

Addressing Land Access and Environmental Permitting Issues in Nova Scotia

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Mineral rights tenure, changing demographics, rural out-migration, community land-use planning, community economic development, community health and safety, geological education outreach, Nova Scotia tourism enhancement projects and *trust*: this a diverse, but interconnected group of topics linked to land access and environmental permitting in Nova Scotia. To properly address the issues we must learn how to navigate the intricate web joining these subjects. On first examination, many readers will doubt there are any connections. The linkages are present, but you must be prepared to extend your thoughts to areas beyond the traditional. The following report will document the Geological Services Division's efforts to undertake this task.

Mineral rights tenure is obtained through the *Mineral Resources Act* for those commodities designated as minerals in Nova Scotia. Once the ground is staked and proper procedures followed, a mineral rights owner can usually maintain their mineral rights from the exploration stage through mine development in Nova Scotia. One notable exception is the Uranium Moratorium, by which all existing mineral exploration and development rights for uranium were removed by the Crown under legislation enacted in the early 1980s. The other mined or quarried commodities produced in Nova Scotia and not designated as minerals, such as limestone, aggregate and gypsum, are owned and controlled by the land owner.

Numerous articles published in the press document the fact that it has become increasingly difficult with each passing year to obtain surface rights access and environmental operating permits for mining or quarrying projects in Nova Scotia. Even gypsum and aggregate operations, considered for the most part to be environmentally benign commodities, are having difficulties obtaining environmental operating permits. Mining companies have mineral rights tenure in Nova Scotia, but this is meaningless if they can not obtain surface rights access and environmental

operating permits, or if the terms and conditions required to obtain environmental permits are so onerous that they preclude economic development of the mineral resources.

This is a global issue and it is unlikely to disappear in the near future. In fact, the problem will likely grow, given the recent poll results indicating the environment is on the top of the list of political agenda items. Like it or not, future mine development projects will likely be given tighter scrutiny as governments move to establish 'green filters', a fallout effect of the opinion polls.

Some key issues that must be addressed to find a solution to the land access and environmental permitting problem include: (1) a general lack of knowledge by Nova Scotians regarding geology and mineral resource development, and in particular by the people making strategic decisions for community land-use planning, community economic development or community health and safety; (2) public perception documented in the media suggests that many communities believe the mining industry shows little to no interest or compassion regarding the needs and concerns of communities affected by their operations; (3) polarization of business interests such as tourism and the mining industry; and (4) the environmental legacy of mining, which is highly visible to affected communities.

Communities have the capacity to make wise decisions regarding land-use planning, community health and safety, and community economic development when they are presented with all of the choices available to them in a manner that is easily understood by everyone. If you take a moment to reflect on the amount of money and effort the mining industry has put into the education of community decision makers, and compare that to the amount of time and effort mining opponents have put into the same exercise, it is not hard to understand why the industry is facing the crisis that exists today regarding land

access and environmental permitting of mine developments in Nova Scotia.

Geology, which is so integral to mineral resource development, is the forgotten science in Nova Scotia. It is rarely taught in provincial schools and it forms only a small component of the curriculum at universities. This is a particular concern when you look at the lack of geology courses included in the Environmental Science and Land-use Planning degree programs. These graduates are the people that steer the discussions on land uses in Nova Scotia. If they were exposed to geology in their education they might have a better appreciation of the potential impacts of geology on the health, safety and economic development of many of Nova Scotia's communities and act accordingly to incorporate geology in their community planning process.

The lack of geology in land-use planning documents should be of keen interest to the mining community, because when geology is left out of the planning equation so too is mineral resource development. If the mineral resource you hope to develop falls in an area zoned as future residential reserves, commercial development reserve or even areas defined as agricultural or forest resource, you will encounter land access problems when you ask for environmental operating permits. To the best of my knowledge, mineral resource zones do not exist on land-use planning maps in Nova Scotia.

Did you, as a member of the mining or geological communities, take the time to participate in land-use planning meetings when public consultations occurred in your community? No is the anticipated answer, and the most likely reason is that you did not consider it important. The mining and geological communities need to become active in the land-use planning process. Education and public outreach must become an integral part of the activities undertaken by both the mining industry and the geological community. The Geological Services Division is doing its part and progress will be documented in a later section of this report.

How is the mining industry perceived in our communities? Most community decision makers are only exposed to mining through the media or by phone calls from disgruntled land owners who have had a bad experience with a mineral exploration company or local mine development. Community

decision makers that understand geology and the mining industry are rare. These individuals are often people who have been employed in mineral exploration or mining projects. You have to remember that the vast majority of these people were not exposed to geology or the mining industry in school. Can the mining industry expect these people to make rational land-use and environmental permitting decisions regarding mine developments when they lack the basic knowledge on which to base their decisions?

The reverse also holds true for mining companies and the geoscience community in general. How many of us take the time to properly evaluate the needs and concerns of the communities that are affected by mineral exploration or mine development projects? Will a proposed development solve some of the issues facing the community or make them worse? What do you do when the community tells you, as a mining executive, that they are concerned about the effects the mining development might have on the local water supply? Do you: (1) dismiss their concerns as nonsense, or (2) hire a hydrogeologist to give the community a workshop on water resources and conduct a water resource evaluation study in the local area. How you deal with issues like this not only affects the success you have in obtaining land access and environmental permits for your project, it will affect future mining projects in Nova Scotia.

Communities in Nova Scotia have many development issues. From a socio-economic perspective the two with the greatest impact are rural out-migration and changing population demographics. Demographic changes will leave many Nova Scotia communities looking like seniors' villages in the not too distant future. This aging population will pose significant challenges to Nova Scotia, including rising health care costs and higher competition for active members of the labor force. Rural out-migration is also making it difficult for communities to find the labour pools required to attract new investment and industries. Shrinking populations also mean shrinking tax bases and, subsequently, lack of funds to maintain essential services. Rural youth are attracted to the culture and economic opportunities found in urban centres. When young people leave their rural communities to pursue post-secondary education

they rarely return. The other and perhaps less recognized impact of demographic change is its effect on land access in Nova Scotia. As our rural communities age, the desire of local citizens to have a mine in their neighborhood diminishes. They are no longer seeking the employment opportunities a mine or quarry would bring, and they prefer to live in a quiet environment.

Mine or quarry developments often have significant positive impacts on communities, because these operations have the potential to act as the employment generator required to attract new people to live in rural communities, or the enticement required to keep some of the community's youth from leaving. The mining industry must be cognizant, however, of the changing face of our rural communities and ensure that their development plans address the needs and concerns of the whole community, including retiring baby boomers. Since 2000, the Geological Services Division has made considerable effort to engage communities in Nova Scotia, to listen to their concerns, and to discuss geological issues and mineral-related economic development opportunities.

The tourism industry is held in high esteem by Nova Scotians, community leaders and the provincial government. It is considered in many decision-making circles to be one of the key economic generators of Nova Scotia's economy. Tourism, while often seen to be in direct competition with mineral resource development, can benefit greatly by using geology as a tool to enhance the tourism experience in Nova Scotia. Landscapes are defined by geology and much of our heritage is built around the province's mineral endowment. Employment opportunities generated by the mining of these minerals drew many settlers to Nova Scotia. In fact, many of our towns owe their existence to the employment booms created by mine development and the industries built to utilize these mineral resources for manufacturing. As long as the mining industry is perceived to be in direct competition with tourism for land use in Nova Scotia, land access will be a major issue for mine development. This conflict will never be totally resolved, but the mining community needs to take steps to hold meaningful discussions with the tourism community, to define a path forward with benefits for both groups. The Geological

Services Division has also begun work on this project, and achieved some very positive results.

If you drive one of the many back roads of Nova Scotia or hike through the countryside, you will see abandoned aggregate pits and quarries, and in some areas, abandoned mines. Nova Scotians see these abandoned operations every day and they see little or no effort being made to restore the sites. This is Nova Scotia's mining legacy and there is currently no plan in place to deal with it.

New mining operations are subject to rules that make them safe and environmentally friendly. These rules also ensure that the new mines and quarries are rehabilitated when the operation closes, but they represent only a small component of the total quarries and mines found in Nova Scotia. In recent years the Department of Natural Resources has undertaken a program to cap and seal abandoned shafts and adits on Crown land, but the project is underfunded when compared to the magnitude of the legacy. If the mining and geological communities expect Nova Scotians to change their attitudes on mining we have to tackle the legacy issue and find a mechanism to put the necessary funds into a mine and quarry reclamation plan for Nova Scotia.

This subject dovetails into the most significant issue the mining and geological communities must address to reverse the trend of land access and environmental permitting in Nova Scotia. This issue is trust. Nova Scotians doubt the validity of statements made by both exploration and mining companies and the municipal, provincial and federal government agencies that regulate this industry.

The Geological Services Division set into motion a plan to address some of the key issues outlined above in 2000. This was the year a new partnership was formed between DNR, Strait Highland Regional Development Agency, and the Nova Scotia Office of Economic Development. The plan has grown and blossomed since its inception. The following section will document actions taken and results obtained in 2006-07.

Nova Scotia Office of Economic Development (OED), and in particular, its Community Economic Development Division, has been working on a plan to address some of the many issues facing rural communities in Nova Scotia, including rural out-migration. Building new economic opportunities in

these communities is key to their survival. When the Geological Services Division launched its plan back in 2000, mining and forestry were considered by many decision makers at the Office of Economic Development to be sunset industries. Over the last seven years, DNR's efforts have changed or at least modified this way of thinking within OED. The mining industry is well on its way to being recognized as a key economic player in Nova Scotia, particularly in rural areas of the province.

Strait Highlands Regional Development Agency (RDA) is a key partner for the Geological Service Division. This group, like the other RDAs around the province, is a portal into local communities. These agencies have direct links to community decision makers and the non-government organizations in their areas of jurisdiction. They understand how communities work and provide excellent guidance on the issues mine development proponents will face as they move through the procedures required to obtain land access and environmental permits. RDAs are also potential funding and marketing partners for mineral resource development projects. The first partnership project DNR worked on with Strait Highlands RDA was a mineral resource assessment of the Kennedys Brook (River Denys) marble deposit. Subsequent to completion of this study, MacLeod Resources opened a marble quarry and invested approximately \$6 million in project development. The quarry operation is expanding rapidly as new markets are found for the marble. DNR is currently working on projects with Strait Highlands, Guysborough, Southwest Nova Scotia, Kings County and Cumberland RDAs. Reports on this work will be released as projects are completed.

Progress Report for 2006

A presentation on mineral resource development opportunities in Nova Scotia was given to a large audience at the Regional Development Agency Association meeting held at Liscomb Lodge in the fall of 2006. The presentation was part of a Natural Resources section of the conference agenda. The other presenter in this section spoke about community based fisheries management. It was an excellent opportunity to spread the mineral

development and geology messages to a large audience of decision makers in Nova Scotia, and the presentation was very well received.

The Geological Services Division has also taken an active role in the education of community decision makers. The author prepared a presentation entitled *Geology and Society*. This talk was presented to several town councils and rural planning committees in 2006. The response has been tremendous. The groups were amazed by the quality and quantity of geoscience data available in Nova Scotia and were very surprised when they heard about the potential health and safety issues associated with geology in their communities. All of the groups expressed interest in working together to address land-use planning issues associated with geology and to work together to identify mineral resource development opportunities. We hope to bring this talk to more community councils and planning committees in 2007.

One of the groups targeted in our presentations this year was the Central Antigonish County Land Use Planning Committee. This group is chaired by a land-use planner working for the Rural Cape Breton District Planning Commission. Central Antigonish County is the pilot project area chosen by this planning commission to study the level of effort required to incorporate geology and mineral resource data into the land-use planning process. To date, the commission has been very pleased with the DNR data set supplied to them for this application. When the pilot study is completed in the fall of 2007, DNR will work with the Rural Cape Breton Planning Commission and Service Nova Scotia to draft a letter of provincial interest in geology and mineral resources for inclusion in the provincial land-use planning handbook. This letter of interest will make it a requirement for all municipalities to incorporate geology in their planning process and to give consideration to present and future mineral resource developments. This work would open the door to inclusion of Mineral Resource Development Zones as a new land-use designation.

The *Geology and Society* presentation was also given to the Cape Breton and Annapolis Valley field teams of the Sustainable Communities Initiative. Approximately 40 federal, provincial and municipal agencies are represented on these field

teams. The group's goal is to work with communities to identify and address issues that are barriers to their sustainable development. After the presentation, the Geological Services Division was encouraged to assign members to both field teams. Paul Smith joined the Annapolis Valley team and the author joined the Cape Breton field team. While work with this group comes with much frustration, it establishes a level of trust with staff from the other agencies represented on the teams and provides access to decision makers in many rural communities. It also provides a forum for the division to address negative media reports regarding the mineral industry.

In 2005, the Geological Services Division seized on an opportunity to break down the barriers separating the tourism and mining communities. Peggys Cove announced that it was adding an education component, in the form of panels and brochures, to enhance the tourism opportunity at what is often referred to as Nova Scotia's tourism 'flagship' site. Geologists of the Geological Services Division and Nova Scotia Museum of Natural History worked as a team to provide technical support to the writer of the geological

panels. The panels were installed in 2006. The geology panels provide an opportunity to speak to visitors and Nova Scotians about the geological history of Peggys Cove and how this history affects the development of their community. Roughly 1 million visitors come to Peggys Cove each year, so the target audience is huge. This exercise has shown the tourism industry another side of geology, one they consider positive. We are now working on a longer term plan for cooperation between DNR and the Nova Scotia Department of Tourism, Culture and Heritage.

Our work in 2006 has gone a long way to re-establish trust between the Geological Services Division of DNR, other provincial departments and many Nova Scotia communities. We have a long road to travel before we can walk into a room and not feel the tension associated with the polarization of the mining community and other communities of interest in Nova Scotia, but significant progress has been made since this project was initiated in 2000. Communities or organizations interested in hearing the *Geology and Society* presentation are invited to contact the author by email at gjdemont@gov.ns.ca.