targeting (CET) at the University of Western Australia)**

   We have established excellent working relationships with CET and CODES with CESME members currently co-supervising students at both institutions. In addition we are building relationships with the Centre for Excellence in Mining Innovation (CEMI) based out of Sudbury and the Pan American Indigenous Rights and Governance Network (PAIR-GN). We have been in discussions with the Metal Earth program at Laurentian in order to collaborate with their research team.

6. **Develop and maintain a website for the Centre**
We have established a website that highlights CESME activities and acts as a repository for our publications and videos of our guest speakers. This site has finally been migrated to the new system, which will allow us to update it more easily.

Members of CESME

The Advisory Board for CESME continues to operate efficiently having met three times by teleconference in the past year. The membership comprises:

- Mr. John Mason, CEDC - Chair
- Mr. Peter Moses, Matawa
- Mr Glenn Nolan, Noront
- Dr. James Franklin, Consultant
- Dr. Scott Jobin-Bevans, Consultant

The service of these individuals is greatly appreciated and we look forward to working with them to strengthen CESME in the coming years.

The following faculty members have agreed to lead the three research pillars of CESME:

- Dr. Peggy Smith continues as leader of the First Nations Pillar
- Dr. Pedram Fatehi continues as the leader of the Mining, Exploration and Mineral Processing pillar
- Dr. Peter Lee continues as the leader of the Environmental pillar.

The following faculty members have signed up as CESME members:

<table>
<thead>
<tr>
<th>Dr. Ehsan Rezazadeh</th>
<th>Azar</th>
<th>Civil Engineering</th>
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<tbody>
<tr>
<td>Dr. Amir Azimi</td>
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<tr>
<td>Dr. Matthew Boyd</td>
<td>Anthropology</td>
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<tr>
<td>Dr. Lionel Catalan</td>
<td>Chemical Engineering</td>
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<tr>
<td>Dr. Aicheng Chen</td>
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<td>Dr. Han Chen</td>
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<tr>
<td>Dr. Andrew Conly</td>
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<td></td>
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<tr>
<td>Dr. Bahram Dadgostar</td>
<td>Business Administration</td>
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<tr>
<td>Dr. Jian Deng</td>
<td>Civil Engineering</td>
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<tr>
<td>Dr. Amanda Diochon</td>
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<td>Dr. Martha Dowsley</td>
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<tr>
<td>Dr. Karen Drake</td>
<td>Faculty of Law</td>
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<tr>
<td>Dr. A. Ernest Epp</td>
<td>History</td>
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<tr>
<td>Dr. Pedram Fatehi</td>
<td>Chemical Engineering</td>
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<td>Dr. Philip Fralick</td>
<td>Geology</td>
<td></td>
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<tr>
<td>Dr. Tony Gillies</td>
<td>Civil Engineering</td>
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<tr>
<td>Dr. Scott Hamilton</td>
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<tr>
<td>Dr. Mary Louise Hill</td>
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<td>Dr. Mary Lou Kelley</td>
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</tr>
<tr>
<td>Dr. Rhonda Koster</td>
<td>Outdoor Recreation</td>
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</tr>
<tr>
<td>Dr. Thamara Laredo</td>
<td>Sustainability Sciences</td>
<td></td>
</tr>
<tr>
<td>Dr. Peter Lee</td>
<td>Biology</td>
<td></td>
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</tbody>
</table>
Dr. R. Harvey Lemelin Outdoor Recreation
Dr. Baoqiang Liao Chemical Engineering
Dr. Nancy Luckai Natural Resources Management
Dr. Jason MacLean Faculty of Law
Dr. Dawn Mills Geology
Dr. Douglas Morris Biology
Dr. Rob Petrunia Economics
Dr. Wensheng Qin Biorefining Research Institute
Dr. Chander Shahi Natural Resources Management
Dr. Karl Skogstad Economics
Dr. Peggy Smith Natural Resources Management
Dr. Darlene Steven Nursing
Dr. Robert Stewart Geography
Dr. Shannon Zurevinski Geology

The following adjunct faculty are also members of CESME:

Dr. Greg Ross NOSM
Dr. Robert Mackereth Centre for Northern Forest Ecosystem Research

In addition there is one Post Doctoral Fellow (Shiwei Wang, Geology) and one PhD student (Dan Duckert, NRM) affiliated with CESME.

**Research Projects & Scholarly Activities**

**Dr. Dawn Mill’s activities**

During the months of September and October (2017) the primary objective was to get to know the Faculty in the Faculty of Science and Environmental Studies. Besides, getting to know Dean Randall, Drs. A. Linhanata (Physics); A. Dean (Math); C. Mackinnon (Chemistry); and A. Guttman (English Chair). Dr. Mills was interested in what challenges the Faculty faced in supporting students who would be coming into Lakehead from regional communities, and often not with a very strong background in the sciences. This array of contacts represent the core science and humanities deficiencies that a possible student may have upon registration in the proposed Indigenous Certificate in Geological Studies. Dr. Mills also became familiar with the other related Indigenous access programs that Lakehead offers. They were: the past engineering access program (H. Moynihan), the Native Nursing Access Program (J. Nieminen); the support and programs associated with the Aboriginal Initiatives Office (including the transition from Dr. P. Smith to Ms. D. Baxter); and, the Native Education Program (D. Kerr). In particular, with respect to the Native Education Program, Dr. Mills was especially interested in the pilot project of the Sandy Lake Education program, and its challenges. In addition to getting to know the initiatives within Lakehead University and the some of the challenges that the programs experience, as well as what the students are faces with, Dr. Mills spent considerable time networking in Thunder Bay as to some of the First Nation educational resources and political organizations associated with regional Treaty 3, 9, and Robinson Superior Treaty. The latter part of October and the entire month of November was spent in preparing an ONCAT Grant with Dr. N. Luckai, Deputy Provost.
Besides this grant, Dr. Mills worked with the Aboriginal Initiatives Office to prepare a Public Post Secondary Partnership Grant to Indigenous Affairs. The next step was to organize a meeting with the local partners, First Nation Educational Institutions, and representatives from regional communities. The goal was to introduce the concept, and second to flush out the main challenges related to student support. Part of the organization of for this meeting was that the Aboriginal Initiatives Office was able to support five students that were assigned various tasks. Three of five students summarized the following courses: Chemistry, Physics and Geology; and the latter two assisted with researching background information, setting up spreadsheets related to the budget; and helped in overall administrative duties. The meeting was held at Lakehead’s Conference Centre on March 14, 2018 and was attended by Matawa First Nation Management Group (Four Rivers); Anishinabek Employment and Training Services; Oshki-Wenjack; 7-Generations; KKETS; Elder Martin; and, Faculty from Lakehead University. The meeting revealed that student support during the process was key to success. There was enough positive feedback that a second meeting was necessary to organize a “Working Group.”

This second meeting was scheduled for June 12, 2018 and was attended by representatives from the fore-mentioned agencies and First Nation organizations, and Métis Nation of Ontario. The outcome of this meeting again indicated commitment to the development of the Indigenous Certificate in Geological Studies. The follow up meeting will be planned for late summer. The agenda will be related to finding funding to initiate the development. This project currently has a summer job student working on researching connectivity, and finding First Nation information related to internet access, and the Education Coordinators. This information will be compiled in time for the next Working Group Meeting.

Lastly, during the latter part of June work was related to the preliminary work on a long-term research project. This entailed applying for one of the Lakehead University’s Northern Ontario Internship Program candidates. The Intern main activity will be assisting with background research on a selection of possible areas to set up a joint research that brings cultural knowledge about the surface geology and landforms in contact with academic geological research strategies. The Intern is scheduled to start in September (advertisement needs to go out and the choice will be made during the summer – and after grant acceptance).

**Dr. Shiwei Wang’s activities**

After a late start due to issues getting a visa Dr. Wang joined the Geology Department at Lakehead in January 2018. Since his arrive he has made excellent progress and is preparing a number of key samples for dating and mineral chemistry studies.

**Mr. Dan Duckert’s activities**

This project has been funded through support of Dr. Peggy Smith and her Giving Voice SSHRC grant and the Keewaytinook Okimakanak Research Institute. Dan Duckert is the recipient of a SSHRC doctoral fellowship grant and the John R Craig Memorial CESME scholarship. Dan received the John R. Craig Memorial CESME Awards intended to support students undertaking research related to First Nations and Métis issues and is continuing his research.
Other activities

CESME is continuing to engage with local mining companies by hosting “Discovery Days” when researchers at Lakehead present their work to company representatives in order to develop new partnerships.

A $15,000 donation from the J.P. Bickell Foundation allowed CESME to partner with the AMP program to provide unique and practical hands-on activities for Indigenous students. We provided AMP students with:

- On-Campus Geology and CESME lab activities including the examination of thin sections of rock under microscopes to expose mineral composition;
- Field Trips to examine rocks and outcrops via on-campus walking tours and off-campus tours to examine stone used in historical buildings;
- Geology and CESME classroom activities in participating schools; and,
- Geology Kits to add to limited science resources in our regional schools.

Dr. Mills published a paper “A Systematic Review of the Indian Mining Regulations in Comparison to Saskatchewan Mining Law Where the First Nation hold Mineral Title” in the Alberta Law Review, Vol. 56, Issue 1 Fall 2018 (see appendix)

Educational Activities

On March 27, 2018 CESME co-sponsored two talks by Dr. Alan Wilson “Comparative Anatomies: Calc-alkaline vs. Alkalic Porphyry Deposits” and “Life as an Exploration Geologist: What you need to know”. The first talk was attended by ~30 people and the second by ~20 eager and enthusiastic students.

On March 22, 2018 CESME co-sponsored a talk by Iain Kelso an alumnus currently working with Goldcorp on “Geology and Mineralization of the Cerro Negro LS Epithermal District. Santa Cruz, Argentina”

On March 23, 2018 CESME co-sponsored a two day short course on “Geology, Geochemistry and Exploration of VMS Deposits” taught by Dr. Steve Piercey. Approximately 40 geologists attended the course.

On October 12 2017 CESME co-sponsored a two day workshop taught by Dr. Mike Lesher on “Geology, Mineralogy, Geochemistry, and Genesis of Magmatic Ni-Cu-PGE Deposits” taught by Dr. Mike Lesher. 40 people attended the course.

Dr. Dawn Mills, CESME’s Associate Director for Indigenous Natural Resources has been working to establish an “Indigenous Certificate in Geological Studies” which will offer an alternative route to the first year of a Geology degree to Indigenous & Metis learners. To date two meetings have been held to engage with local community member. The first meeting was held on March 14 to introduce potential partner to the project with a second meeting on June 12 to establish a working group. Reports from both meetings are attached to this report.
Undergraduate and graduate training

We have supported two graduate students through the John R. Craig Memorial Scholarship and we have been successful in seeking funding to support CESME-related scholarships that will be used to support undergraduate and graduate research in the coming years.

Financial statement

CESME is in reasonable financial health. The statement provided below covers the 2017-2018 financial year.

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<td>Transfer from Research Support Fund</td>
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<td>CESME Certificate startup</td>
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<td>Travel &amp; Conferences</td>
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<td>(PDAC, Roundup – Hollings, Diochon, Zurevinski)</td>
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<td>PDAC booth rental</td>
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In addition to the items listed above CESME received a grant from Churchill Diamonds to support a Postdoctoral Fellow for a period of two years and funding from the Provost’s Office to support Dr. Dawn Mills.

One-year and five-year plans

The immediate goals of CESME are as follows:

- Work with the Advisory Board to continue to develop the Strategic Plan for CESME and the Action Items that stem from it
- We are seeking funding both from research councils and donors to support graduate and undergraduate research.
- We are still considering the possibility of hosting another conference at Lakehead or alternatively providing support to other related events on campus. Specifically we are planning two workshops. One will be for CESME members to share research plans and discuss our strategic vision whereas the second will bring together
representatives of the mining industry and local communities with CESME members to discuss research needs and highlight the work of Lakehead faculty.

- We continue to engage with faculty across campus to encourage them to participate in and identify CESME activities.

In the medium term we are seeking to establish three research chairs, one related to each of the CESME pillars (Mining and Exploration, Environmental Impacts and First Nation, Métis and Local Community Engagement). These chairs are critical to the long-term success of CESME as they will provide the core researchers around which Centre activities can be developed. In addition to funding the Chair we are seeking ways to support graduate students and Post-Graduate Fellows who will undertake much of the research. We are investigating a number of mechanisms to fund these chairs, including:
  - The NOHFC Industrial Research Chairs program;
  - Corporate donations;
  - Philanthropy; and
  - NSERC Industrial Research Chairs program

We are working closely with the Office of Research Services and External Relations to achieve this goal.

2018-2019 Budget*

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<tr>
<td>Attend Roundup meeting to promote CESME (2 x$2,000 people)</td>
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<td>Conferences for CESME members</td>
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<td>Teaching relief for Director (1 x $7,800)</td>
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<td>Promotional materials</td>
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<tr>
<td>Invited speakers</td>
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* Scholarships provided by CESME are not included here.

Emerging Trends

CESME activities are more important than ever in the face of changing developments and conditions in the mining sector in northern Ontario. The new provincial government has made strong commitments to develop infrastructure to support the development of the Ring of Fire, and CESME has the potential to play a role in this. The mining and exploration industry is picking up in Northern Ontario and we are anticipating increased interest in CESME activities. This has been reflected in meetings we have hosted with local mining companies who are keen to work with CESME researchers.
Appendix

Media reports, posters and publications
P. Dawn Mills, PhD Law
Associate Director of Indigenous Natural Resources

Development of an Indigenous Certificate in Geological Studies (Working Title)
Lakehead University
Through the Department of Geology and Centre of Excellence in Sustainable Mining and Exploration
in the
Faculty of Science and Environmental Studies

Report from the March 14, Information Meeting

The overall vision is to provide for Indigenous individuals, living in remote communities, the opportunity to access the first year of a science degree at Lakehead University that could lead to an Honours Degree in Geology or to other science and engineering degrees. The aim is to create an Indigenous Certificate in Geological Studies (ICGS) that for the most part may be delivered off-campus through various means. The Faculty of Science and Environmental Studies plans to re-contextualize the courses, without changing the degree expectations. This can only be achieved through the development of a joint Faculty/Community working group that will be able to bring in appropriate language and cultural context, as well as advise how to achieve and support student success.

The goal of the March 14th Information Session at Lakehead University (Lakehead) was to identify the challenges associated with this undertaking, and to start to suggest solutions. The main question asked was simply: “What are the challenges associated with the design and delivery of an Indigenous Certificate in Geological Studies.”

The response to this question brought out eight specific challenges, namely:

1. Relevance to Community
2. Delivery of Culturally Relevant Curriculum
3. Pre-Requisites
4. Program Delivery Logistics
5. Student Transition Prior to Leaving the Community
6. Student Support During the Studies
7. Student Transition After the Completion of the Certificate
8. Advisory Committee Logistics

The follow-up question posed was: “What are some solutions to these challenges.” Each of the eight challenges and subsequent possible solutions are discussed separately.
Relevance to Community

Challenges

This area of discussion went in two directions. The first area covered was related to the overall relevancy of the content. The main question asked was: “what value would an ICGS afford an individual residing in the community.” The second area was related to how to get information about the program and its importance to community members. The challenges in these areas were identified in a series of questions:

1. What is the advantage of the ICGS over other programs?
2. How could this course of study assist community decision makers?
3. Are there other courses available after the completion of the Certificate?
4. What other careers would be available to those who hold Geological degrees?
5. What are the funding opportunities to support student learning (tools, internet access and learning materials)?

Solutions

It was suggested that there needed to be an advertising campaign to inform communities about the program that covered a variety of topics. These areas included: relevancy to current decision-making and future planning. This included laying out that a degree in geology would enable an individual the opportunity to engage in a number of different types of business, or as employees with government and industry. More importantly, the individual would be well placed to act as the First Nation/Metis’ mineral resource industry liaison, as well as a special advisor to Chief and Council during negotiation with government or industry. Also the area of study would enable an individual to continue working in related environmental fields associated with climate change impacts awareness, land stewardship and the monitoring of current geological work. Since the program will give the student first year science credits, the credits may be applied to a variety of other science and engineering degrees.

The area related to information about the program, other solution is to develop an advertising campaign that addresses how the program could assist community-based decisions in the mineral resource development sector. In addition to in-house decision making, it was encouraged to map out where the foundation year could lead the prospective degree candidate after completion, as well as what other career paths are available to an individual who holds a geology degree. This will entail contacting the correct department and person who works with the education, economic development, and lands portfolios in Band offices. Lakehead was also encouraged to reach out to specific individuals who are directly involved with high school or mature students to promote the program. The other advertising venues available at the community level to Lakehead would be newsletters, radio, social media, and job and education fairs.
It was suggested that the advertising campaign would be an opportunity to create the space to maintain an open dialogue with communities. This action was a common theme throughout the day, as articulated for different purposes in the following sections.

In addition, it was suggested that students apply for bursary funding to support the related expenses such as personal internet support, computer/tablets, and for the travel and accommodation during the short courses.

Actions

- The main action suggested was a combination of setting out an information campaign that simultaneously acts as advertising, and information gathering about the relevancy to community that the program would achieve.
- This will also entail working with the Advisory Committee on language, translation, and getting direction on how to approach Indigenous Communities with this material.
- It was also suggested that School Boards should be contacted so that teachers in general would become familiar with the program.

Delivery of Culturally Relevant Curriculum

Challenges

There was considerable discussion related to culturally relevant pedagogy, faculty instructional styles and how both of these may impact on Indigenous student success. It was also noted that there may not be specific research into these concerns at this time to warrant alternative program development. However, having opened this concern, the value of the discussion may be sought in the challenges, proposed solutions, and action items.

Solutions

The main idea that was put forward was active collaboration with the Knowledge Keepers in communities. This would include, but not be limited to engaging with Cultural Knowledge Keepers, Hunter/Fishers/Trappers and Elders who have a direct relationship with the land and region.

It was suggested that for faculty a series of specific Professional Development Courses that included having an appreciation of the heterogeneous nature of northern Ontario's Indigenous communities and of their particular dialects (Ojibway, Oji-Cree, Cree, and Metis) as a means to relate to the individual Indigenous Learner. This could include Indigenous histories, and cultural practices such as Indigenous spirituality and traditional skills. This Professional Development could also include a component on the best lecture delivery methods (lectures, power points, whiteboard-drawings, etc.), evaluation strategies, and how to incorporate experiential learning or land based learning into the course work. This could also include the creation of an integrated approach to the English language
requirement, and modelling the evaluation structure after the English as a Second Language program. Emphasis was placed on the need for internal (either at the Faculty or Department level), discussions with the Indigenous Curriculum Specialist, Indigenous Learning Program and Aboriginal Initiatives to determine how to create a series of pathways for faculty to better address the learning experience of Indigenous students.

Lastly, for the specific program development, selected Lakehead faculty from Geology Math/Chemistry/Physics/English would be encouraged to collaborate with regional Cultural Knowledge Keepers, Hunter/Fishers/Trappers and Elders to bring in specific cultural context in order to parallel the scientific concepts in the program.

Actions

- The creation of an Advisory Committee is a crucial step that will guide the initial design and assist with the management of the program.
- Translations of the overviews of course outlines into a variety of regional dialects.
- A strategy needs to be put in place to maintain community relationships.

Pre-Requisites

Challenges

This challenge considered how Lakehead needs to communicate the entry pre-requisites and the admission policies to the public school guidance counselors, First Nation education coordinators, Metis Nation of Ontario, and other post-secondary First Nation education agents. In addition to informing about the pre-requisites, the setting of a minimum entry grade point average was suggested. In addition, Lakehead needs to encourage other First Nation educational institutes to offer and deliver high school academic math, chemistry, physics and written English upgrading.

Solution

In setting the standards for the pre-requisites for entry into the first year program, Lakehead could consider the varied prior education achievements of potential students. This will require Lakehead to be informed as to the education gaps are in the incoming student education history. Besides “education gaps,” an understanding of the student’s education background would be useful to determine if they may be granted credit from one of the expected courses. This evaluation would enable a tailor made support program to the crafted for individual students. Lastly, Lakehead has been asked to set some minimum intake grade (70%).

Lakehead is to set the pre-requisites and admission policies; evaluate student education history for both deficiencies and for the granting of credits; and, the students would be able to take part in a five day orientation program prior to commencement of the course organized and funded through the Aboriginal Initiatives Office. The creation of an evaluation criteria to determine the status of individual’s level of expertise related to their
Science and English background is critical to be able to best support the individual learner. This would be best directed by Aboriginal Initiatives. The Faculty of Science and Environmental Science could work with the Aboriginal Initiatives Office to achieve this goal.

Action

- Current pre-requisites and admission policies are set out in Lakehead’s Academic Calendar.
- The other issues related to past education evaluations, this would be best addressed between Aboriginal Initiatives and the Registrar’s office.
- The summer (fall) orientation session could be organized through Aboriginal Initiatives and Transition Services; and, held over a five day period.

Program Delivery Logistics

Challenges

Discussion in this area was about the delivery of the course and how to plan the schedule as well as the best method – internet, short courses or short-term Lakehead campus residency. Since the goal of Lakehead is to deliver the material in off-campus locations, there are several distinctive challenges. The first challenge was related to the timing of delivery and the second challenge is associated with the internet connectivity in the community, as well as the location of these services (Band Office; Private Homes/Business; and, Public Buildings) and how access will be coordinated with course scheduling. Part of this challenge is associated with required tools that will enable students to work off-line, as well as access the right academic support (tutoring or using on-line education support material – Khan/MIT Learning modules).

Lakehead and the communities need to coordinate the delivery of the courses during times that do not conflict with scheduled cultural events, or when many community members are actively on the land. It was suggested that the scheduling of the courses be worked out with Band Administrators who would have a general idea of the communities overall cultural calendar. This action would only need to be set down once with the idea of annual follow-up to make sure that variations in the schedule were picked up by the course organizers.

The last challenge in this area is related to developing a pool of Indigenous language experts for both the development of the context, and retaining a core as translators for Ojibwe, Ojibway-English, Cree, and Oji-Cree. More specifically, this could be achieved by drawing on existing “term” translations that has been done through the Association of Mineral Exploration – British Columbia, and the Prospectors and Development Association of Canada.
Solutions

The suggested solution to the questions around internet delivery is to do a comprehensive analysis of each communities’ internet capacity driven by a detailed survey that includes answers to questions such as: Band Width; Location of Contact North Services (School or Band Offices); access to internet during and after office hours; and how to establish Lakehead use of Band internet for the program.

As for portable tools for personal learning, “Rumi” tablets were suggested as a device that students could use to run off-line learning resources, such as: e-books; textbooks; and other learning resources. It was also suggested that the lectures, regardless of being delivered as short courses, be videoed and made available through Lakehead’s MyCourse Link. This will necessitate that Lakehead’s Technical Services be engaged in the program development phase to align the necessary technical and related support services. It was also suggested that a comprehensive list of the available on-line/off-line learning services be developed to provide students with an array of independent support opportunities.

For the course(s) chosen to be delivered via Video Conferencing or Internet Delivery it was recommended that there was a component enabling students to connect in-person with the instructor. This is to ensure that the expected learning outcomes are being met. The other model of delivery that was discussed was the short course intensive. That is, the classes start on Friday (6-10 pm); and then go through Saturday/Sunday (9 am - 5 pm).

The Indigenous language concerns that were broached may best be addressed through the creation of a general syllabus that may be revised on a regular basis as course delivery progresses. This could be a task that maybe assigned to a collaboration between the Lakehead Ogimaawin Aboriginal Governance Council, the Indigenous Certificate in Geological Studies Indigenous Council and Lakehead’s Indigenous Curriculum Specialist, alongside Community Representatives.

Action

- This activity will require the Geology Department (broaden departments designate to visit selected First Nation Communities and a series of First Nation and Metis organizations to inform and discuss the proposed course development.
- The Advisory Committee will also be involved by assisting the Geology Department designate with this task.

Early Student Transition Challenges

The challenges are seated in the general readiness of the Indigenous student to undertake University level course work. While this may be addressed in part by clarity around the prerequisites of the program, there are other challenges present. Travel to the short course intensives locations and arrival logistics and internet access would fall into this area. Also,
considered was the mental wellness of the student, including overall health and family obligations.

Solutions

In relation to student readiness, it was the opinion of the group that a strong informative orientation about the program be prepared for communities that included a clear explanation of the learning outcomes, their relevancy and applications to community decision makers and to community in general. This would also include the opportunity for community representatives and potential students to meet with faculty (this would also include the community Cultural Knowledge Keepers) and the program coordinator (ideally an alumnus of Lakehead’s Faculty of Science and Environmental Studies). In addition, the creation of an online timetable of the courses that have detailed milestones for student study time-management is encouraged.

The creation of an “at risk” profile for each individual would be useful for professors/instructors so that they may intervene assisting the student through time when they would be not coping as well as they might be.

Action

- The information orientation would be a combination of the Faculty of Science and Environmental Studies, the Department of Geology and the Aboriginal Initiatives Office.
- The evaluation of the student’s readiness and compiling of an “at risk” data base on the student may best be handled through a combination of the offices of Aboriginal Cultural and Support Services and Access and Diversity due to privacy issues.

Student Transition During the program

Challenges

Unlike the regular Indigenous focused programs that Lakehead offers (Native Education Teachers Program (except the Sandy Lake project) and the Native Nursing Program, the goal is to provide access to first year Certificate in, or near the First Nation Communities. Even though the major disruption of either moving to Thunder Bay or Orillia Campus for the study term would not be an issue, a related series of challenges were identified. These challenges are associated with events that occur within the community (events that brings the community together) or personal incidents (health concerns or family and job obligations) that could affect attendance, or academic performance.
Solution

These concerns could be addressed by parallel mentoring systems initiated in the community, and communicated to Lakehead for faculty as part of the student profile. This would enable Lakehead to complement support actions, with the emphasis on academic support, but enable faculty/instructors to be accessible to individual students over the course of the instruction. Also, it is hoped that the introduction of the cultural context, through strong inter-faculty/community re-contextualization of the courses, will enable the prospective students to see value, relevance and how to apply the knowledge within the community.

Action

- The setting up of a series of meetings with the student cohort to get feedback about the course conducted by the Aboriginal Cultural and Support Services would be beneficial during the term.
- An exit survey as part of the course requirement designed by the Faculty of Science and Environmental Studies would be beneficial for an annual program review of the course.
- Other areas, would be related to the situations associated with challenges, and what strategies could be deployed to assist the students.

Student Transition After

The proposed ICGS is a first year university suite of courses that will enable a student to continue on in the Honours Geology, other science or engineering degree program at Lakehead University (Thunder Bay or Orillia). As such, the student will be required to relocate to Thunder Bay (Orillia) upon completion. The main challenge that the student will experience is the myriad of changes associated with moving to Thunder Bay. The academic experience will have more mainstream features. That is, the classes will likely be larger, the lecture/lab delivery more traditional and the assessment process will be more through assignments, exams and research papers. The transition to living in Thunder Bay comes with its own specific challenges such as the cost of living expenses, transportation around the city, and related support for family – such as day care. Included are the challenges of leaving home. This can also mean leaving family (children), and employment. Another aspect not often talked about, is related to “where is this learning leading to” and “how is this going to be beneficial to me, my family and my community.”

Solution

The responses pointed to the establishment of liaisons between communities and Lakehead in order that students can remain connected to back home. This may enable Lakehead to be more sensitive to what type of support students may need while studying on campus.
It was suggested that an academic advisor for the ICGS be employed to develop a mentorship program, maintain tutoring support, to develop monitoring procedures and manage an annual program evaluation. In addition to the above, this individual would be able to keep track of alumni.

Related to the concern, of “where is this learning leading to” and how is this going to beneficial to me, my family and my community,” there were unanimous declarations that what was necessary that there be information packages with career descriptions, as well as presentations from guest speakers who would be possible employers or role models.

Action

• Additional and stepped orientation at the completion of the Certificate and before the student enrolled for second year or elected to discontinue conducted by the Faculty of Science and Environmental Studies and the Aboriginal Initiatives office.

Advisory Committee Mandate

Challenges

A series of challenges were identified that the initial Advisory Committee could face. The first is associated with the time needed to pull out faculty and community members from their respective responsibilities to address the committee’s mandate. Another challenge cited was related to the committee’s ability to be representative of the entire region that Lakehead’s student body could be drawn from, as well as traverse this geography for meetings, exchanges and other information sharing purposes.

Solutions

It was concluded that there needs to be scheduled meeting times, that could be organized in advance. Also, prior to the meetings a detailed agenda would be circulated so that if members were unable to attend they would have the opportunity to write down their respective views. This would also mean any documents for review would be circulated in formats that members could easily mark up, and the comments compiled prior to the meeting. In order to be fair to out of town participants, travelling costs would be covered by Lakehead, and if funds are available an honourarium be allocated to non-faculty members. It was also recommended that the committee utilize the available technologies for meetings; such as, Skype, Google Hangouts, Telepresence, and Contact North services.

Proposed Advisory Committee Mandate:

• The Advisory Committee is to act as a coordinating body for the development of the Indigenous Certificate in Geological Studies (ICGS).
• The initial task is to help define the goals related to the context development. In addition, the Advisory Committee will suggest and mentor a Cultural Knowledge Keeper who will assist faculty in the re-contextualization of the core courses that comprise the first year certificate in Geology.

• During the course revision process, the Advisory Committee will review the material from each revised course alongside faculty.

The current volunteers will stand until the course development is completed, and if individuals’ desire, they may continue as the Program Advisory Committee. The Program Advisory Committee will be formed during the late stages of the ICGS development, where the mandate will take on the more student support focus. This may include the role of liaison to the Program Advisory Committee’s organizational or Treaty area membership. It is expected that the terms of reference would be developed by the Advisory Committee prior to the program development.

• Volunteers that expressed interest in the proposed initial Advisory Committee:

Beedahbin Desmoulin – Four Rivers Education & Training, Matawa First Nations
John Kimball – Lakehead University (Mathematics)
Roger King – Gull Bay First Nation (AETS)
Dawn Mills – Lakehead University (Centre of Excellence for Sustainable Mining and Exploration)
Brad Nayanookesic – Thunder Bay (AETS)
Howard Twance – 7 Generations
Brian White – 3rd Year Geology Student
Appendix One: Participants

Lakehead University Representatives:
Denise Baxter, Deputy Vice- Provost - Aboriginal Initiatives
Andrew Dean, Chair of Mathematical Sciences
Amanda Diochon, Director of Water Resources
Amy Farrell-Morneau, Aboriginal Curriculum Specialist
Anna Guttman, Chair of the English Department
Mary-Louise Hill, Professor – Department of Geology
Pete Hollings, Chair of the Department of Geology / Director of the Centre of Excellence for Sustainable Mining and Exploration
Apichart Linhanata, Chair Department of Physics
John Kimball, Instructor – Mathematical Sciences
Ian MacKay, Professor – Department of Physics
Craig Mackinnon, Chair of the Department of Chemistry
Gerry Martin, Lakehead Elder in Resident
Dawn Mills, Associate Director Indigenous Natural Resources
Heather Moynihan, Faculty of Engineering – Admissions
Joy Nieminen, Coordinator of the Native Nursing Programme
Todd Randall, Dean of Science and Environmental Studies
Yolanda Twance, Aboriginal Cultural and Support Services

Lakehead Students:
Andrew Andy, 3rd Year Psychology
Keoni JamesAskewe, 2nd Year Environmental Studies
Veronica McGuire, 2nd Year Anthropology/Geology
Graeme Nuttall, 3rd Year Mechanical Engineering
Brian White, 2nd Year Geology

First Nation Organizations:
Nancy Bouchard, Program Director – Anishinabek Employment and Training Services
John DeGiacomo, Executive Director – Anishinabek Employment and Training Services
Roger King, Anishinabek Employment and Training Services
Brad Nayanoookesic, Anishinabek Employment and Training Services
Beedahbin Desmoulin – Four Rivers (Matawa)
Sheri Desmoulin – Four Rivers (Matawa)
Glenda Nabigan – Four Rivers (Matawa)
Anisa Onabigon – Four Rivers (Matawa)
Alex Ostamas – Four Rivers (Matawa)
Andy Nieweglowski – KKETS (Matawa)
Kim Falcigno – Oshki-Wenjack
Gordon Kakegamic – Oshki-Wenjact
Brigitte Loeppky – 7 Generations
Howard Twance – 7 Generations
Appendix Two: Community Experts

Lakehead University Resources:

Faculty at Lakehead University: Geography, Math, Physics, Chemistry, History, English, and Indigenous Learning
Native Access Program/Native Education Teachers Program/Native Nursing Entry Program: Jerri Lynn Orr & Joy Nieminen
Indigenous Curriculum Development Specialist and Cultural Knowledge Keepers: Amy Farrell-Monreau & Audrey Deroy
Aboriginal Cultural Support Services: Yolanda Twance, Coordinator
Technical Support Lakehead University / Contact North

OAGC-LU/Elders Council: Gerry Martin, Josephine Mandamin and Delores Wawia

Regional First Nation Education Institutions:

Oshki-Wenjack – Kim Falcigno
Matawa Economic Development / Four Rivers – Beedahbin Desmoulin / Peter Moses
Nishnawbe Aski Nation – Jocelyn Cheechoo / Ben Cheechoo / Joe Whesk
Anishinabek Employment and Training Services – John DiGiacomo
KKETS – Andy Nieweglowski
7Generations – Wayne Zimmer
WAHSA – Distance Education (High School Credit)
K Net – High School Internet (Bridget Loeppky (7 Generations))
Follow Up Session Notes
Indigenous Certificate in Geological Studies
Centre of Excellence for Sustainable Mining and Exploration
Thunder Bay Campus, Lakehead University

The follow up session was held on Tuesday June 12, 2018 from 8:30 am – 12:00 pm at Matawa First Nations Management, 233 S. Court Street.

The meeting was facilitated by Kari Chiappetta.

Present were:

Denise Baxter, Lakehead University Aboriginal Initiatives
Nancy Bouchard, Anishinabek Employment and Training Services
Beedahbin Desmoulin, Matawa – Four Rivers
Amy Farrell-Morneau, Lakehead University Indigenous Curriculum Specialist
John Kimball, Lakehead University – Department of Math
Nancy Luckai, Lakehead University – Deputy Provost
Veronica McGuire, Aboriginal Initiative & Centre of Excellence for Sustainable Mining and Exploration
Gerry Martin Elder,
Peter Moses, Matawa – Four Rivers
Brad Nayanooseesic, Animiigo Zaagi'ian Anishinabek
Todd Randall, Lakehead University – Dean of Science and Environmental Studies
Michael Smith, Métis Nation of Ontario

Dawn Mills, Lakehead University – Indigenous Natural Resources – Centre of Excellence for Sustainable Mining and Exploration

Regrets for the meeting included:

Denise Bottle, Animiigo Zaagi'ian Anishinabek
Chief Peter Collins, Fort William First Nation
John DeGiacomo, Anishinabek Employment and Training Services
Pete Hollings, Lakehead University- Geology Department Chair & Director of Centre of Excellence for Sustainable Mining and Exploration
Roger King, Gull Bay First Nation
Heather Moyinhan, Lakehead University-Enrollment Services – Faculty of Engineering
Marie Seymour, Shooniyaa Wa-Biitong (Treaty 3)
Howard Twance, Seven Generations Education Institute

The goals for the session were:

- To review and gain consensus on the role of the Advisory Committee; and,
- Discuss how the committee will work together in the future

The day was opened with a prayer from Elder Gerry Martin followed by opening comments from P. Dawn Mills. Kari Chiappetta facilitated the remainder of the meeting.

**Role of Committee**

Discussion around the role of the Advisory Committee took place with there being some confusion around the goals for the committee. After much discussion, it was determined that the committee should be considered a working group as opposed to an advisory committee. The title of “Working Group” should remain until the course is up and running, then the role of the group should change to that of an Advisory Committee.

After discussion, the goals of the Working Group were determined to be:

1. To act as a coordinating body for the development of the Indigenous Certificate in Geological Studies (WT).
   - *It is important to note what “coordinating body” means in this context- identify stages of development and steps to completion, look after the timeline and oversee the work*

2. Provide content connections and facilitate opportunity for good dialogue between Lakehead University and Cultural Knowledge Keepers as they re-contextualize courses and meet the defined goals of the program.

3. Determine/develop/identify effective practices for delivering course content to Indigenous Learners.

4. Review recommendations from subject matter working groups to enable coordinated pedagogical and delivery approaches.
Thoughts to Consider for Future Planning

- There may be an opportunity to use existing structures through the Aboriginal Initiative Office, Access Coordinator.

- If the AI office provides support staff, another role of the working group may need to include “act as an advisor to program related staff”

- Is part of the role of the Working Group to advocate for, and/or support funding proposals?

- Potential Challenge: there may be some constraints due to collective agreement with professors this will need to be considered (PDM can someone tell me the reason for the possible constraint, thanks)

- Suggestion: on the top of every meeting agenda include the goal for the program so it is always at the forefront of the planning process

How the Working Group will Work Together

- The working group would like to meet monthly to start and then book meetings on an as needed basis depending on workload.

- The working group would like to meet in person with a teleconference call in option available for those unable to meet in person.

- Future meetings will be held at Matawa First Nations Management, 233 S Court Street. Teleconference equipment must be booked in advance of the meeting.

- Upon discussing what the role of the Centre for Excellence in Sustainable Mining and Exploration (CESME) role should be on the working group, it was noted that Pete Hollings should be a part of that conversation.

- **ACTION ITEM**: Nancy Luckai, Todd Randall and Dawn Mills to meet with Pete Hollings prior to the next meeting to discuss the role of the CESME in the working group.
• It was the intent to discuss what the role of the Chair would be and also to elect a chair at this meeting but this conversation had to be deferred until the role of the CESME is confirmed.

• **ACTION ITEM**: Role of the Chair and Election of Chair to be included on next working group meeting agenda

• **ACTION ITEM**: Dawn Mills to consult with committee via email to determine best date and time for next meeting
Lakehead University SEG Student Chapter are pleased to offer a short course in

**Geology, Mineralogy, Geochemistry, and Genesis of Magmatic Ni-Cu-PGE Deposits**

October 12 & 13, 2017, North End Community Centre, 954 Huron Ave, Thunder Bay

Michael Lesher will be offering a two-day short course on: **Geology, Mineralogy, Geochemistry, and Genesis of Magmatic Ni-Cu-PGE Deposits**

**Thursday, October 12, 2017, 8:00 a.m. to 5:00 p.m.**
**Friday, October 13, 2017, 8:00 a.m. to 5:00 p.m.**

The course will provide an overview of the classification, mineralogy, and tectonic setting of magmatic Ni-Cu-PGE deposits as well as an overview of Ni-Cu-PGE exploration geochemistry and techniques. Tea, coffee, and lunch will be provided on both days as well as course materials.

**Michael Lesher is Research Chair in Mineral Exploration at Laurentian University. He has worked on Precambrian banded iron formations in Labrador-Quebec, mesothermal lode Au deposits in Western Australia and the southern Appalachians, VMS deposits in Australia and Canada, and magmatic Ni-Cu-PGE deposits in Brazil, China, Western Australia, Manitoba, Ontario, and northern Quebec. He is presently serving as Principal Investigator and Director of the $13M NSERC-CMIC-funded Mineral Exploration Footprints Research Project (cmic-footprints.ca), and as Leader of the Data Integration and Ni-Cu-PGE-Cr Groups of the $104M CFREF-FedNor-NOHFC-funded Metal Earth Project (metalearth.laurentian.ca).**
Free Public Lecture

Presents Guest Speaker

IAIN KELSO, P. Geo
Director, Exploration, LATAM Goldcorp Inc.

“Geology and Mineralization of the Cerro Negro LS Epithermal District, Santa Cruz, Argentina”

MARCH 22, 2018  AT: 10:00 am  IN: CB 3031
Lakehead University SEG Student Chapter is pleased to offer a short course in:

**Geology, Geochemistry and Exploration of VMS Deposits**

**March 23, 2018  8:30am – 5:00 pm**

Oliver Road Community Centre, 563 Oliver Rd, Thunder Bay

Stephen J. Piercey (PhD, PGeo) obtained his BSc(Hons) and MSc degrees from Memorial University and a PhD from the University of British Columbia. From 2001-2008 he was Assistant and Associate Professor in the Department of Earth Sciences and Mineral Exploration Research Centre at Laurentian University (where he is still an Adjunct Professor). From 2007-2009 he was a full-time consulting geologist and the principal of SJPGeoConsulting, and since 2009 he has been at Memorial University where he was previously the NSERC-Altius Industrial Research Chair in Mineral Deposits and currently holds the rank of Professor. His research, teaching, and consulting interests involve integrated field- and laboratory-based studies focused on the genesis of mineral deposits and the tectonic evolution of mountain belts, with emphasis on volcanogenic massive sulfide (VMS), as well as orogenic Au and U deposits. In recent years his research on VMS deposits has focused on their larger-scale tectonic and magmatic setting, with an emphasis on their volcanic, sedimentary, and hydrothermal reconstruction, sources of metals, fluids, and sulfur, and their relationship to the evolution of the lithospheric, hydrosphere, atmosphere, and biosphere. He has previously been awarded the Lindgren Medal (SEG), Gross Medal (MDD-GAC), Past President’s Memorial Medal (CIM), Howard Street Robinson Medal (GAC), and Hutchison Medal (GAC). He serves on the editorial board of the journal Economic Geology and was recently a co-editor of a Special Publication for the Irish Association for Economic Geology on “Current Perspectives on Zinc Deposits” (2015).

This short course will involve five modules on volcanogenic massive sulfide deposits. **Module 1** will include an overview of VMS deposits, including what they are, their grades and tonnages, classification and genesis of the deposits. **Module 2** will provide an overview of rifting and magmatism and the regional-scale controls on the formation of VMS deposits. **Module 3** will deal with VMS-related hydrothermal alteration and processes, including regional semi-conformable vs. proximal discordant alteration, the processes related to fluid-rock interaction and alteration, the role that substrate and permeability and porosity play in alteration distribution, and utilization of lithogeochemistry, isotopes, and mineral chemistry to monitor and quantify alteration and utilization in target vectoring. **Module 4** will cover the sources of metals, ligands, and fluids in VMS deposits. It will review metal sources (e.g., leached vs. magmatic; metal budgets, Pb isotopes, etc.), fluids (e.g., seawater vs. magmatic fluids), and S sources. **Module 5** will cover sediment and hydrothermal sediment geochemistry, including the mineralogy and geochemistry of modern hydrothermal sediment, utilization in ancient hydrothermal sedimentary rocks for vectoring, and utilization for understanding basin redox in ancient environments.
The Lakehead University SEG Student Chapter is proud to present two free public lectures with SEG Distinguished International Exchange Lecturer for 2018:

Alan Wilson (PhD)

Alan received his B.Sc. degree in geology from Edinburgh University, United Kingdom, in 1990 and an M.Sc. degree in exploration and mining geology from Leicester University, United Kingdom, in 1991. He joined Rio Tinto’s exploration group in 1991, initially in Ecuador, then in Bolivia before continuing to develop his base and precious metal exploration experience in Peru with Renison Goldfields and Billiton from 1997. In 2000, Alan moved to Tasmania to undertake his Ph.D. degree on the recently discovered Cadia porphyry gold-copper deposits in New South Wales, graduating from University of Tasmania in 2003. Following a period exploring for sediment-hosted gold deposits in Western Australia, Alan chose in 2006 to focus on global copper metallogeny and exploration, first with Anglo American based in Australia and Chile, and since 2010 with Antofagasta Minerals in Chile, Australia, and currently Canada.

“Comparative Anatomies: Calc-alkaline vs. Alkalic Porphyry Deposits”

March 27th at 11:30 AM in CB3031

“Life as an Exploration Geologist: What you need to know!”

March 27th at 4:00 PM in CB3031
Canadian Rangers assist in evacuating Kashechewan due to flood fears

May 15, 2018

Peter Moon
Special to Wawatay News

Members of the local Canadian Ranger patrol are participating in the emergency evacuation of Kashechewan First Nation because of fears of flooding from the ice-jammed Albany River.

The Rangers, who are part-time army reservists, spent much of Friday assisting vulnerable evacuees onto planes taking them south to Kapuskasing.

“We’re taking care of safety on the water, not the ground evacuation planes,” said Warrant Officer Carl Wolfe, a Canadian Army instructor, who is in Kashechewan to assist in the precautionary evacuation. “We’re helping people get out of the area, not to the young. We’re ensuring that anybody with mobility issues is able to get on the planes safely.”

The community declared an emergency and asked the province for assistance in evacuating its 1,700 inhabitants because of fears that ice jams could cause the river to rise and flood the community as it has in the past. The army was asked for assistance and the Canadian Rangers were directed to provide help.

“We’ve got local Rangers helping out,” said Warrant Officer Wolfe, “and members of the Fort Albany patrol may help over the weekend, with maybe more coming from elsewhere in Ontario next week if they are needed.”

“We’ve started monitoring the river and so as if the threat level increases so will our surveillance of the water level.” The community on the James Bay coast frequently evacuates in the spring because of both real and threatened floods.

Many families are currently on the land taking part in the traditional spring goose hunt. They are often brought back to Kashechewan by helicopter so that they can be flown south until the threat abates.

Kapuskasing is the first of several southern communities that will receive evacuees from the Cree community.

(Sergeant Peter Moon is the public affairs ranger for the 3rd Canadian Ranger Patrol Group at Canadian Forces Base Borden.)

www.wawataynews.ca
Lakehead proposes Indigenous Certificate in Geological Studies

Lakehead University representative recently met with Indigenous education and employment staff and students to gather input for the development of a proposed Indigenous Certificate in Geological Studies.

“It’s an entry way into post-secondary education for students where they can come and take five university-level credits,” Denise Baxter, vice-president (Aboriginal initiatives) at Lakehead University, said they would have the skills needed to go into the workforce directly at Lakehead University. “They are working with the provost (Aboriginal Initiatives) to develop a certificate that would be equivalent to five first-year university credit courses.

“The certificate is that equivalent to first-year university, says Dawn Mills, coordinator of the Indigenous Certificate in Geological Studies and associate director of Indigenous Natural Resources at Lakehead University. “It is ideal for a student who wants to have the university experience (and) is not able to move to Thunder Bay particularly, but is wanting to... have some understanding of what they are capable of doing in order so they can make the actual leap into the residency program with the university itself.”

Baxter says Lakehead University has applied for funding from the federal government. “We’ve applied for a grant to help pay for the whole upstart of it,” Baxter says, noting that the university is looking at offering the certificate program in September (2019). “So we’re really strongly hoping we have support from them in moving this forward because it is very important to the people throughout the whole north-west that this get moving.”

The certificate program is being developed to address the situation where many First Nation high school graduates have not had access to the science courses required to enroll directly into university science, health and engineering departments. “It is a really good idea because I know for a lot of years a lot of First Nations students have been shying away from the science programs or being discouraged from going into the science programs as a result of a few components, specifically the physics, the math and the chemistry,” Howard Bouchard, student at Post Second-ary Student Support with Seven Generations Education Institute, said. “So if the certificate program we are looking at developing here will provide a bridge or a gateway (for students) to continue on to the sciences area.”

Twance and other representatives from a variety of First Nation organizations, including Sault First Nation, Oshkii-Pimache-A-Win, the Wénjí-ay Education Institute and Anishinabek Employment and Training, participated in the meeting. “It was really productive and a proactive approach to providing another pathway or avenue of education for our Aboriginal youth,” says Selahdin Des-Moulain, education and training coordinator with Matawa First Nation. “And it’s attainable, so hopefully we have a successful program up and running in the near future.”

Nancy Bouchard, project officer with Anishinabek Employ-ment and Training, says geol-ogy is a field that is in demand across northwestern Ontario. “First Nation communities are always dealing with mining companies and this will definitely help,” Bouchard said. “We don’t have enough Indigenous people in that field and this is a segue to increase the number of Aboriginal people that are studying geology.”

The geology component of the proposed certificate program would include one and-a-half-hour online geology lectures and a one-week geology field school during the summer. The math component would include one and-a-half-hour online math lectures on different days from the geology component, with student access to tutorials with an assigned tutor. The physics component would include a series of short courses initiated in the second module and labs at Lakehead University in the third module, with student access to tutorials with an assigned tutor. The chemistry component would be offered in the third module through a three-week residency at Lakehead University during the spring/summer.

Dennis Franklin Cromarty First Nation High School students recently participated in a cooking challenge with Chef Dennis Wolfman and a drone workshop with University of Toronto staff.

“It was my first (compe-tition) in cooking and nerve wracking,” says Austin Linklater, a Grade 12 student at Sandy Lake and member of the winning team in the Kitchen Warriors Competition. “We were looking at the other competitors dishes too and they looked pretty good. We didn’t know what we were doing. We had never cooked fish before.”

Wolfman, a classically trained chef originally from B.C., a culinary arts professor at George Brown College of Applied Arts and Technology in Toronto and executive producer of Discovering Food with Chef Dennis Wolfman television program, enjoyed working with the students. “It was amazing — it’s nice to inspire the youth.” Wolfman says, “They have lots of ques-tions and they said: ‘How do you get on TV’ and ‘How do you become a book.’”

The physics component of the drone workshop included a “fair bit of tuning” to get it ready for flight. “Yesterday we assembled the drone after class. “We took us four-and-a-half hours to finish it,” Munroe said. “We finished it, got it down to the camera, all the control gear, power box in, tested it and made sure the motors were going the right way.”

Craig Stevens, an associate professor at Toronto Institute for Aerospace Studies, says the students chose the components for the drone after he and the other staff gave them suggestions on what they should use.

While we assembled the drone and today we are flying it for the first time,” Stevens says. “We ordered the parts from various places — they are all off-the-shelf parts, but there’s a wide variety of parts you could choose, so selecting the right combination is quite a tricky task.”

Stevens says the assembling of the drone includes a “fair bit of tuning” to get it ready for flight. “As you saw, it flew for the first time and delivered some Timbits,” Stevens says.

Richard Garrick

Wawatay News

Rick Garrick/Wawatay News

Rick Garrick/Wawatay News

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Wawatay News MAY 15, 2018
Lakehead University’s AMP Report for the J.P. Bickell Foundation
February to September 2017

Thank you for your generous grant of $15,000 to expand AMP programming at Lakehead University to increase Aboriginal students’ interest in Geology and their consideration of mining-related careers.

Established in 2013, the Aboriginal Mentorship Program (AMP) helps Aboriginal students from grades five through 12 successfully transition into post-secondary education. Through AMP, experienced university student mentors are matched with Aboriginal elementary and high school students in Northwestern Ontario to build their confidence in a familiar classroom and post-secondary setting while considering future education and career opportunities.

Delivered via classroom visits into regional schools and on-campus activities, AMP increases Aboriginal students’ interest in a wide variety of subject areas including science, natural resources management, law, anthropology, medicine, nursing, engineering, business, English, and school in general.

In the 2016/2017 academic year we began our partnership with our Geology Department and the Centre of Excellence for Sustainable Mining and Exploration (CESME) at Lakehead University to provide unique and practical hands-on activities for students.

This was made possible through your generous grant of $15,000 that has allowed us to provide AMP students with:

- On-Campus Geology and CESME lab activities including the examination of thin sections of rock under microscopes to expose mineral composition;
- Field Trips to examine rocks and outcrops via on-campus walking tours and off-campus tours to examine stone used in historical buildings;
- Geology and CESME classroom activities in participating schools; and,
- Geology Kits to add to limited science resources in our regional schools.

We are very grateful for the support you have provided and are pleased to share some of the highlights of our programming this past year.

Highlights

Working alongside the Department of Geology at Lakehead University, curriculum and walking tours have been developed that allow students to learn about the ejecta layer from a meteorite which hit Sudbury 1.849 billion years ago during the Paleoproterozoic era. The impact crater is the second-largest known on Earth and one of the oldest impact craters.
Debris from this massive impact was scattered over an area of 1,600,000 km² (620,000 sq mi) and thrown more than 800 km (500 mi) from the area of impact. Layers from the meteorite can be easily seen along an escarpment within the city of Thunder Bay.

The geology department has given and will continue to offer walking tours for Indigenous youth in the Aboriginal Mentorship Program. The walking tours begin at Hillcrest Park and following the escarpment over a 1.8 kilometer hike. Funding from J.P. Bickell also permitted the purchase of several geology hand lenses. Thus allowing youth to easily see the differences in the layers of rock and identify the meteoric layer. The training in the use of the hand lens means that the students can continue to develop their rock identification skills when they go home.
In addition to developing much needed pathways of academic achievement and hands-on experience for Indigenous youth, the funds received allowed us to purchase much needed classroom resources for the use of the Aboriginal Mentorship Program and additional resources to be left with Indigenous community schools.

Many of the remote and near First Nation schools we visit across northwestern Ontario have very few educational resources. The opportunity to leave these schools with resources they can use for years to come is superb and gratefully appreciated. We purchased sample sets of ‘Canadian Rocks and Minerals’ for use by the Aboriginal Mentorship Program and an additional eight sets to leave in First Nation community schools.

As educational support to these sets we purchased introductory geology books, informational posters and rock tumblers. These educational resources will allow Indigenous youth to increase their interest in rocks and minerals, encourage them to collect and identify rocks within their own communities, and increase their interest in and consideration of mining-related careers.
Thank you for helping us to expand AMP programming and increase Aboriginal students’ interest in Geology and their consideration of mining-related careers.

Your support is greatly appreciated!
A Systematic Review of the Indian Mining Regulations in Comparison to Saskatchewan Mining Law Where the First Nation hold Mineral Title

By
P. Dawn Mills, PhD Law¹

¹ Associate Director of Indigenous Natural Resources, Centre of Excellence for Sustainable Mining and Exploration (Lakehead University – Academic)
Abstract

Indian Mining Regulations\textsuperscript{2} were adopted in 1954,\textsuperscript{3} revised in 1961,\textsuperscript{4} amended in 1968\textsuperscript{5} and 1978 as a means to promote mineral resource development on First Nation Reserves, where First Nations hold title to the mineral resource. The Indian Mining Regulations, as part of a suite of regulations associated with the Indian Act,\textsuperscript{6} are outlined in relationship to Saskatchewan mining law. Discussed first is a general survey of First Nations mineral titles across Canada where the Indian Mining Regulations apply. Second is discussed are the regulation there application; compliance with provincial law; the disposition of minerals; permits; leases; and, lastly the assignment of royalties. It is recommended that a critical review of mineral resource potentials, exploration, mine permitting and standards for environmental monitoring and reclamation be established prior to any assignment of the existing Indian Mining Regulations against any mineral resource development that occurs on First Nation lands or reserves.

Keywords
Indian Mining Regulations, Mineral Title, Permitting, Oversight

\textsuperscript{2} C.R.C., 1978 c. 956.
\textsuperscript{3} Regulations for the Disposal of Quartz Mining Claims within Indian Reserves, October 13, 1954.
\textsuperscript{4} Indian Mining Regulations, SOR/61-101.
\textsuperscript{5} Indian Mining Regulations, SOR/68-454.
\textsuperscript{6} R.S.C. 1985, I-5.
Introduction

Currently mineral exploration and mining rights on some First Nation Reserve lands are issued under the Indian Mining Regulations. The current Indian Mining Regulations are a parallel system of mining regulations directly associated with particular First Nations who adhere both to Indian Act management, and hold mineral titles on their Reserve lands. In terms of contemporary mining legislation, these regulations could be considered to be out of step with provincial standards related to prospecting, management of claims, exploration requirements, permitting process of both exploration and mining, and oversight of either prospecting, exploration, or a mining project. This paper lays out the challenges of the Indian Mining Regulations in relationship to Saskatchewan’s mining law. However, only addressed by this paper are mineral properties that the First Nation has by means of Treaty or by Federal-Provincial agreement hold title, and are cited to fall under the Indian Mining Regulations.

The Indian Mining Regulations in some aspects closely mirror provincial mining laws – though out of date in a series of technical details. There are deviations. The main areas are related to the calculation and assessment of rents, royalty revenues, rents, fees or fines levied. In addition to these pragmatic economic concerns, the other important deficiencies are in the technical areas with the management of the claims, exploration, the mining permitting process and the continual oversight of the mineral resource property during operations. Additionally, environmental standards as well as occupational health and safety are not referenced leaving a certain degree of ambiguity as to the operational standards at any mine site. These gaps are made additionally problematic in that there is no administrative unit in Indigenous Affairs that can legally carry the role of responsible authority. The combination of having an outdated mining regulatory framework, lack of supporting environmental, work place regulations and an administrative unit does not provide certainty for First Nations or corporations undertaking viable mineral resource projects on Reserve.

Mining legislation, as regulatory law, carries with it a contractual relationship between the owner of the resource (either the Federal/Federal-First Nation, provincial government or a private entity) and a company. This relationship is defined by permissions (a licence or permit) to carry out prospecting, exploration and/or mining activities. In addition in either a licence or permit environmental considerations and the terms related to rents, royalties, and fines are stipulated. In general Canadian mining law covers a series of principal areas: ownership of the mineral; revenue sharing; national security; and a range of supporting legislation/regulations associated with the corporate structure, the raising of capital, employment policies, environmental and health and safety at exploration camps - as well as at the mine site. In these area there both procedural duties such as ensuring that compliance by third parties, the mining company, to the expectations laid out in either legislation or regulations. At the provincial and

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7 Indian Mining Regulations supra note 2 (made under s. 57 (c) of the Indian Act supra note 6).
8 In particular situation, regulatory law is concerned with both ensuring that any mineral resource project undertaken is done in a manner that optimizes the benefit to the province or territory, while maintaining rigorous environmental standards. See: B. Barton, Canadian Law of Mining (Calgary, Alta.: Canadian Institute of Resource Law, 1983).
In most situations in Canada ownership of minerals rests with the Crown in Right of the Provinces, and is part of the discussion in the devolution process in the Yukon, the Northwest Territories and in Nunavut. Mineral title may be held as part of “fee simple land ownership,” or First Nations may have mineral title as part of Treaty, Aboriginal Title...
declaration,\textsuperscript{20} by Agreements or Land Claim settlements.\textsuperscript{21} While some of these agreements give First Nations and Inuit people mineral rights through their Comprehensive agreements, the regulatory scheme is located with the territorial government or provincial government.\textsuperscript{22}

First Nations in the Provinces of Alberta, Saskatchewan, and Manitoba are most likely to hold clear title to mineral resources. Also First Nations in parts of Nova Scotia, New Brunswick, Prince Edward Island and Ontario may hold mineral title to some of their Reserves. The mineral title for Reserves in these provinces is dependent on the date of reserve creation, and how the

\begin{itemize}
\item (CPR) between 1902 and 1905 and this would include surface and subsurface minerals, with the exception of coal. Later between 1906 and 1912, CPR lands sold the land title include surface and subsurface mines and minerals with the exception of coal, petroleum and rock that could be used for ballast. The majority of such titles are in Alberta, with a few in Saskatchewan and even fewer in Manitoba. See: About Freehold Mineral Rights: Freehold Petroleum and Natural Gas Owners Association (http://www.fhoa.ca/about-freehold-mineral-rights.html).
\item In British Columbia “freehold mineral rights” are referred to as “Crown granted mineral claims,” and the holder’s rights are defined in either the grant or the Mineral Act in force at the time. Crown granted mineral claims are no longer issued by British Columbia. See: British Columbia, Mineral Titles Update, No. 7: A Guide to Surface and Subsurface Rights and Responsibilities in British Columbia at 2 – 3.
\end{itemize}


\textsuperscript{21} In the following agreements either a Provincial or Territorial government owns the minerals, or does not relinquish control over the regulation of the mineral property. For example in the Yukon, Northwest and Nunavut Territories the comprehensive claims agreements mineral title, rents, and royalties from sales on a percentage of royalty revenue from mineral production is to be transferred to the First Nation community. In addition to holding title, the territory is expected consult with the First Nations affected through a joint permitting process for the development. See: The Inuittutut Nuin Agreement, July 24, 1984: ss. 7(1) & 7(99); Sahtu Dene and Métis Comprehensive Land Claim Agreement, June 23, 1984: ss. 10.12 & 22; Umbrella Final Agreement Council for Yukon Indians between the Government of Canada the Council of Yukon Indians and the Government of the Yukon, March 31, 1990: s. 18.1.0; Comprehensive Land Claim Agreement between Her Majesty the Queen in Right of Canada and the Gwich’in as represented by the Gwich’in Tribal Council, December 22, 1992: s. 18.1.2 & 19; and, the Land Claims and Self-government Agreement among the Tlicho and the Government of the Northwest Territories and the Government of Canada August 4, 2005: Chapter 23 & 25. Lastly, the in the Délée and the Government of the Northwest Territories and the Government of Canada, Chapter 18: ss. 18.1 & 18.2. (In Quebec mineral title on First Nations and Inuit settlement lands, including aggregates, is vested with in the province of Quebec. However, soapstone and other minerals associated with culture and arts of the James Bay Cree and Inuit is retained for their personal use. See: James Bay and Northern Quebec Agreement, November 15, 1975, s. 5.1.10 – a to c; and, the Northern Quebec Agreement, July 13, 1976: s. 5.1.5.3. In British Columbia, through Treaty, First Nations on both the existing reserves and acquired settlement lands, will and do, hold mineral title; the regulation of the mineral property is retained by British Columbia. It is expected that the First Nation defer the procedural aspects of exploration, mine development and the collection of rents, and royalties to the Province of British Columbia. See: Maanatluh Final Agreement, April 9, 2009: Subsurface: 3.2.10.29, 4.1.0 & 4.1.3; and, Yale First Nation Final Agreement, May 2010: Subsurface: 12.3. In Newfoundland/Labrador the mineral title is retained by the province, but a percentage of the royalties are transferred from mineral production to the Labrador Inuit. Also, it is expected that the Inuit participate in the permitting and environmental assessment process. Like with James Bay and Northern Quebec and Northeastern Quebec Agreement (January 31, 1978 See: Section 5: 5.1.2, 5.1.9.1- 5.1.9.3 & 5.2.5.2), the Labrador Inuit hold title to soapstone and other rocks that are used for carving and other cultural activities, and need to ask permission to use aggregates. See: Labrador Inuit Final Agreement, July 13, 2006: Part 4, ss.: 4.4.1, 4.11, 4.13, 23, & 25. However, in the Nunavik Land Claims Agreement, the Nunavik Inuit hold mineral title, but the administration is a tri-partied relationship between Nunavut, Newfoundland and Quebec. See: Article 8: Part 8.3.1(c); Article 9: Part 12.5 & Part 15, 15.1.2; & Article 15.
reserve was created initially. Within First Nations, such as the Six Nations, the signatories of the Robson-Superior/Robinson-Huron and First Nations from a selection of the numbered Treaties with Reserves assigned before 1930, mineral resources were either explicitly assigned to the community, or the Treaty is silent on this matter. On these Reserves, the Indian Mining Regulations apply. However, due to the manner in which Reserves were created after 1930, subsurface title can involve a provincial interest. This situation leads to uncertainty regarding who should regulate the exploration and surrender of minerals on First Nation Reserve Lands, and who benefits from their disposition. The mineral title for First Nations who have treaties is also unclear. For the majority of the Reserves, Provinces either own an interest in minerals or share the revenues from the disposition of Indian minerals.

The federal government has sought to address these grey areas of ownership through Federal-Provincial mineral agreements in Ontario, New Brunswick and Nova Scotia. These mineral agreements address some uncertainties, by establishing legal frameworks for administering subsurface metallic minerals on Reserves, and clarifies who benefits from their disposition. Where the provincial Crown has underlying legal title to the reserve minerals and no Federal-Provincial agreement exists, the federal Crown generally has difficulties in administering the minerals for the benefit of the First Nation. On many First Nation reserves, if the province holds the title, then the First Nation may receive either half of the revenues from the mineral resource development, or nothing. In some instances the Federal government holds the title for the First Nation and all of the revenue gained is for the benefit of the particular community. Also, some First Nations may have some reserves for which the title is held by federal government for their benefit, and they may have other properties for which the province holds the mineral title.

For the majority of Alberta, Saskatchewan and Manitoba Reserves created before 1930 mineral title is vested in the Federal Crown for the benefit of the First Nation. For these Reserves, the management and disposition of the minerals (base and precious, coal and salts) are pursuant to the Indian Mining Regulations and the income from the rents and royalties from the sale of the minerals goes entirely to the Federal government for the benefit of the First Nation. For Alberta, Saskatchewan and Manitoba Reserves created after 1930, mineral title is still retained by the Federal Crown and the disposition and management of them are pursuant to the Indian Mining Regulations; however, the Province in question is entitled to one half of all the income. Recently, with the Treaty Lands Entitlement process, First Nations have specifically chosen lands that hold mineral resource potential, or the First Nation has purchased the mineral

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23 Canada, Indian Treaties and Surrenders from 1680 to 1890 – In Two Volumes, Vol. 1 (Ottawa, Ontario: Browns Chamberlin, Printer to the Queen’s Most Excellent Majesty, 1891) at 7.
24 Alberta Natural Resources Act, S.C. 1930, c. 3; Railway Belt and Peace River Block Act, S.C, 1930, c. 37 [British Columbia]; Manitoba Natural Resources Act, S.C. 1930, c. 29; Saskatchewan Natural Resources Act, S.C. 1930, c. 41. In general First Nations in Treaty 1, 2, 3, 4, 5, 6, 7, 8 (in Alberta and Saskatchewan only), 9 and 10 hold mineral titles on Reserve Lands.
25 See: Canada, Indian Treaties and Surrenders from 1680 to 1890 – In Three Volumes (Ottawa Ont.: Brown Chamberlin Printer to the Queen’s Most Excellent Majesty, 1891): Treaty One at v.3 282-289; Treaty Two v.3 291-289; Treaty Four v.3 313-321; Treaty Five v.2 16-23; Treaty Six v.2 35-48 &127; Treaty Seven v.2 56 & 62 and Eight v.3 293-300. Only the area of Treaty Eight that falls in Alberta, Saskatchewan and the Northwest Territories do the First Nations hold, or have the possibility of holding mineral title.
26 Alberta Natural Resources Act supra note 20.
27 Saskatchewan Natural Resources Act supra note 20.
28 Manitoba Natural Resources Act supra note 20.
title from the Province. In Saskatchewan the terms related to mineral title is set out pursuant to the Claims Settlement (Alberta and Saskatchewan) Implementation Act.\(^{29}\) Similarly in Manitoba, the Manitoba Claims Settlement and Implementation Act\(^{30}\) drives treaty land entitlement settlements, and subsequently acquired mineral titles. Many First Nations have purchased surface only or partial mineral interests in these lands. Often, on the lands chosen the mineral title is already under the Provincial regime, and therefore Indigenous Affairs has to provide surface access to the mining companies or the owners of the mineral interests, as part of the “Treaty entitlement” or “additions-to-reserve” creation. Likewise for the First Nations who have signed onto the treaty land entitlement process, mineral title may or may not accompany the land selection.\(^{31}\)

The map of mineral title holdings in Ontario is equally complicated. By the terms of the Robinson-Superior,\(^{32}\) Robinson-Huron\(^{33}\) and Numbered Treaties (No. 3,\(^{34}\) 5,\(^{35}\) 9\(^{36}\)), First Nations hold title to all minerals and mines on their reserves. Mineral title is vested in the First Nations on lands prior to 1913\(^{37}\), but not on lands purchased after 1913.\(^{38}\) However, there are other pre-confederation treaties, as well as First Nation holdings that have been set aside by executive acts, and these are silent on mineral title. As such gold and silver is reserved to the Provincial Crown.\(^{39}\) In this situation the metallic minerals, coal and salt titles are vested in the Province, with the income from mining divided equally between Ontario and Federal Crown; where the Federal Crown manages the benefit of the First Nation. In the Canada-Ontario Indian Lands Agreement of 1924\(^{40}\) and in 1986\(^{41}\) these agreements provided a mechanism whereby the Province can waive to the First Nation either the mineral rights or royalties; or both. Recently, First Nations in Ontario have been going through a similar treaty land entitlement process as Alberta, Saskatchewan and Manitoba First Nations, where unencumbered third party mineral title has, in some cases, been transferred to the First Nation.\(^{42}\)

\(^{29}\) Claims Settlement (Alberta and Saskatchewan) Implementation Act, S.C. 2002, c. 3.


\(^{31}\) Manitoba Claims Settlement and Implementation Act supra note 23 s.11, Mines and Minerals.

\(^{32}\) A. Morris, The Treaties of Canada with Indian of Manitoba and the North-west Territories including the negotiations on which they were based, and other information relating thereto (Toronto, Ont.: Belfords, Clarke and Co., Publishers 1880), at 302 - 306.

\(^{33}\) Ibid at 305 – 309.

\(^{34}\) Ibid at 320 – 325.

\(^{35}\) Ibid at 342 – 350.


\(^{37}\) Public Lands Act, R.S.O. 1990, c. P 43, s. 61(1).

\(^{38}\) General Mining Act, S.O. 1869, 32, Vic., c. 34.

\(^{39}\) Ontario Mining Co. v Seybold (1899), 31 O.R. 386.

\(^{40}\) An Act for the settlement of certain questions between the Governments of Canada and Ontario respecting Indian Reserve Lands, S.C., 1924, c. 48.

\(^{41}\) Indian Lands Agreement (1986) Act, S.C. 1988 c. 39. See Schedule –ss. 3 (especially: a, b, c, d, f, h, & i); 4; 5; 6 & 7.

\(^{42}\) See: Chapleau Creek Cree First Nation Final Agreement, ss. 7 (7.1 to 7.5); Chapleau Creek Ojibwa First Nation Final Agreement, ss. 7(7.1 – 7.5); and, Misaanjigamiing First Nation Final Agreement, ss. 7(7.1 – 7.5).
In New Brunswick\textsuperscript{43} and Nova Scotia\textsuperscript{44} mineral title remains with the provinces. However, the management and disposition of the minerals on Reserve is addressed by the Federal Crown in both New Brunswick and Nova Scotia under the Indian Mining Regulations, and all mineral income goes to the First Nation.\textsuperscript{45} Prince Edward Island claims mineral title to some Reserves. That is, on the Morrell and Scotchfort Reserves, Prince Edward Island owns the rights,\textsuperscript{46} and on the Lennox Island No.1 Reserve and Rocky Point Reserve, the mineral title is vested in the Federal Crown for the First Nation\textsuperscript{47} and managed per the Indian Mining Regulations. Lastly, these regulations do not apply to reserves in British Columbia.\textsuperscript{48} In 1943 British Columbia entered into an agreement with Canada that passed on only the right to 50% of the mineral lease of any mine on a First Nation reserve in British Columbia,\textsuperscript{49} limiting the revenue stream to the 50% of surface rents.

**Indian Mining Regulations and Saskatchewan Mining Law**

Mineral resource development regulations on Reserve falls under s. 57 (c) of the Indian Act, where the Minister may make “regulations for the disposition of surrendered mines and minerals” underlying lands on listed First Nation Reserves. The Indian Mining Regulations,\textsuperscript{50} brought into force initially in 1954,\textsuperscript{51} enables third parties to access to “naturally occurring metallic and non-metallic minerals and rock containing such minerals,”\textsuperscript{52} where the First Nation holds mineral title. However, they not apply to petroleum, natural gas, or other petroliferous minerals as this is administrated under the Indian Oil and Gas Act.\textsuperscript{53} In addition, the extraction or sales of unconsolidated minerals such as placer deposits, gravel, sand, clay, rare earth minerals, marl, and peat. These substances are managed under s. 58(4) of the Indian Act.\textsuperscript{54}

\textsuperscript{43} New Brunswick Indian Reserve Agreement Act, S.C., 1959, c. 47: See Memorandum of Agreement, made this 25th day of March, 1958 at s. 3.
\textsuperscript{44} Nova Scotia Indian Reserve Agreement Act, S.C., 1959, c. 50: See Memorandum of Agreement, made this 14th day of April, 1958 at s. 3.
\textsuperscript{45} New Brunswick Indian Reserve Agreement Act supra note 39 at s. 5 & Nova Scotia Indian Reserve Agreement Act supra note 40 at s. 5.
\textsuperscript{46} R. Bartlett, Indian Reserves in the Atlantic Provinces of Canada (Saskatoon, Sask.: University of Saskatchewan Native Law Centre, 1986) at 49.
\textsuperscript{47} R. Bartlett supra note 46 at 48.
\textsuperscript{48} Indian Mining Regulations supra note 2 at s. 3. In the Terms of Union, 1871, British Columbia agreed to convey “public lands,” but reserved gold and silver. This was clarified in the Precious Metals Case, where British Columbia claimed rights to gold and silver in the Railway Belt. See: Attorney General B.C v. Attorney General Can. (1888), 14 App. Cas. 295. The British Columbia Indian Lands Settlement Act, S.C. 1920, c. 51 and An Act respecting the transfer of the Railway Belt and Pease River Block, supra note 20.
\textsuperscript{49} The British Columbia Indian Reserves Mineral Resources Act, S.C. 1943-44, c. 19 and Indian Reserves Mineral Resources Act, S.B.C. 1943, c. 40. This agreement, as well as the Precious Metals Case, has discouraged any mineral resource development on Reserves in British Columbia, except for gravel quarrying.
\textsuperscript{50} Indian Mining Regulations supra note 2.
\textsuperscript{51} Regulations for the Disposal of Quartz Mining Claims within Indian Reserves supra note 3.
\textsuperscript{52} Indian Mining Regulations supra note 2 at s. 2.
\textsuperscript{53} All on Reserve petroleum, natural gas and other petroliferous minerals for the exploration and development are covered by the Indian Oil and Gas Act, R.S.C. 1985, c.I-7; except for British Columbian First Nations.
\textsuperscript{54} For placer deposits, gravel, sand, clay, earth, marl, and peat, a permit and lease are drawn up under s. 58 (4) of the Indian Act supra note 6. However, the extraction and sale of any of the above minerals are regulated under Saskatchewan mining law. See: Sand and Gravel Act, S.S. c. S-5.
In Saskatchewan all exploration and mining is organized under the Energy and Mines Act,\textsuperscript{55} the Crown Minerals Act,\textsuperscript{56} the Mineral Resources Act,\textsuperscript{57} and the Mineral Taxation Act,\textsuperscript{58} and the ensuing regulations.\textsuperscript{59} The Energy and Mines Act creates the ministry that assigns responsibilities to both the Minister and the staff to manage Crown mineral assets. The Crown Minerals Act applies to all Crown minerals and mineral lands in Saskatchewan setting out how the Crown grants minerals and lands to third parties for exploration to production. Included in the Crown Minerals Act, is the ability of the Lieutenant-Governor General in Council to make regulations. The Mineral Resource Act main purpose is to manage all exploration, as well as development, conservation and the management of the primary production of mineral resources in Saskatchewan. Lastly, the Mineral Taxation Act lays out the mineral taxation structure for all scheduled minerals produced in Saskatchewan. Each of the acts, have a variety of regulations that aid with the administration of Crown minerals and lands. Through the Saskatchewan Employment Act,\textsuperscript{60} the Mines Regulation\textsuperscript{61} addresses workplace safety and compliance for all surface and underground mines, the surrounding surface area, and standards for all equipment used at the mine. In addition to work place and equipment safety, under the Environmental Management and Protection Act,\textsuperscript{62} the Mineral Industry Environmental Protection Regulation\textsuperscript{63} lays out the criteria and standards for environmental management at a mineral resource property. That is, this regulation covers the environmental aspects for all mineral resource developments initiated with prospecting, development, or production; and post-closure of a mineral resource property.

Application

The Indian Mining regulations are applied to situations where the First Nation holds title to minerals. Minerals in Reserve lands are considered to be part of the land; and as such the revenue through surface rents, royalties or mineral taxes is collected for the benefit of the First Nation community. There is an expectation that the First Nation surrender title to the mineral as precursor for exploration, evaluation or mining purposes.\textsuperscript{64} Currently this is not necessary. The First Nation may designate the land as a “conditional assignment”\textsuperscript{65} until it is necessary to surrender the mineral at the commencement of production, or at the point of sale. There are additional arguments that suggest “surrender of mineral” as precursor to either exploration or mining is premature. For instance, in the Crown in Saskatchewan, through the Crown Minerals Act, retains the rights to the mineral until the point of sale. Clause 27.2(2) states:

“Notwithstanding the terms or conditions of any Crown lease, all spaces are the property of the Crown and remain the property of the Crown whether or not a Crown

\textsuperscript{55} c. E-9.0001.
\textsuperscript{56} c. C-50.2.
\textsuperscript{57} c. M-16.1.
\textsuperscript{58} c. M-17.1.
\textsuperscript{59} See in particular: Under the Energy and Mines Act supra note 55: The Mineral Exploration Incentive Regulations; Under the Crown Minerals Act supra note 56:
\textsuperscript{60} c. S-15.1.
\textsuperscript{61} O-1.1, Reg. 2 under the Saskatchewan Employment Act supra note 60.
\textsuperscript{62} c. E-10.22.
\textsuperscript{63} E-10.2 Reg. 7 under the Environmental Management and Protection Act supra 62.
\textsuperscript{64} Indian Mining Regulations supra note 2 at s. 3.
\textsuperscript{65} Indian Act supra note 6 at s. 55(2).
lease is issued for the Crown minerals within the space or whether or not the Crown mineral is produced, recovered or extracted from the space.”

This particular clause casts doubt onto the necessity of Canada’s requirement of either surrender of the mineral, surface land for the exploration or development of minerals resources by third parties.

There is another question related to mineral ownership, and this is associated with whether an individual Band Member is in private possession of the particular parcel of Reserve land. This is a grey area in the law is related to as to “who” can benefit. First, an argument can be made by the Band for the division of the revenue based on the degree of Band or individual investment. Another position would be whether or not the parcel was transferred to “individual land ownership” to secure capital funds, or the individual holds a certificate of possession. Thus, proceeds from royalties can either be credited to the Band funds, or divided as determined by the Minister between the Band and “any Indian” in lawful possession of the lands, as per the Indian Act.

It is recommended that reference to the surrender of minerals in the section “Application” be revised to stipulate how, and at what point the minerals in question are transferred from the First Nation to a third party. This should also include a clearer definition of the relationship between individual First Nation member(s), surface/subsurface rights, and the expectations of the Band related to the private subsurface rights. The last issue is related to the allocation of permits for exploration or mining that would be given out based on the proximity of existing mineral interests adjacent to a Reserve.

Compliance with Provincial law
Section 4 of the Indian Mining Regulations stipulates that the mineral resource property on Reserve must conform to Provincial mining law in which the Reserve is located. That is, s. 4 defers to the Provincial law, in which the permit area or lease is situated, related to the “exploration or development, production, treatment and marketing of minerals.” However, there is no mechanism or instrument, nor standards stated to achieve this. Saskatchewan, in both the Crown Minerals Act, and the Mineral Resources Act, creates the ability to enter into agreements with Canada or First Nations. Although these two Acts are silent as to the purpose of such an agreement, it is likely this legislative tool could be used to bridge aspects of Provincial mining law related to specific First Nation mineral properties. Such an agreement could easily assign the royalties, taxes, rents to the Federal government for the benefit of the First Nation, and a set a schedule of fees to the Provincial government for inspection services. These agreements would enable the incorporation of many contemporary stipulations related to Provincial occupational health and safety at the mine site, as well as environmental standards that are triggered by companion legislation. However, this does not preclude the development of

67 Indian Act supra note 6 at ss. 35(4); 58(4b) & 58(5).
68 Indian Mining Regulations supra note 2 at s. 4.
69 Crown Mineral Act, supra note 56 at Part II: General at s. 18.1 and 18.2.
70 Mineral Resources Act supra note 57 at Administration: s. 5.1.
71 See: Canadian Environmental Assessment Act, S.C. 2012, c. 19, at s. 5 (1)(c) & 2., Environmental Management and Protection Act, supra note 58; Environmental Management and Protection (General) Regulations, R.R.S., c. E-
specific clauses in the Indian Mining Regulations that trigger environmental assessments, reviews related to mineral specific requirements for Reserve based mineral resource developments. Lastly, Provincial and Territorial governments have existing administrative structures and practises directly related to managing mineral resource properties that are lacking in Indigenous Affairs. At the same time, any agreement would have to stipulate that any rents, royalties or taxes are for the benefit of the First Nation, and that any administrative or inspection services would be on a “fee for service” basis taken up by Canada.

It is possible for provincial legislation to be incorporated as federal law through the construction of regulations by means of the First Nation Commercial and Industrial Development Act (FNCIDA). The current trend has, however, been to create individual regulations for specific projects requiring a tripartite agreement between Canada, the Province in question and the First Nation. FNCIDA assumes that the province in question will be a cooperating partner in lending its legislation, regulations, oversight and management of the project without a guarantee of part of the royalties, rents, or taxes generated from the mine. FNCIDA, through the creation of a specific regulation adopts legislation, regulations and administration that is not available within the Federal government. This strategy may enable Muskowekwan First Nation to proceed with the development of a solution potash mine on their home reserve, and at the same time has


74 First Nation Commercial and Industrial Development Act, SC 2005, c. 53.
75 See: Fort McKay First Nation Oil Sands Regulations (SOR/2007-79), Fort William First Nation Sawmill Regulations (SOR/2011-86) & Haisla Nation Liquefied Natural Gas Facility Regulations (SOR/2012-293), and, Muskwokewan First Nation Potash Solution Regulations SOR/2017-47.
76 See for example: Order in Council 571-2015 (Saskatchewan) Muskowekwan Solution Potash Mining Tripartite Agreement between Muskowekwan First Nation and Her Majesty the Queen in right of Canada and Her Majesty in right of Saskatchewan, 77 See: Energy and Mines Act supra note 55; the Crown Minerals Act supra note 53; the Mineral Resources Act, supra note 54 and the Mineral Taxation Act supra note 58 will be referenced. In addition the following regulations: Mineral Exploration Incentive Regulations, E-9.10001 Reg.1; Lease of Spaces Regulation C-50.2 Reg. 7; Crown Mineral Royalty Regulation C-50.2 Reg. 29; Subsurface Mineral Tenure Regulation C-50.2 Reg. 30, Seismic Exploration Regulations 1999, c. M16.1 Reg. 2; Subsurface Mineral Conservation Regulation, c. M-16.1, Reg. 5; Mineral Exploration Tax Credit Regulations 2104 c. M-16.1 Reg. 4; Mineral Rights Tax Regulation, 1998, M-17.1 Reg. 7; and, lastly the General Regulations (Tailings Disposal Area) Reg. 240/69.
limited application to other Alberta, Saskatchewan and Manitoba First Nations who have potash mineral potential by creating a “one off” regulation specific to their property.79 Lastly, not clearly stated by the Indian Mining Regulations nor the current Muskowekwan First Nation Solution Potash Mining Regulation, how the application of provincial law will affect the assignment of royalties or related mineral taxes and rents, which includes the calculation exploration credits;80 reclamation bonding and management;81 security deposits;82 and, the royalty or mineral tax rates initiation dates.83

Disposition of minerals
The right to look for minerals on Reserve is through tender, or approval by Chief and Council. Exploration permits under the regulations allow the holder to conduct exploration work84 or to enter into a mining lease85. Final approval of either type of permit is at the discretion of the Division Chief86, in consultation with the Band Council. Permits are issued for exploration and development, and a lease is necessary for mineral production. Exploration permits are issued for a term of one year with three renewal periods, granting the right to exploration up to four years, with extended periods at the discretion of the Division Chief.87 The exploration permit does not entitle the permit holder to “produce mineral,” other than for test purposes.88 The disposition for both mineral rights, according to the Indian Mining Regulations, differs from Saskatchewan’s

Reg. 6; The Passenger and Freight Elevator Act, R.S.S. 1978, c. P-4; The Pipelines Act, 1998, S.S. 1998, c. P-12.1, other than subsections 13(1) and (2), sections 15 and 16; The Pipelines Regulations, 2000, R.R.S. c. P-12.1 Reg. 1, other than section 24; The Railway Act, S.S. 1989-90, c.R-1.2, other than paragraph 30(2)(a), section 41, subsections 42(1), (2), (4) and (5) and subsection 44(2); The Saskatchewan Employment Act, S.S. 2013, c. S-15.1, other than Parts II and V to VIII; The Seismic Exploration Regulations supra note 56; The Subsurface Mineral Conservation Regulations supra note 63; The Uniform Building and Accessibility Standards Act, S.S. 1983-84, c. U-1.2; The Uniform Building and Accessibility Standards Regulations, R.R.S. c. U.1.2 Reg. 5; The Water Security Agency Act, S.S. 2005, c. W-8.1, other than sections 23 and 24, subsection 38(1), sections 39 to 42 and 64 to 66 and subsections 82(3) and (6) and 83(6), (8) and (9); The Water Security Agency Regulations, R.R.S. c. W-8.1 Reg. 1; The Waterworks and Sewage Works Regulations, R.R.S. c. E-10.22 Reg. 3; and, The Workers’ Compensation Act, 2013, S.S. 2013, c. W-17.11, other than section 157 and subsection 159(1).
79 See: Cowesess First Nation Permit No.: 6054188; Day Star First Nation Permit No.: 367523; and, Ochapowace First Nation Permit Nos.: 369276, 375202, 375203, and 5643-9-363 (not registered).
80 See: Mineral Resources Act supra note 54 at s. 10 (c, d, & e), 10.1, 10.2, 10.3, & 10.4, 10.5.; The Mineral Exploration Incentive Regulations supra note 73; and, The Mineral Exploration Tax Credit Regulations supra note 33; and, The Crown Mineral Royalty Schedule.
81 See: Mineral Industry Environmental Protection Regulations supra note 71 at Decommissioning and Reclamation Plan and Assurance Fund, ss. 12 to 16 and Review, Revision and Use of Plan and Fund, ss. 16 to 22; and, General Regulations (Tailing Disposal Area) under The Mineral Resource Act supra note 57.
82 See: Mineral Industry Environmental Protection Regulation supra note 71 at ss. 12-15.
83 See: Mineral Taxation Act supra note 58 at Part II; Part III; Part IV; and, Part V; The Crown Minerals Act, supra note 53 at Part II, ss.14, 15, 16.01, 16.02, 16.03; and, the Crown Mineral Royalty Regulations supra note 71 at Part II, Division 2; Part III, Division 3; and, Part IV, Division 1, 2 & 3.
84 Indian Mining Regulations supra note 2 at ss.7-16.
85 Ibid. at ss. 17-36.
86 Ibid at ss. 6.1 & 38. The Regulations require that the Band Council approval is necessary only when the Division Chief proposes to issue a permit or lease in any other means other than by tender (s. 6 (1)), or when the Minister propose to group a permit or lease area within an area, on another Reserve, or outside a Reserve (s.38).
87 Ibid. at ss. 7-9.
88 Ibid. at ss. 2 (1) & 16.
requirements, in that the proponent does not acquire the rights to explore for minerals under the traditional “free entry” system. In other words, the Division Chief invites tenders for mineral claims, and reserves the right to stipulate specific terms and conditions, to reject all proposals, or accept others on the recommendation of Chief and Council. However, what is lacking is clarity of what is expected of the prospector during the exploration period, as well as how reporting for assessment work is to be filed.

Permits
A permit is issued to a proponent for exploration work at the early stages of mineral resource development. This permit is issued to explore for mineral in a specific area, and stipulates what activities can be undertaken by the individual on the landscape. A standard requirement for exploration work is to undertake assessment work, and the value of this work is stated as part of maintaining the permit. Exploration permits are issued for a particular period, and at the end of the extension period, the permit is cancelled. In the case of Indian Mining Regulations, although out of date with respect to periods of the terms of the exploration permits and the fees and rents, the permit criteria follow general Provincial mining legislation. That is, there are provisions for surface security deposits, and a criterion for assessment work. The regulations provide for the removal of minerals at the exploration stage for test purposes only, again this is similar to Saskatchewan’s legislation. Lastly, the regulations provide for inspections, plans, and the surrender/cancellation of permits, yet it is unclear whether this refers to both the exploration permit or only to the mining lease. In addition there is ambiguity as to who is responsible to carry out these activities, other than the Division Chief (a position that no longer exists within Indigenous Affairs). Another difference is associated with the right of entry, that is access to use the surface of the reserve lands. That is, for roads into the site, as well as

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89 See: Subsurface Mineral Tenure Regulations supra note 71 at Part III, ss. 7 – 17; Seismic Exploration Regulations supra note 63 at Part II, ss. 4 – 19; Part IV, ss. 30 – 33; & Part VI, ss. 43 – 47; and, Subsurface Mineral Conservation Regulation supra note 71 at ss. 3 – 4.
90 “Free entry” implies that the search for minerals can occur anywhere throughout Canada, given a few exceptions. The exceptions are: Indian Reserves, National and Provincial Parks, Under Pipelines, Railways, Highways and Private Property (permission is required). N. Bankes, “The Case for the Abolition of Free Entry Mining Regimes,” (2004) J. Land Resources and Envtl. L. 317.
91 Indian Mining Regulations supra note 2 at s 5.
92 Ibid. at s. 5.
93 Ibid. at s. 6.
94 See: Subsurface Mineral Tenure Regulations supra note 71 at Part VI, s. 38; Seismic Exploration Regulations supra note 63 at Part III ss. 20 – 24; and, Subsurface Mineral Conservation Regulation supra note 63 at s. 5.
95 Ibid. Subsurface Mineral Tenure Regulations at Part II, ss. 11 -14; Seismic Exploration Regulations at Part III, ss. 27 – 29 & Appendix Part II: Form A & Form B.
96 Indian Mining Regulations supra note 2 at ss. 13-14.
97 Crown Mineral Act supra note 56 at 16.03; and, Seismic Exploration Regulations supra note 63 at Appendix Part I: Tables at Table 2.
98 Indian Mining Regulations supra note 2 at s. 11.
99 Ibid. at s. 13-15.
100 Ibid. at s. 16.
102 Indian Mining Regulations supra note 2 at s. 42.
103 Ibid. at s. 43-44.
104 Ibid. at s.40.
Another instrument under the Indian Act that is used for the allocation of permits, either for exploration or mining leases, for the expansion of an existing mineral operations that adjoins Reserve lands or to allow prospecting on reserve, is the issuance by the Minister is a permit under s. 28 (2) of the Indian Act. This permit authorizes a person to occupy, use or otherwise exercise rights on a Reserve for a period not exceeding one year, or, with the consent of the Band Council, for longer periods. The application of this section is useful when a particular orebody extends under a First Nation Reserve. However this permitting process is not referenced in the Indian Mining Regulations.

Leases
For the production phase of the mining operation, a lease is drawn up. This lease is issued for a period of ten years, unless otherwise stipulated. The lessee is entitled to all the minerals found within the lease area, subject to the conditions of the lease. However, this lease for mining purposes is normally authorized by the “mineral surrender” prior to 1988, or a “designation” after this date. In terms of Provincial counterparts when a mining permit is issued that the mineral is surrendered by the Crown to the proponent. Included in such an agreement would be the surface rents, royalty rates and calculations, reclamation security (insurance, bond or cash security), environmental concerns, mitigation strategies and conditions in which a permit is forfeited and closure plan. In addition, the terms of the lease would provide the Province with the assurance that the proponent will adhere to the various workplace safety and environmental legislation.

Royalties
The lessee is obligated to pay royalties on all minerals, and the regulations provide for a royalty rate of 5% of all gross revenue from the mineral output at pithead, or the market value of the mineral output at the pithead, even if they are not sold. Again this condition is not aligned with the conventional assessment of royalties under Provincial regimes. The Division Chief is responsible for the setting of the royalty rate at the time of the lease. The point in time when the royalty is due is confusing. In the Indian Mining Regulations pit edge estimates are used for

105 Ibid. at s. 41
106 Indian Act supra note 6 at s. 28(2).
107 Indian Mining Regulations supra note 2 at s. 23.
108 Ibid. at ss. 2 (1) & 20.
109 Indian Act supra note 6 at ss. 38(1-2) and 41. Prior to 1988 amendment of the Indian Act, in order for mineral resource development to proceed, First Nations were required to surrender the reserve lands (s. 38 (1)). Now under s. 38(2) of the Indian Act, the Minister with a Band Council Resolution and the results from a community referendum, will assign a “designation” to the land. This stipulates the use of the land, the term in which the use is, and the release conditions (s. 41).
110 Crown Minerals Act supra note 55 at s. 4.
111 Ibid. at ss. 14 - 15.
112 Mineral Industry Environmental Protection Regulation supra note 57 at ss. 12 – 16.
113 See: Occupational Health and Safety Regulations supra note 64; and, the Mines Regulation supra note 63.
114 Indian Mining Regulations supra note 2 at s. 31 (a-b).
115 Ibid. at ss. 31, or different rates may be set in the invitation to tender under s. 5, or the in the lease under s. 6 or s. 19.
royalty calculations,\(^{116}\) or the royalty rate may be assigned by agreement with the Division Chief\(^ {117}\). However, Provincial mining regimes define when the royalty payment commences, and what can be deducted.\(^ {118}\) Yet the Indian Mining Regulations stipulate that when production begins, so does the application of the royalty,\(^ {119}\) and no royalty calculation method is cited.

**Conclusion and Recommendations**

The Crown expects the proponent to comply with the existing provincial and federal legislation and regulatory aspects of mineral exploration (including all environmental requirements), the right to extract the metal/non-metal and sell the mineral in question. Adherence to mining laws and regulations outline the procedural aspects of the mining life cycle. In addition, the proponent will need to observe either provincial or federal work place safety or environmental legislation that mining activities trigger. Again, deferring to alternative legislation or regulations (Provincial or Federal) without a clear responsible authority does not speak to sound management of a mineral resource property, nor will it enable the proponent the required security to finance a mineral property.

Mining legislation and regulations must be able to create an environment where there is clarity about mineral ownership, in order to facilitate recovery, manage any ecological risk, and maximize the benefit of the mineral revenue to the owners based on the strength of the orebody. Provincial legislation and regulations support the exploration and mining cycle. The current version of the Indian Mining Regulations is divergent from provincial legislation and regulations in a number of areas.

First, at the claim phase, the Indian Mining Regulations do not stipulate the qualifications of an individual or corporate body that is interested in seeking minerals, nor do they clearly indicate the responsibilities related to the procedures associated with early, intermediate or advanced exploration. While exploration permits are issued through a tender process, they may be assigned directly from Chief and Council or by the Division Chief (a position that no longer exists) – or not at all, even if the applicants meet the criteria. These process suggests there is a degree of ambiguity for the applicant process as well as the criteria for the actual evaluation of any application. This gives neither the Band, nor Indigenous Affairs an indication of what the minimal standards are, as well what the company expects its performance ought to be.

Also, it is expected that the mineral itself is “surrendered,” as a pre-condition of exploration. By the time Provincial governments have surrender the mineral to a company, the mining plan has been scrutinized for production feasibility and ecological risk, and the mining company endeavouring to undertake the project for financial solidity. Additionally, the provinces/territories have carefully evaluated the cost of production and mineral value in light of royalty calculations, and have entered into a critical environmental assessment of the project from inception to post-closure. In addition the above stipulations, the project are evaluated for the calculation of the reclamation security.

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\(^{116}\) Ibid. at s. 32.

\(^{117}\) Ibid. at s. 33.

\(^{118}\) See: Crown Minerals Act, supra note 52 at Part II at ss. 14 – 16.02; Crown Mineral Royalty Regulation supra note 63; The Mineral Taxation Act, supra note 63; and, The Mineral Rights Tax Regulation supra note 63.

\(^{119}\) Indian Mining Regulations supra note 2 at ss. 34 - 35.
The current Indian Mining Regulations also fall short in the areas related to the designation of administrative authority. In addition, there needs to be clarification for providing the seizure and forfeiture of any minerals taken in contravention of any regulation in the Indian Mining Regulations. More importantly, the regulations must be able to set out clearly how royalties are calculated, as well as a framework for the accountability of the production by a proponent.

Besides managing the basic mining enterprise, there is no clear interconnection between the expectations of the mining regulations and other key federal environmental standards as articulated in related legislation and/or regulations. Although potential mining activities on Reserve trigger the Canadian Environmental Assessment Act;\(^{120}\) Canadian Environment Protection Act;\(^{121}\) the Fisheries Act;\(^{122}\) the Transportation of Dangerous Goods Act;\(^{123}\) the Explosives Act;\(^{124}\) and the Migratory Birds Convention Act,\(^{125}\) there is no coordinating agent to determine the degree to which the environmental assessment is needed to be conducted. Again, Indigenous Affairs, as the responsible authority, may not be best suited to undertake an evaluation of potential mining projects or environmental impacts.

It is recommended that mining legislation be enacted to cover the range of potential mining projects on Reserve. This would enable First Nations access to a process to a multitude of minerals. Clarity is required related to the specific aspects of mineral resource development by the creation of separate regulations to reflect the different aspects of mining from claim staking, exploration, disclosure, mine development, mine operations, mine closure/post-closure, and for critical environmental oversight. These regulations could be modeled using aspects an array of provincial legislation and regulations, as illustrated in this work by Saskatchewan mining law. In addition it is encouraged that a separate First Nation agency be created that will look after common mining administration and oversight related to accountability associated with exploration credits, royalty assessments, payments, inspections for environmental and workplace safety, and the collection of rents, fines or other penalties for all mining projects on First Nation Reserves – including the quarrying of aggregates.

\(^{120}\) Canadian Environmental Assessment Act supra note 57 at s. 52; Law List Regulations, SOR/94-636 at s. 7; Prescribed Physical Activities Regulations Designating, SOR/2012-147, c. at ss. 5.1; 9 & 22 & Prescribed Information for the Description of a Designated Project Regulation SOR/2012-148.


\(^{122}\) R.S.C. 1985, F-14 at ss. 32 & 35(2).


\(^{125}\) S.C. 1994, c.22 at ss. 4(1); 28(1); 32 (1) & 33 & Migratory Birds Sanctuary Regulation, C.R.C., c. 1036 at s. 9(1).
Appendix One

Laid out in Appendix One is a clause by clause analysis of the Indian Mining Regulations against Saskatchewan mining laws and regulations. The purpose is to clearly illustrate the Indian Mining Regulations deficiencies in light of the province of Saskatchewan’s regulatory process for mineral exploration and mines.

Indian Mining Regulations C.R.C., c. 956:
Regulations Providing for Surrendered Minerals Underlying Lands in Indian Reserves
and
Saskatchewan Mining Legislation and Regulations

Short Title

1. These Regulations may be cited as the Indian Mining Regulations.

Interpretation

2. (1) In these Regulations,
“Act” means the Indian Act;
“assessment work” means work performed that in the opinion of the Supervisor was performed for the purpose of discovering and developing minerals in a permit area or lease area and includes
(a) geological, geophysical, geochemical and similar surveys,
(b) core drilling, churn drilling and any other drilling method when used to provide geological information,
(c) removing overburden,
(d) drifting, crosscutting, shaft sinking, raising and similar underground work,
(e) road building, and
(f) any other type of work approved by the Supervisor;
“Department” means the Department of Indian Affairs and Northern Development;
“Division Chief” means the Chief, Oil and Mineral Division of the Development Branch of the Department or any person authorized by him; (chef de la Division) Application:
“lease” means a lease issued pursuant to section 5, 6 or 19 granting the right to explore for, develop and produce minerals within the lease area;
“lease area” means the tract of land or location described in a lease;
“lessee” means a person who holds a lease;
“minerals” means naturally occurring metallic and non-metallic minerals and rock containing such minerals, but does not include petroleum, natural gas and other petrolierous minerals or any unconsolidated minerals such as placer deposits, gravel, sand, clay, earth, ash, marl and peat;
“Minister” means the Minister of Indian Affairs and Northern Development;
“permit” means a permit issued under section 5 or 6 granting the right to explore for and develop minerals within the permit area;
“permit area” means the tract of land or location described in a permit;
“permittee” means a person who holds a permit;
“person” means a person who has attained the age of 21 years or a corporation registered or licensed in Canada or in any province thereof;
“Supervisor” means the Supervisor of Indian Minerals for the Oil and Mineral Division of the Development Branch of the Department, or any person authorized by him; “treatment” means concentrating, smelting, refining or any similar process but does not include washing, screening, conveying, loading or other handling methods when they are not combined with treatment.
Application:

3. These regulations apply with respect to surrendered mines and minerals underlying lands in a reserve, but do not apply with respect to surrendered mines and minerals underlying lands in a reserve that is situated in the Province of British Columbia.

Compliance with Provincial Laws:

4. Every permittee and every lessee shall comply with the laws of the province in which his permit area or lease area is situated where such laws relate to exploration for, development, production, treatment and marketing of minerals and do not conflict with these Regulations.

Disposition of Minerals:

5. (1) The Division Chief may, by public advertisement or in such other manner as he considers advisable, invite tenders for mineral rights on such terms and conditions as he deems proper.

(2) Where tenders have been submitted in compliance with the terms and conditions set forth by the Division Chief, the Division Chief may issue a permit or lease to the person submitting the highest tender or may reject all tenders.

6. (1) Notwithstanding section 5, the Division Chief may, with the consent of the council of the band for whose use and benefit lands have been set apart and subject to such terms and conditions as the council of the band may approve, issue a permit or lease with respect to minerals underlying such lands to any person upon application therefore.

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126 Indian Act supra note 6 at s. 57.
127 In the Crown Minerals Act it states: “Notwithstanding the terms or conditions of any Crown lease, all spaces are the property of the Crown and remain the property of the Crown whether or not a Crown lease is issued for the Crown minerals within the space or whether or not the Crown mineral is produced, recovered or extracted from the space.” This particular clause casts doubt onto Canada’s requirement of either surrender of the mineral or surface land for the exploration or development of minerals resources by either third parties or the First Nation Community until the minerals in question are transferred to the corporate body for sale. See: Crown Minerals Act supra note 52 at s. 27(2).
129 For the purpose of this work the see footnotes: 52, 57, 58, 63 for the list of Saskatchewan mining law and regulations cited.
130 The Mineral Exploration Incentive Regulations supra note 63 provides for funding from the Minister to prospectors or exploration companies for approved projects for a variety of activities to “prove” up a mineral resource at Part II: Prospectors Incentive Program ss. 4; 10; 11; 12; 13; 14; and, Part III: Corporation Exploration Incentive Program ss. 16; 22; 23; 24; & 25. In addition to a funding source to individual prospectors and exploration companies, the Mineral Resources Act supra note 56, and Mineral Resources Exploration Tax Credit Regulations supra note 63 at ss. 10.1; 10.2; 10.3; 10.4; and, 10.5. Both the prospector’s incentive program and the mineral exploration tax credits enable an individuals to support mineral resource exploration.
131 Both the Crown Minerals Act supra note 52 at Part II: General ss.18.1 & 18.2, as well as in the Mineral Resources Act supra note 56 at Administration s. 5.1 enables the Saskatchewan Crown to enter into agreements with Canada, other the Provinces and Indian Bands for information exchange and administrative purposes. This clause could easily be modified to enable agreements for a purposes related to mineral tenure inspections and standards, ranging from prospecting through mine closure and reclamation. The only modification would be the disposition of the mineral, in that the mineral itself would be reserved for the “use and benefit of the First Nation.”
132 Seismic Exploration Regulations supra note 63 at Part IV: Restrictions on Seismic Exploration ss. 30; 31; 32 and 33.
133 Subsurface Mineral Tenure Regulations supra note 63 at Part III: Permits: s. 7.
134 Crown Mineral Act, supra note 52 at Part II: Crown Dispositions ss. 4; 5; and, 6.
(2) Every application for a permit\textsuperscript{135} or lease\textsuperscript{136} shall be accompanied by the fee therefore set out in the schedule payable to the Receiver General.

Permits:

Term of Permit

7. (1) Subject to subsection (2), every permit expires one year from the date upon which it was issued.

(2) Where before the expiration of his permit a permittee makes an application in a form satisfactory to the Supervisor for extension thereof, the Supervisor, upon being satisfied that the permittee has complied with these Regulations, and with the terms and conditions of his permit, shall extend that permit for a period of one year or for such shorter period of time as the permittee may request.\textsuperscript{137}

(3) Every application for extension of a permit shall contain

(a) a summary of the work that has been done under the permit and the most recent extension thereof; and

(b) a summary of the work that the permittee proposes to do if the permit is extended.

8. A permittee shall not be entitled to more than three extensions\textsuperscript{138} of his permit unless

(a) the invitation to tender under section 5 or the permit issued under section 6 states that more than three extensions may be granted; or

(b) in the opinion of the Supervisor, the extension of the permit is required to complete exploration work in the permit area and assessment work has been performed satisfactorily.

9. Where, within 30 days after the date upon which a permit expires, the holder of the expired permit makes an application to the Supervisor for reinstatement and extension of that permit, the Division Chief may at the request of the Supervisor reinstate and extend that permit for a period not exceeding one year from the date upon which it expired.

Rentals

10. (1) A permittee shall pay, unless otherwise provided in the invitation to tender under section 5 or in the permit issued under section 6, the rent for the initial term of his permit or an extension thereof, as the case may be, in advance to the Receiver General and such rent shall be payable at the rate of\textsuperscript{139}:

(a) $0.25 for each acre in the permit area in respect of the initial term of his permit;

(b) $0.04 per month for each acre in the permit area in respect of each of the first, second and third extensions of his permit; and

(c) $0.08 per month for each acre in the permit area in respect of any further extension.

(2) Where a permittee is issued a lease pursuant to section 19, the Division Chief shall direct the return to the permittee of any rent paid pursuant to subsection (1) that applies to the unexpired term of the permit or extension thereof, as the case may be, that was issued for the area taken under the lease.\textsuperscript{140}

\textsuperscript{135} Subsurface Mineral Tenure Regulations supra note 63 at Part II: Permits s. 10.1.

\textsuperscript{136} Ibid. at Part IV: Lease s. 22(1).

\textsuperscript{137} Subsurface Mineral Tenure Regulations supra note 63 at 9 (2) (3). The permit for exploration is only renewed under specific conditions, ie: if the permit holder cannot access the lands if there is a natural disaster, or if government action prevents access.

\textsuperscript{138} Indian Mining Regulations supra note 2: The total period in which a permit may be issued is four years.

\textsuperscript{139} Subsurface Mineral Tenure Regulations supra note 63 at Part III: Permits at s. 10 (1) (2).

\textsuperscript{140} Saskatchewan, if the permittee withdraws their permit, does not refund the rent already paid. See: Ibid. at Part III: Permits at s. 16(2).
Security Deposit

11. (1) No permit shall be issued to any person unless that person has deposited with the Division Chief a security deposit in such amount or at such rate, if any, as may be specified in the invitation to tender under section 5 or in the permit to be issued under section 6. 141

(2) A security deposit shall be in the form of money, bonds or promissory to the Receiver General on demand at a chartered bank or in such other form as the Division Chief deems proper.

12. Where a permit expires or is surrendered, the Division Chief, upon being satisfied that the permittee has complied with these Regulations and with the terms and conditions of his permit, shall direct that any security deposit deposited pursuant to subsection 11(1) be returned to the permittee.

Assessment Work

13. (1) During the initial term of his permit or during any extension thereof, as the case may be, every permittee shall perform assessment work acceptable to the Supervisor, of the value of

(a) $0.50 for each acre in the permit area during the initial term of his permit, 142

(b) $1 for each acre in the permit area during the term of each extension of his permit, or

of such other value as may be specified in the invitation to tender under section 5 or in the permit issued under section 6. 143

(2) Where, in his opinion, assessment work performed near a permit area serves to evaluate the mineral potential of the permit area, the Supervisor may deem the whole or any part of the value of that work to be assessment work performed in the permit area. 144

14. (1) Where assessment work of the value required under subsection 13(1) is not performed, the permittee shall make a cash payment to the Receiver General in an amount equal to the difference between the value of assessment work performed and the value of assessment work required to be performed. 145

(2) Where the value of assessment work performed during the term of a permit or an extension thereof exceeds the value of assessment work required to be performed pursuant to subsection 13(1), the Supervisor may value of the assessment work performed to the value of the assessment work required to be performed.

(a) pursuant to subsection 13(1) during any extension or further extension of the permit; or

(b) pursuant to any lease or leases that the permittee may acquire with respect to all or any part of his permit area.

15. (1) Every permittee shall, within 90 days following the expiry of his permit and following any extension thereof, forward to the Supervisor a certified statement in duplicate itemizing the assessment work performed and the cost of performing such work during the term of his permit and any extension thereof together with any cash payment that may be required pursuant to subsection 14(1). 147

141 Mineral Industry Environmental Protection Regulation supra note 57 at ss. 12-15.

142 Subsurface Mineral Tenure Regulations supra note 63 at Part III: Permits at s. 11(1).

143 Ibid. at Part III: Permits at s. 11(2).

144 Ibid. at Part III: Permits at ss. 12 (1); 13; and, 14.

145 Ibid. at Part III: Permits at s. 12(2) (a) (b).

146 Ibid. at Part III: Permits at s. 13.

147 Ibid. at Part III: Permits at: s. 12(1).
(2) Every permittee shall, within six months following the expiry of his permit and following any extension thereof, forward to the Supervisor copies in duplicate of all maps and technical information that serve to record the assessment work performed for the term of his permit and any extension thereof together with a report of the results obtained from the performance of that assessment work.

(3) Where the Supervisor is not satisfied with the statements, maps or technical information submitted under subsection (1) or (2), he may require the permittee to submit additional information.

Test Shipments
16. (1) Subject to subsection (2), no permittee shall produce minerals from this permit area.
(2) A permittee may, with the written consent of the Supervisor and subject to such terms and conditions as the Supervisor may prescribe in writing, produce and ship reasonable amounts of minerals for testing purposes only.

Leases: 148

Selection
17. Where a permittee, during the term of his permit or any extension thereof, desires to obtain a lease in respect of his permit area or any part thereof, he shall make an application in duplicate therefor to the Supervisor. 149

18. (1) An application for a lease referred to in section 17
   (a) shall be in a form satisfactory to the Division Chief;
   (b) shall contain a legal description in accordance with subsection (2) or (3) of the lands in respect of which a lease is desired, 150 and
   (c) shall be accompanied by
       (i) the fee therefor set out in the schedule payable to the Receiver General, 151 and
       (ii) the rental for the first year of the lease in accordance with section 24. 152
(2) Subject to subsection (3), lands referred to in subsection (1) shall be described by
   (a) section, legal subdivision, lot or aliquot part of a lot if such lands lie within a subdivided area; or
   (b) projected section, legal subdivision, lot or aliquot part of a lot if such lands do not lie within a subdivided area.

(3) Where the boundaries of a permit area or part thereof in respect of which a lease is desired do not correspond with a township survey or other legal survey or any projection thereof, the Division Chief may allow the land therein to be described by means of irregular boundaries.

19. Where a permittee has made an application for a lease in accordance with sections 17 and 18 and has complied with these Regulations and with the terms and conditions of his permit, the Division Chief shall issue a lease to him. 153

Entitlements

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148 Ibid. at Part IV: Leases.
149 Crown Minerals Act supra note 52 at Part VI: Lease of Spaces at s. 27.2.
150 Subsurface Mineral Tenure Regulations supra note 63 at Part IV: Leases.
151 Ibid. at Appendix: Fees.
152 Lease of Spaces Regulations supra note 63 at s. 3.
153 Subsurface Mineral Tenure Regulations supra note 63 at s. 19.
20. Every lessee who has complied with the provisions of these Regulations is entitled to all minerals found within his lease area, subject to any condition of his permit or lease acquired under section 5 or 6.  

**Surveys**

21. Where, in the opinion of the Division Chief, it is necessary that lands in respect of which a lease is desired be surveyed for the purpose of issuing a lease pursuant to section 19, the Division Chief may require the applicant for the lease to have the boundaries of such lands surveyed by a commissioned land surveyor acting under instructions from the Surveyor General of Canada.

22. (1) Where a lease area is not surveyed before the issuance of a lease, but is subsequently surveyed by a land surveyor acting under the instructions of the Surveyor General of Canada, the Division Chief may amend the description in the lease to conform to the description supplied by the Surveyor General of Canada.

(2) Where the description in a lease is amended under subsection (1), the Division Chief shall forward to the lessee, by registered mail, a copy of the amended description.

(3) The description of lands in a lease referred to in subsection (1) shall be deemed to have been amended on the 30th day after a copy of the amended description was forwarded to the lessee by registered mail.

**Term of Lease**

23. (1) Subject to subsection (2), every lease expires 10 years from the date upon which it was issued unless otherwise provided in the invitation to tender under section 5 or in the lease issued under section 6 or pursuant to section 19.

(2) Where, before the expiration of a lease or a renewal thereof, a lessee applies to the Division Chief for a renewal or further renewal of the lease, and where the lessee has complied with these Regulations and with the terms and conditions of the lease or renewal thereof, the Division Chief shall issue the renewal or further renewal of the lease:

(a) for such renewal term as may be specified in the lease or, if no renewal term is specified in the lease, for a term of 10 years; or  
(b) for such shorter term than that specified in paragraph (a) as the lessee may request.

(3) For the purposes of subsection (2), the Division Chief may allow a lessee to group two or more of his leases within any one reserve.

(4) [Revoked, SOR/90-468, s. 1]

(5) Every application for renewal of a lease shall be accompanied by the fee therefore set out in the schedule payable to the Receiver General.

**Rental**

24. A lessee shall pay annual rental in advance to the Receiver General at the rate of $2 for each acre in the lease area or at such other rate as may be specified in the invitation to tender under section 5 or in the lease issued under section 6 or pursuant to section 19.

**Security Deposit**

25. 1) No lease shall be issued to any person unless that person has deposited with the Division Chief a security deposit in such amount or at such rate, if any, as may be specified in the
invitation to tender under section 5 or in the lease to be issued under section 6 or pursuant to section 19.158.

(2) A security deposit shall be in the form of money, bonds or promissory notes payable to the Receiver General on demand at a chartered bank or in such other form as the Division Chief deems proper.

26. Where the Division Chief is satisfied that a lessee has complied with these Regulations and with the terms and conditions of his lease or any renewal thereof, he may, during the term of the lease, and shall, on the ex-piry or surrender thereof, direct that the security deposit or a portion thereof deposited pursuant to subsection 25(1) be returned to the lessee.159

Assessment of Work

27. 1) During each year of the term of his lease and any renewal thereof, every lessee shall perform assessment work acceptable to the Supervisor of the value of $2 for each acre in the lease area, or of such other value as may be specified in the invitation to tender under section 5 or in the lease issued under section 6 or pursuant to section 19.160

(2) Where in his opinion assessment work performed near a lease area serves to evaluate the mineral potential of the lease area, the Supervisor may deem the whole or any part of the value of that work to be assessment work performed in the lease area.

28. (1) Where, during any year of a lease, assessment work of the value required under subsection 27(1) is not performed, the lessee shall make a cash payment to the Receiver General in an amount equal to the difference between the value of assessment work performed during that year and the value of the assessment work required to be performed.161

(2) Where the value of assessment work performed during any year of a lease exceeds the value of assessment work required to be performed under subsection (1), the Supervisor may credit the excess value of the assessment work performed to the value of the assessment work required to be performed pursuant to subsection 27(1) in any succeeding year or years up to 10 years from the year in which the assessment work was performed.

29. (1) Every lessee shall, within 90 days following the completion of each year of the term of his lease or any renewal thereof, forward to the Supervisor a certified statement in duplicate itemizing the assessment work performed and the cost of performing such work during the year most recently completed, together with any cash payment that may be required pursuant to subsection 28(1).162

(2) Every lessee shall, within six months following the completion of each year of the term of his lease or any renewal thereof, forward to the Supervisor copies in duplicate of all maps and technical information that serve to record the assessment work performed for the year most recently completed, together with a report of the results obtained from the performance of that assessment work.

30. [Revoked, SOR/90-468, s. 2]

Royalties:163

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158 Mineral Industry Environmental Protection Regulations supra note 57 at ss. 14 -15.
159 Subsurface Mineral Tenure supra note 63 at Part IV: Leases at s. 24.
160 Ibid. at s. 43.
161 Ibid. at s. 44.
162 Ibid. at s. 45.
163 Crown Mineral Royalty Regulations supra note 63.
31. Unless otherwise specified in the invitation to tender under section 5 or in the lease issued pursuant to section 6 or 19, every lessee shall pay royalties on all minerals to which he is entitled that have been obtained from his lease area at the rate of five per cent of
   (a) the gross revenue from the mineral output at the pithead, where the minerals are sold at the lease area before treatment; or
   (b) the market value of the mineral output at the pithead, where the minerals are not sold at the lease area before treatment.

32. Notwithstanding section 31, the rate of royalty may be altered by agreement between the Division Chief and the lessee from a rate based on a percentage of the gross revenue or of the market value to the equivalent rate per ton or per cubic yard of the mineral output at the pithead.

33. Any royalty rate based upon a weight or measure of mineral output shall be adjusted annually to conform to changes in a price index or other index that is published by Statistics Canada and is chosen by the Division Chief.

34. (1) During the term of his lease and any renewal thereof, a lessee shall forward to the Supervisor within 30 days after the expiry of each period of production a royalty payment in favour of the Receiver General in respect of that period together with a statement in duplicate showing the production and sales figures upon which the payment has been calculated.
   (2) Where the Supervisor is not satisfied with the amount of a royalty payment or with a statement forwarded by a lessee pursuant to subsection (1), he may require the lessee to submit further particulars in relation to the statement and, if then required by the Supervisor, the lessee shall adjust the amount of the royalty payment.
   (3) A period of production consists of the three calendar months ending on the last day of March, June, September and December or of such other period of time as the Supervisor may determine.

Notice of Production:

35. Every lessee, within 10 days from the commencement of production of any mineral from his lease area, shall
   (a) notify the Supervisor of the commencement of production; and
   (b) submit to the Supervisor such information with respect to his mining operations and production as the Supervisor may require.

Penalty and Cancellation:

36. (1) Where a lessee fails to pay rental as required by section 24 or to surrender his lease within 30 days from the date on which the rental becomes payable, he is liable to a penalty of five per cent of the amount of his rental.165
   (2) Notwithstanding subsection (1), where in the opinion of the Division Chief a lessee has failed in respect of his lease to comply with any provision of these Regulations, the Division Chief may forward to the lessee written notice by registered mail advising him that unless he commences to remedy the failure within 30 days from the date of the mailing of the notice and continues diligently to remedy the failure his lease may be cancelled by the Minister.
   (3) Where a lessee has received a notice pursuant to subsection (2), he may, within 30 days from the date of the mailing of the notice, make written application to the Minister for a hearing to consider reasons why his lease should not be cancelled.

164 Mineral Taxation Act supra note 63.
(4) Upon receipt of an application made pursuant to subsection (3), the Minister shall appoint a
time and place for a hearing and shall notify the lessee by registered mail of the time and place of
the hearing not less than 10 days before the date thereof.
(5) Where, in the opinion of the Minister, a lessee has failed to comply with the requirements of
a notice mailed to him pursuant to subsection (2), or at a hearing held pursuant to this section
does not show adequate reason why his lease should not be cancelled, the Minister shall cancel
his lease.

General:
Grouping
37. The Division Chief may authorize the grouping of
   (a) a permit area or a lease area within a reserve with other permit areas or lease areas
       within the same reserve for the purpose of
       (i) providing a security deposit required under section 11 or 25, and
       (ii) assessment work required to be performed under sections 13 and 27; and
   (b) a lease area within a reserve with other lease areas within the same reserve for the
       purpose of qualifying for a renewal under subsection 23(2) or (3).
38. The Minister may authorize the grouping of a permit area or a lease area in a reserve with a
permit area or lease area in another reserve or with a tract of land outside a reserve for the
purpose of development or production of minerals under these Regulations, where councils of
the bands for whose use and benefit the lands have been set apart in which the permit areas or
lease areas are located, have approved a formula for determining the participation of the bands in
revenues and other benefits derived from such development or production of minerals.

Assignment
39. (1) A permittee or lessee may assign his permit or lease or any interest therein with the
approval of the Minister.
   (2) Where an assignment of a permit or lease
       (a) has been approved by the Minister,
       (b) is unconditional, and
       (c) is accompanied by the registration fee set out in the schedule payable to the Receiver
       General, the assignment shall be registered in the register kept pursuant to section 55 of
       the Act.

Surrender
40. (1) Where a permittee or lessee has complied with these Regulations and with the terms and
conditions of his permit or lease, he may at any time surrender all or part of his permit area or
lease area.
   (2) Subject to subsection 10(2), where a permit or lease is surrendered under subsection (1), no
rental paid in relation to that permit or lease shall be returned to the permittee or lessee.

Use of Land Surface

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166 Subsurface Mineral Tenure supra note 63 at ss. 11 – 12 & 14 - 15.
167 Crown Mineral Act supra note 52 at Part VII: Crown Mineral Electronic Registry at ss. 27.3 to 27.56 & Mineral
Tenure Registry Regulations, C-50.2 Reg 27.
41. Where a person requires entry to a reserve in respect of which minerals have been surrendered or where a permittee or lessee requires use of land surface in a reserve for the purpose of development or production of minerals, he shall obtain a right of entry or right to use the land in accordance with any provisions that may be made by the Minister under the Act.  

Inspections

42. (1) The Supervisor may
   
   (a) enter upon and inspect any permit area, lease area or buildings and equipment thereon;
   (b) require a permittee or lessee to produce any technical, financial and other records relating to the exploration for or production of minerals from his permit area or lease area; and
   (c) take samples of minerals being produced and carry out any examination that, in his opinion, is necessary.

(2) Every permittee or lessee shall render such assistance as the Supervisor may require in the performance of his duties.

Plans

43. (1) Upon the termination of his permit or extension thereof or of his lease or renewal thereof and at such other times as the Supervisor may request, a permittee or lessee, as the case may be, shall submit to the Supervisor plans and sections that show

   (a) the location of all mine workings,
   (b) the average valuable mineral content of all mine headings, backs and faces not currently being worked; and
   (c) the surface and underground plant, roads, railways, buildings and other structures or works situated in the permit area or lease area.

(2) All plans and sections submitted pursuant to subsection (1) shall be submitted in duplicate and shall be drawn on a scale of one inch to 100 feet or on such other scale as the Supervisor may determine.

(3) Where plans and sections submitted pursuant to subsection (1) are not satisfactory to the Supervisor, the Supervisor may require the permittee or lessee to submit further plans and sections.

Information confidential

44. Any technical information submitted by a permittee or lessee pursuant to these Regulations shall not, without the written consent of the permittee or lessee, be disclosed unless that information

   (a) relates only to a permit area or a portion thereof in respect of which the permit has expired or has been surrendered; or

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169 Crown Mineral Act supra note 52 at Part II: General at s. 19 & Seismic Exploration Regulations supra note 63 at Part IV: Restrictions on Seismic Exploration at ss. 30; 30.1; 32; & 33.

170 Subsurface Mineral Tenure Regulations supra note 63 at Part III: Permits ss. 13; 14; & Part VII General at s. 43.

171 Ibid. Part IX: General at s. 100.

172 In Saskatchewan tailing ponds and/or tailing disposal areas are managed separately, and remain the property of the mining venture that created them. There are specific rules regarding the tailings disposal areas, and if they are mined a royalty is assessed and paid to the Crown. General Regulations (Tailing Disposal Area) under the Mineral Resources Act supra note 63 and filed with the Crown Minerals Act.

173 Subsurface Mineral Tenure Regulations supra note 63 at General Provisions s. 46.
(b) relates only to a lease area or a portion thereof in respect of which the lease has expired or has been surrendered or cancelled.

Payment of tax
45. Every permittee and every lessee shall pay all rates, assessments and taxes in respect of his permit area or lease area, and in respect of his operations under his permit or lease.¹⁷⁴

Appeals
46. (1) Every permittee and every lessee may appeal to the Minister from any decision of the Division Chief or Supervisor, other than a decision made under section 5, 6 or 19. (2) Where an appeal is made under subsection (1), the Minister may make such order or declaration as he deems proper.

Schedule:

Fees¹⁷⁵
1. Application for permit or lease ..........................20
2. Registration of assignment of permit or lease... 20
3. Application for renewal of lease ........................ 20
3. Application for renewal of lease .......................... 20

¹⁷⁴ Mineral Taxation Act supra note 63; Sodium Chloride Production Tax Regulations c. M-17.1 Reg. 5; and, Potash Production Tax Regulations c. M-17.1 Reg. 6.
¹⁷⁵ Seismic Exploration Regulations supra note 63 at Appendix Part 1: Tables at Table 2.