

A-46303

**ANALYSIS OF REGULATORY REGIMES
FOR PITS & QUARRIES
ON PUBLIC (CROWN) LANDS**

Indian Affairs & Northern Development
Pit & Environmental Branch
Ottawa, Ontario, North Tower, Room 618



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LIMITED**

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ON PUBLIC (CROWN) LANDS**



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Prepared for: Indian Affairs & Northern Development
Hull, PQ

Prepared by: Three-D GeoConsultants Ltd.
Fredericton, NB

July 16, 1999

File #: 9922



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July 19, 1999

Department of Indian Affairs & Northern Development
Natural Resources & Environmental Branch
Les Terrasses de la Chaudiere, North Tower, Room 618
10 Wellington Street
Hull, PQ K1A 0H4

File #: 9922

Attention: Mr. Robert Gowan, P. Geol

Dear Sir

Re: *FINAL REPORT*

Please find attached the final report for the Review of Pit and Quarry Regulations for Public (Crown) Lands. We believe it to be self explanatory, however, if you have any questions, please do not hesitate to call.

Yours truly
THREE-D GEOCONSULTANTS LTD.

Donald Gemmell
President

EXECUTIVE SUMMARY

As of April 1, 1999 Northern Canada has been restructured to include a third Territory, Nunavut. Because of these changing times, the legislative process is being reviewed and in the case of pit and quarry regulations, will be revised. With the already complex land structure in the North becoming even more complex with the addition of Nunavut, it is necessary for the Department of Indian Affairs & Northern Development (DIAND) to re-evaluate and update the regulations already in place.

The purpose of this study was to review and compare existing legislation in Canada and Alaska using the current Territorial Lands Legislation as a benchmark to which the rest of the jurisdictions will be compared. As part of this comparison the strengths and limitations of each jurisdiction, where applicable, are pointed out. It is from these strengths and weaknesses that DIAND could learn and therefore, redesign the applicable legislation accordingly.

The data collection process began in 1998 with a document search of the appropriate legal statutes and regulations at the University of New Brunswick followed by a search of jurisdictional government websites. These searches provided the information used in the creation of a questionnaire that were faxed to appropriate personnel.

In order to ensure current regulatory information was reviewed. Jurisdictions were contacted again in 1999 to request recent revisions to pertinent legislation. All of the data collected between 1998 and 1999 is displayed as a series of spreadsheets, which summarize and compare the regulatory process for all jurisdictions. Also provided,

where available, is a list of current contacts, their addresses, as well as personnel and financial budgets for all jurisdictions.

It is challenging to evaluate a process which, although is similar in overall aspect, differs widely in detail depending on the process, stage and commodity involved. If a regulatory process is to be developed or revised for the changing North, it is recommended that the process be written so as to address socio-economic, environmental, as well as, health and safety issues. At a minimum, the statutes related to each of these should be referred to in the appropriate sections of the legislation. The present application process for pits and quarries on Territorial Lands employs a system in which DIAND consults with relevant parties such as Environment and First Nations. This approach should be carried over into any new statutes that may be brought to legislation.

A guideline to direct an applicant through the applicable acts and regulations would provide an excellent first step for a potential developer whom may be unfamiliar with the legislation. This guideline should outline such things as applicable legislation, list departmental contacts and include a list of available publications and maps, as well as a mineral resource inventory.

As philosophy and approach to resource development changes, it is important that statutes and regulations remain flexible to revision in order to prevent ineffectiveness of the regulations.

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1.0 INTRODUCTION

Three-D GeoConsultants Ltd. was contracted by the Federal Department of Indian Affairs & Northern Development (DIAND), file number A1632, to complete a review of the regulatory regimes for pits and quarries on public (Crown) lands across Canada and in Alaska. The Scientific Authority for the contract was Mr. Robert J. Gowan, P.Geol, Manager of Land Programs, DIAND.

A previous study was completed which compiled and summarized the current legislation across Canada and in Alaska that pertained to the regulatory process of pits and quarries. The purpose of this study was to update the legislation and analyze the differences between regulations currently in place in each province with respect to that of the Yukon Territory, Northwest Territories and Nunavut. Recommendations are put forth based on these comparisons, with regards to the direction that should be taken in the Territories when developing new regulations. DIAND is currently developing these new regulations to reflect the changing political, economic and social conditions in the North. This report incorporates work from the previous study and will supersede the previous study.

The current territorial regulations for quarrying operations have not changed in two decades. Many of the issues that must be dealt with in new pits and quarries regulations are also relevant to other jurisdictions and are addressed in their legislation. However, the territories, like all other jurisdictions, have issues that require unique legislative solutions.

In completing a review of the current legislation in place in the Territories versus that in the rest of Canada and in Alaska, data was compiled and reviewed, recognizing statute origin, strengths and limitations within each jurisdiction.

2.0 METHODOLOGY

The project was divided into a series of tasks beginning with a search and review of relevant statutes and regulations at the Law Library at the University of New Brunswick. The majority of the up-to-date statutes and regulations were available and reviewed at the Law Library. Information on various aspects of each stage of the regulatory process was extracted based on a checklist developed in conjunction with DIAND (Appendix 1). Pertinent information was organized into spreadsheet format, one for each regime (Appendix 2). The various application processes were outlined in flowcharts (Appendix 3). Comparisons between the current Territorial Lands statutes and regulations hereafter referred to as the benchmark and each jurisdiction were made and summarized in table format (Appendix 4). The websites of each jurisdiction were reviewed to obtain any recent updates and to procure names and telephone numbers for contacts (Appendix 5).

Following the review of the data for individual jurisdictions, questionnaires were developed (Appendix 6), summarizing the findings and questioning aspects not readily apparent in the published documents. Jurisdictional contacts were phoned and the questionnaires faxed to the appropriate personnel for each jurisdiction. After the telephone follow-up interview, any ensuing results not previously encountered in the written legislation were incorporated into the spreadsheets. Information such as personnel, financial budgets and information on the number of applications processed per year was collected, where available, and tabulated (Appendix 7).

Once relevant statutes and regulations for each regime were determined, hard copies were ordered from the jurisdictions Queen's Printer or equivalent organizations. These are presented separately in a series of binders.

Once all the data had been collected, reviewed and analyzed, spreadsheets were developed to provide a summary of the data collected. The data was analyzed based on the checklist developed in consultation with DIAND. This checklist maintained continuity of an analytical approach when comparing jurisdictions to the benchmark and allowed for the recognition of aspects that are unique to different jurisdictions. The information was reviewed and discussed, with recommendations made based on the strengths and limitations found in each jurisdiction.

3.0 PIT & QUARRY MATERIALS

The regulatory process for pits and quarries in the Northwest Territories, the Yukon Territory and Nunavut are covered under the Territorial Quarrying Regulations (TQR). The TQR regulates the disposition of surface accessible and/or low value per volume commodities on Territorial Land which is land vested in the Crown under the administration of DIAND.

The commodities presently regulated under the TQR fall into three categories: Construction Materials, Agricultural Materials and Organics. The construction materials are further broken down into consolidated and unconsolidated materials. For the purpose of this report, consolidated construction materials include: limestone, granite, slate and stone. Unconsolidated construction materials are sand, gravel, clay and volcanic ash and an organic material would be loam. Peat and peat moss, although not included in the TQR, are considered organic materials for the purpose of this report. To complete a thorough comparison of the regulatory processes surrounding pits and quarries in the jurisdictions across Canada and in Alaska, a fourth category, agricultural materials, has been used to describe marl and topsoil.

Each of the jurisdictions reviewed has a unique definition of commodities covered under the appropriate statutes and regulations governing the regulatory process for pits and quarries. The definitions of commodities covered by each jurisdiction vary from a list of specific materials to generic terms such as building stone or aggregate, to a combination of both specific materials and generic terms. Details of variations in statute applications are discussed in Chapter 4.

Jurisdiction	Construction Materials		Agricultural	Organic
	Consolidated	Unconsolidated		
Territories	Quarrying Regulation	Quarrying Regulation	Quarrying Regulation	Quarrying Regulation
Alberta	Mining Act	Mining Act & Surface Materials Regulations	Surface Materials Regulations	Surface Materials Regulations
British Columbia	Mineral Tenure Act	Mines Act	Mines Act	
Manitoba	Mines & Minerals Act Quarry Mineral Regulations	Mines & Minerals Act Quarry Mineral Regulations		Mines & Minerals Act Quarry Mineral Regulations
New Brunswick	Quarriable Substances Act QSA Regulation 93/92	Quarriable Substances Act QSA Regulation 93/92	Topsoil Act	Mines Act Quarriable Substances Act QSA Regulation 93/92
Newfoundland	Quarry Materials Act Quarry Materials Regulation 804/96	Quarry Materials Act Quarry Materials Regulation 804/96	Quarry Materials Act Quarry Materials Regulation 804/96	Quarry Materials Act Quarry Materials Regulation 804/96
Nova Scotia		Crown Lands Act Chapter 5		Crown Lands Act Chapter 114
Ontario	Aggregate Resource Act	Aggregate Resource Act		
Prince Edward Island	Excavation Pits Regulation	Excavation Pits Regulation	Excavation Pits Regulation	
Quebec		Mining Act Regulation Respecting Mineral Substances Other Than Petroleum, Natural Gas and Brine		Mining Act Regulation Respecting Mineral Substances Other Than Petroleum, Natural Gas and Brine
Saskatchewan	Quarry Regulation	Quarry Regulation Sand & Gravel Act	Quarry Regulation Sand & Gravel Act	

4.0 REGULATORY APPROACHES

The purpose, goal and scope of the legislation in place in each jurisdiction vary significantly from one jurisdiction to the next. In the North, land use is an important and complex issue. The legislation in place is a land use based system. Resource disposition is covered under the Territorial Quarrying Regulation, which falls under the Territorial Lands Act. Rehabilitation requirements are outlined in the Territorial Land Use Regulations also under the Territorial Lands Act.

There are four main areas subject to regulation regarding pits and quarries: 1) land use, 2) resource disposition, 3) environment and 4) health and safety. Land use issues may be combined with resource disposition to aid in sustaining these non-renewable resources and maintaining a resource inventory. The environmental and health and safety aspects protect the public and the individuals involved with or working in a pit or quarry.

All of the jurisdictions reviewed address all four areas of interest in varying degrees. The emphasis in five of the jurisdictions was placed on land use; five placed emphases on resource disposition and one jurisdiction placed the most emphasis on the environment.

Environmental issues with respect to pits and quarries are addressed in each jurisdiction. The detail in pit and quarry specific legislation with respect to the environment varies from explicit lists of acceptable noise, dust, vibration levels, etc. to simply stating that the proponent must rehabilitate the site to specifications satisfactory to the minister. All jurisdictions require levies of varying amounts to be submitted to ensure proper rehabilitation.

The extent to which health and safety is covered in each jurisdiction varies from a single piece of legislation dedicated to mining (including pits and quarries) to sections of a mine or quarry oriented act outlining health and safety requirements to a section of a general Occupational Health and Safety Act touching on the requirements.

The ownership of land and resources also varies. There is a unique situation in the North in which the Federal Government owns the land, but has transferred administration to various groups, departments or people. There are several land claims allocating land to different native groups, portions of land have been transferred to the Commissioner of each Territory and still other lands fall within the boundaries of municipalities. It is the Territorial Lands or the lands, which remain under the administration of DIAND, upon which this study is based.

In several jurisdictions the surface title owner owns and controls the disposition of surface and/or subsurface quarriable commodities. The advantage of this system is that the government does not incur costs to administer these commodities. On the other hand, it puts regulatory bodies at a disadvantage when attempting to enforce sustainable development principles or to develop resource inventories.

Manitoba currently employs the most comprehensive legislation out of the jurisdictions reviewed for this study. In Manitoba, the Mines & Minerals Act serves to regulate four aspects of pits and quarries. It regulates the disposition of public resources, the use of public and private lands. It outlines environmental requirements, as well as the health and safety requirements with respect to the public and workers in a particular operation.

5.0 REVIEW OF JURISDICTIONS

5.1 INTRODUCTION

The information contained in this chapter is designed to provide a summary of relevant regulatory processes, from exploration to closure, within each jurisdiction across Canada and in Alaska. Comparisons between the benchmark and the other jurisdictions will be made in Chapter 6 and summarized in table format in Appendix 4. Chapter 6 will point out the strengths and limitations of each and provide justification for the differences noted where applicable.

5.2 YUKON TERRITORY, NORTHWEST TERRITORIES & NUNAVUT

Land designation in the North is an involved subject. The land is divided into four main categories: 1) Territorial Lands (Crown Lands); 2) Commissioner's Lands; 3) Municipal Lands and 4) Settlement or Private Lands.

Territorial Lands are those lands vested in the Crown or of which the Government of Canada has power to dispose. These lands are under the control, management and administration of the Minister of DIAND. The statute for governing the removal and disposal of granular materials is the Territorial Land Act (TLA), which is the enabling legislation for two key regulations: Territorial Land Use Regulations (TLUR) and the Territorial Quarrying Regulations (TQR).

Commissioner's Lands are owned by the Federal government, however, the management and administration of these lands has been transferred to the Territories.

Commissioner's Land Act and Regulations as well as the Territorial Lands Act apply to Commissioner's Lands.

Municipal Lands are those which fall within a municipal boundary. These lands are subject to the Territorial Lands Act as well as legislation set out by each municipality. On Private Lands, the Territorial Quarrying Regulations do not apply. Settlement Lands may require land use permits and access agreements must be obtained from the landowner.

Territorial lands, which are governed by the Territorial Lands Act, the Territorial Land Use Regulations, the Territorial Quarrying Regulations, the Mine Health & Safety Act and the Canadian Environmental Assessment Act, are the focus of this study. The commodities covered under the TQR are vested in the surface title holder. The Territorial Quarrying Regulation deals with both unconsolidated and consolidated construction materials, as well as, agricultural and organic materials. The definitions offered in the regulation combine both specific and generic terms. The commodities covered in the TQR are listed as limestone, granite, slate, marble, gypsum, loam, marl, gravel, sand, clay, stone and volcanic ash.

The Territorial Lands Act (TLA) outlines the procedure for lease or sale of Crown Land. It discusses mining rights, timber regulations, trespassing on Territorial lands and the powers of the Governor in Council. The Territorial Land Use Regulation (TLUR) falls under the TLA. It details the procedure for obtaining a Land Use Permit that may be used to complete preliminary testing and exploration with respect to the commodities listed above. Also included in the TLUR are the current requirements for reclamation of a site.

Application for a quarry lease under the TQR shall be made within thirty days of staking an area. The application shall include the name of the materials desired, a clear sketch of the area and an affidavit signed by the applicant stating that the land contains material of the kind applied for in merchantable quantities. Required to accompany the application is the application fee of \$150.00 and a \$100.00 per hectare rental for the first year of the lease. The term of a lease will not exceed ten years

To develop a pit or quarry on Territorial lands, it is necessary to obtain a permit or lease under the Territorial Quarrying Regulations (TQR). Also included in the TQR are detailed instructions for the procedure of staking an area. As stated above, rehabilitation is a requirement under the TLUR and the details and securities are imposed by permit condition.

Application for a quarry permit includes an application fee of \$150.00 and the applicable royalties. The permit may be issued authorizing the applicant to take the said quantity of material from the lands described in the permit. The permit is valid until the quantity of material mentioned in the permit has been quarried or removed, or one year from the date of issue, whichever is earlier.

In the North, there is an allowance for sand, gravel, stone and loam for residents. Up to 50 cubic yards of sand, gravel or stone and up to 15 cubic yards of loam may be removed, in a calendar year, from crown lands not already under lease, licence or previously disposed of by the crown. This material is for personal use and may not be used for barter or sale.

In the Yukon Territory, there are four standing long term Quarry Leases. Approximately 80 Quarry Permit applications are processed on an annual basis. In the

Northwest Territories and Nunavut there are approximately 114 Land Permit applications, 110 Quarry Permit applications and 140 Land Use Permit applications processed on an annual basis.

5.3 BRITISH COLUMBIA

In British Columbia the government owns and may dispose of subsurface rights to most lands in the province and the landowner is entitled to the soil, sand and gravel on their property. The Mineral Tenure Act defines a mineral as an ore of metal, or a natural substance that can be mined, that is in the place or position in which it was originally formed or deposited or is in talus rock. This includes: (a) rock and other materials from mine tailing, dumps and previously mined deposits of minerals, (b) dimension stone and (c) rock or a natural substance.

The Mineral Tenure Act details surface rights and minerals reserves and allows for two main regulations. The Mineral Act Regulations 297/88 deals with exploration and development assessment work and outlines the reporting requirements. The Mineral Tenure Act Regulation 454/95 outlines the staking of claims.

The Mines Act defines a mine as a place where much disturbance of the ground or any excavation is made to explore for or to produce coal, mineral bearing substances, placer minerals, rock, limestone, earth, clay, sand or gravel. Included in the definition are abandoned sites and the equipment used.

The Mines Act applies to all mines during exploration, development, construction, production, closure, reclamation and abandonment. It outlines the available permits, the

prescribed inspections, required engineering reports on safety, health & safety procedures, requirements and comments on day to day administration.

Exploration on Crown Land requires a permit, granted under the Mines Act. The application is screened, possibly involving other government agencies, First Nations and the public may be consulted. No fees are required and the permit is granted within 30-60 days if the application is satisfactory to the Chief Inspector.

Mineral claims must be staked over the area of interest, each claim measuring 500 m by 500 m (25 ha). An assessment report must be filed outlining expenditures and the work completed. Exempt lands include federal and provincial parks and protected areas. Sensitive areas, such as a watershed, allow only limited exploration.

A development permit is subject to the same screening process as outlined above. In addition, submission of an outline of proposed work and a reclamation plan are required with the application. Provincial royalties are payable on a volume basis and municipal governments may impose a volume-based fee to recover costs incurred as a direct result of the quarrying activities, such as road maintenance. The duration of each permit is specific to each individual case. Approximately 150 to 200 development permits are applied for an annual basis under the Mines Act.

Environmental requirements are outlined in the Environmental Assessment Act. In British Columbia, a Project Approval Certificate is applied for in writing, to the Executive Director of the Department of Environment with the prescribed fee. The application is reviewed and either granted or further review is requested. If further review is requested, a detailed draft project report is completed and submitted and the public is consulted.

Rehabilitation involves the submission of a reclamation plan and a security deposit imposed at the discretion of the Chief Inspector. This security may be modified as the quarry site changes. An Environmental Impact Assessment is also necessary for proposals where extraction of sand and gravel exceeds 500,000 tonnes per year or 1,000,000 tonnes over four years and for quarried bedrock where extraction exceeds 250,000 tonnes per year.

5.4 ALBERTA

Alberta's pits and quarries are governed by the Law of Property Act; Mines & Minerals Act (and Amendment, 1997); Public Lands Act; and the Environmental Protection and Enhancement Act.

The Law of Property Act is applicable to all land in Alberta and the owners thereof including the Crown in right of Alberta. It states that sand, gravel, clay and marl are vested in the surface title holder. The Public Lands Act is applicable to all public land under the administration of the Minister. This Act allows for the Surface Materials Regulation in which clay, marl, sand, gravel, silica sand, topsoil and peat on public land are governed.

Application for a licence to enter upon the land for removing surface material may be issued under the Surface Materials Regulation. The application fee, the royalty prescribed in the Schedule and the required operating information are to be submitted with the application. A licence shall not be for a term greater than one year.

A lease, which grants the right to occupy public lands to remove surface material by surface excavation, can be obtained by applying to the minister. The term of the lease

shall not exceed 25 years. The application fee and information detailing the land and the right to legal access are to be submitted with the application. Upon the granting of a lease, the lessee must submit an operating plan and the required security deposit.

The operator is required to submit yearly reports detailing the amount of material removed from the site in the previous 12 month period along with the royalty on the said materials.

The Mines and Minerals Act is applicable to Crown Lands and defines a mineral as all naturally occurring minerals and without restricting the generality of the foregoing, includes:

- i. gold, silver, uranium, platinum, pitchblend, radium, precious stones, copper, iron, tin, zinc, asbestos, salts, sulphur, petroleum, oil asphalt, bituminous sands, oil sands, natural gas, coal, anhydrite, barite, bauxite, bentonite, diatomite, dolomite, epsomite, granite, gypsum, limestone, marble, mica, mirabilite, potash, quartz rock, rock phosphate, sandstone, serpentine, shale, slate, talc, thenardite, trona, volcanic ash, sand, gravel, clay and marl, but
- ii. does not include:
 - a. sand and gravel that belong to the owner of the surface of land under section 54 of the Law of Property Act,
 - b. clay and marl that belong to the owner of the surface of land under section 53 of the Law of Property Act
 - c. peat on the surface of land and peat obtained by stripping off the overburden, excavating from the surface or otherwise recovered by surface operations.

The Mines and Minerals Act (and Amendment, 1997) outlines the mineral lease application fees, area of work, lease rights and terms and royalties. The Metallic and Industrial Minerals Royalty Regulation 350/93, the Metallic and Industrial Minerals Exploration Regulation 299/93 and the Metallic and Industrial Minerals Regulation 66/93. Regulation 350/93 outlines the royalties as they apply to specific minerals and royalty due dates. Regulation 299/93 outlines the process for obtaining either an exploration licence or permit and exploration approvals. The details required in the assessment work report are outlined in Regulation 66/93.

Exploration requires an Exploration Licence, Permit and Approval. An Exploration Licence grants the right to explore for quarriable substances or minerals; an Exploration Permit allows the physical exploration using conventional techniques. An Exploration Approval must be obtained in situations where environmental disturbances are likely to occur. All require fees as outlined in Appendix 1 and application submission for physical work requires a plan outlining the proposed work and material sought. All work and expenditures must be reported. Lands exempt from exploration and development include land designated with a protective status, including provincial parks, reserves, natural areas and other areas thought to be environmentally sensitive.

In Alberta, the lands are divided into 'Green Areas and White Areas'. The Green Areas are non-settled and managed primarily for timber production, but other uses are permitted. The Land and Forest Service of Alberta administer Public Lands in the Green Areas. The White Areas are settled, the types of acceptable uses are usually less restrictive than in the Green Areas but suitable lands may be difficult to find. Alberta Agriculture, Food and Rural Development administer Public Lands in the White Areas.

Environmental Assessment requirements are outlined in the Environmental Protection and Enhancement Act (EPEA). The EPEA also outlines the approvals, appeals, water and air quality emissions, reclamation and enforcement. There are also three regulations under the EPEA that apply; (1) the Activities Designation Regulation, (2) the Approvals Procedure Regulations and (3) the Conservation and Reclamation Regulation.

Rehabilitation requirements vary within Alberta based on whether the activity is taking place on Green or White Land and public or private land. The Forest Management Division of the Alberta Environmental Protection Group administers rehabilitation on public lands in the Green Area. For public lands in the White Area the Public Land Management Branch of the Alberta Agricultural, Food and Rural Development govern the rehabilitation processes. Private lands, regardless of whether they are located in Green Areas or White Areas, are subject to the approval of the Land Reclamation Division of the Alberta Environmental Protection. In all cases, a closure plan is required before production starts.

5.5 SASKATCHEWAN

Saskatchewan pits and quarries are covered under a series of acts and regulation. The Crown Minerals Act (CMA) states that minerals are vested in the crown. The CMA defines a mineral generically as a non-viable substance formed by the processes of nature irrespective of chemical or physical state and both before and after extraction. However, it does not include surface or groundwater, agricultural soils or sand and gravel.

The Mineral Resources Act (MRA) is applicable to Crown Lands. The MRA has the same definition of a mineral as the CMA, stating that it does not include surface

water, agricultural soil, or sand and gravel that belong to the surface title holder other than the crown under the Sand and Gravel Act.

The purpose of the Minerals Resources Act Chapter 16 is to:

1. promote and encourage the discovery, development, management, utilization and conservation of the mineral resources,
2. regulate the disposition
3. protect the rights of surface holders and mineral rights holders
4. establish scientific libraries with respect to mineral resources
5. promote safety.

The Quarrying Regulations (1957) falls under the MRA. It is applicable to Crown Lands and defines a quarriable substance in specific terms as bentonite, building stone, clay, granite, gravel, gypsum, limestone, marble, marl, sand, slate and volcanic ash. Prospecting permits, leases, licences to remove quarriable substance, royalties and surface rights are all outlined in this regulation.

Exploration for quarriable substances requires a permit, which allows for basic exploration work and for extraction for testing purposes. The permit application fee of \$100.00 is valid for 1 year and must be accompanied by a rental fee of \$0.50/acre. A six-month extension is available and the maximum area that may be held under the permit, is 25 square miles. A \$500.00 bond must also be sent with the application.

Developing a pit or quarry requires a lease or a licence. The licence allows for production of 500 tonnes or less. An application for a licence must be sent with a \$10.00 fee. If granted, the licence expires on March 31 following the date of issue. A lease allows for production of greater than 500 tonnes, is valid for up to 21 years and must not

be for an area greater than 640 acres. The lease application should be accompanied with the \$100.00 application fee and a rental payment of \$2.00/acre/year. Subsequent rental payments are payable one year in advance. Royalties are variable, as outlined in Appendix 1 and are submitted quarterly.

The Provincial Lands Act discusses the reservation of mines and minerals and allows for the Provincial Lands Regulations. Part III.1 of this regulation is specific to Sand and Gravel. It defines a quarry as an open pit or excavation made for removing sand and gravel. The regulation details exploration permits, required reports, leases and reclamation.

The Sand and Gravel Act is applicable to all lands in the province and to the owners thereof, including the Crown in the right of Saskatchewan and the lands owned by the Crown in the right of Saskatchewan. This Act states that "the owner of the surface is and shall be deemed to have always been, the owner of and entitled to all sand and gravel on the surface of the land. Including the sand and gravel obtainable by stripping off the overburden, excavating from the surface or other surface operation. This also applies to any clay required for the construction of an earthen dam or road grade, and all volcanic ash, marl and bentonite." There are currently 530 Sand and Gravel Surface Leases being administered by the Department of Saskatchewan Environment & Resource Management.

The Environmental Assessment Act aids in the assessment of the potential impact on the environment by a development. A proponent conducts a preliminary Environmental Impact Assessment and submits an Environmental Impact Statement. The statement is reviewed and made available for public inspection. Comments and inquiries

are heard and the Minister either approves or denies the application, reserving the right to attach conditions to an approval.

5.6 MANITOBA

The regulatory process for pits and quarries is covered under one comprehensive Act, the Mines and Minerals Act (MMA), and its applicable regulations, the Quarry Minerals Regulation 65/92 and the Mineral Disposition and Mineral Lease Regulation 64/92. The MMA and its regulations address land use, resource management, permitting processes, environmental aspects, as well as, health and safety.

The MMA defines a mineral as a non-living substance formed by natural processes found on or under the surface, irrespective of chemical or physical state and includes peat and peat moss. An aggregate is defined as a quarry mineral used solely for construction purposes and as a constituent of concrete, including sand, gravels, clay, crushed stone and rock. A quarry mineral includes sand, gravel, clay, shale, kaolin, bentonite, gypsum, salt, peat, peat moss and coal, rock or stone used for a purpose other than a source of metal, metalloid or asbestos. The inclusion of the generic terms rock and stone allow for the discretion of the Minister when naming materials as minerals, aggregates and quarry minerals.

The Mineral Disposition and Mineral Lease Regulation discusses exploration permits and licences, claims and surface leases. The Quarry Minerals Regulation outlines the application process for quarry permits, leases, and details the requirements for operation and rehabilitation of the quarry. The schedule of fees, expenditures, required work and a report of required work, as well as, royalty rates and rehabilitation levies are

discussed. The Crown Lands Act should also be considered as it discusses dispositions and the reservation of lands.

To explore for quarriable substances, one must acquire a Quarry Exploration Permit. This permit is valid for three years and costs \$10.00 plus a cash deposit of \$1 000.00 or \$25.00/ha whichever is greater. The application must specify the area of interest and the material of interest, a detailed description of local topographic features and planned work and rehabilitation plans. The permit holder must submit an assessment report outlining work performed and monies spent. Assessment costs are graduated from \$12.00/ha in year one to \$36.00/ha in year three.

Development of a pit or quarry requires either a Casual Quarry Permit or a Quarry Lease. The permit costs \$10.00 and is valid for three years with one-year renewable terms. The quantity associated with a permit is specific to each individual permit. A lease also costs \$10.00, however it is valid for ten years with a ten-year renewable term. A lease also requires an annual rent of \$18.50/ha. The amount of material associated with a lease is to be lease specific but not to exceed 70 hectares for materials other than peat. For peat, the lease shall not exceed 270 hectares. The Royalties outlined in Appendix 1 are applicable to both the permit and the lease and are payable, no later than 30 days after the annual anniversary date. These Royalties are specific to the commodity sought. The Department of Energy and Mines currently administers 750 Casual Quarry Permits and 650 Quarry Leases.

A registration certificate authorizes the operation of an aggregate quarry. All aggregate quarries whether on Crown land or Private land must apply for a registration certificate. The application is submitted to the recorder with a fee outlined in Schedule A

of the Quarry Minerals Regulation. At present there are 800 registrations administered by the Department of Energy and Mines.

Within 30 days of the expiration of a registration certificate, the holder shall submit a completed annual return form and pay the rehabilitation levy prescribed in Schedule C of the Quarry Minerals Regulation.

Within 30 days of the anniversary date of a lease, the lessee shall submit to the recorder an annual statement. The annual statement shall outline the total quantity of quarry mineral that has been produced from the lease area and pay the prescribed royalties and rehabilitation levy as outlined in Schedule C of the Quarry Minerals Regulation.

5.7 ONTARIO

In Ontario, the Aggregate Resources Act (ARA) governs the disposition of aggregate which is defined as gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, rock or other prescribed material. Earth does not include topsoil or peat and rock does not include metallic ores, asbestos, graphite, kyanite, mica, nepheline, syenite, talc, wollastonite and other prescribed materials. A pit refers to unconsolidated materials on land or land underwater and a quarry is specific to consolidated materials on land or land underwater.

The ARA details the requirements for licences, wayside permits and aggregate permits as well as the rehabilitation requirements. Licences are applicable to private lands, aggregate permits are on crown lands and wayside permits are available to any public authority, or any person who has a contract with a public authority, that requires

aggregate for a temporary project. Aggregate and topsoil are vested in the surface title holder.

Exploration and development procedures are subject to the permits, licences and leases as outlined in the Aggregate Resources Act. There are two classifications of licences for exploration and development on private lands. Each classification contains four categories of licences offered. Class A type licence permits the removal of greater than 20 000 tonnes of material from pits or quarries either above or below water. A Class B licence outlines the removal of less than 20 000 tonnes of material, also from pits and quarries above or below water. An annual fee of \$0.06 / tonne or \$200.00 / year, whichever is greater, is required for a Class A Licence. A Class B Licence requires \$0.06 / tonne and \$100.00 / year be paid. There are approximately 50 to 70 Licence applications processed on an annual basis by the Ministry of Natural Resources.

Aggregate permits, also covered under the Aggregate Resources Act, are assigned for exploration and development on Crown Lands. There are four categories outlining the procedure for removal of materials from pits or quarries from both above and below water. There is no restriction on the amount of material to be removed from the site outlined in the Act. An annual fee of \$100.00 is required. There is average of 100 to 200 permit applications processed on an annual basis by the Ministry of Natural Resources.

A Category 13 Aggregate Permit is appropriate for an operation that intends to extract aggregate materials from land under water. This may be permitted on Crown or Private land. Amounts permitted for removal are not specified.

A Wayside Permit, a Category 15 Permit, is in place for the supply of aggregate under contracts issued by a Public Authority. The aggregate must be required for projects

of road construction or road maintenance, the aggregate is to be obtained from outside the limits of the right of way of the highway. The party extracting the material must ensure limited inconvenience to the public. Royalties are waived for Wayside Permits.

The application for any licence or permit requires details of all aspects of the proposed quarry operation. The holder must submit an annual compliance report ensuring that all set guidelines are being met and a royalty of \$0.25/t for all materials is to be paid.

Rehabilitation is outlined in the application for licence or permit before production is started. The licence or permit holder must also provide financial assurance that rehabilitation will be completed after quarry shutdown and an Environmental Impact Assessment is necessary if there are significant features within 120 metres of the quarry site. Significant features include sensitive areas such as certain wetlands, woodlands, wildlife habitats and other areas of scientific or natural interest.

The fee schedule and royalty requirements associated with licences and permits are outlined in the Ontario Regulation 244/97. Health and Safety requirements are outlined in the Occupational Health & Safety Act.

The Mining Act defines minerals as naturally occurring metallic and non-metallic minerals, including natural gas, petroleum, coal, salt, quarry and pit material, gold, silver and all rare and precious metals, but does not include sand, gravel and peat. The Mining Act discusses abandonment and inspections and allows for six regulations:

1. Ontario Regulation 116/91 – Assessment Work
2. Ontario Regulation 115/91 – Claims Staking

3. Ontario Regulation 112/91 – Fees
4. Ontario Regulation 111/91 – Forms
5. Ontario Regulation 113/91 – General
6. Ontario Regulation 114/91 – Mine Development & Closure under Part IX of Act.

5.8 QUEBEC

The Mining Act defines surface mineral substances as sand, gravel, clay, peat, and stone used for construction and certain industrial purposes. Exploration requirements for pit and quarry materials are outlined in the Regulation Respecting Mineral Substances, Other Than Petroleum, Natural Gas and Brine which falls under the Mining Act (Loi sur les Mines).

An exploration permit costs \$55.00 and has a two-year duration. A location map and an outline of the proposed work program accompany the application for a permit. Two types of leases are available for developing a pit or quarry. A Non Exclusive Lease costs \$200.00, is valid for 1 year and enables the holder to produce unconsolidated material. An Exclusive Lease costs \$2 200.00, is valid for a maximum of five years and enables the holder to quarry consolidated material. A detailed location map showing local cultural features must accompany the application for each lease. The Exclusive Lease application must also include an in-depth production and market analysis. Lease approval may take up to two months. There are greater than 200 permit applications processed on an annual basis by the Department of Natural Resources.

Areas under exemption include crown land within 600 metres of lands zoned as commercial, residential, or public buildings such as schools, campgrounds or places of worship. Payable royalties are outlined in the summary table in Appendix 1.

Development of a pit or quarry is legislated by the Environment Quality Act (Loi sur la Qualité de l'Environnement) through the Regulation Respecting Pits and Quarries. Materials covered are listed simply as sand, gravel and other aggregates. To develop a pit or quarry a Certificate of Authorization must be obtained from the Minister of the Department of Environment. Approximately 25 applications are processed on an annual basis.

Required with the application is a report outlining the details of the proposed operation, a guarantee of \$5 000.00 for a pit whose stripping is less than or equal to one hectare or \$4 000.00 / ha. This regulation also outlines the environmental concerns and requirements.

5.9 NEWFOUNDLAND

The pit and quarry regulatory process in Newfoundland is covered under the Crown Lands Act, the Quarry Materials Act and the Mineral Act. The Crown Lands Act defines surface rights as the land lawfully held by a person other than the crown where the minerals, limestone, granite, slate, marble, gypsum, marl, clay, sand, gravel, a building stone, volcanic ash, coal, oil, natural gas or salt on or under it are reserved to the Crown.

The Quarry Materials Act defines quarry materials as a substance used in its natural form for civil construction or agricultural purposes. Including clay, sand, gravel, rock, soil, peat and slag, but does not include slate, marble, granite and similar stone used as dimension stone. This Act outlines exploration licences, quarry permits, subordinate quarry permits, beach permits and quarry leases as well as, limitations on removal of quarry materials.

The Quarry Materials Regulation 804/96 defines the regulatory process under Section 12 of the Quarry Materials Act. Items covered under this Regulation are quarry permit application process, terms and conditions of quarry development and situations in which no permits are available.

An Exploration Licence gives exclusive rights to explore for the above materials. Exploration Licences issued for dimension stone, slate, peat or aggregates intended for export or large scale or long term operations will be issued for a maximum of one year. If the intended commodity is aggregate for use within the province, the licence will be issued for a maximum term of four months.

Once the licence is issued, the licensee may remove quarry material for sampling and assaying purposes only. The quarry materials of interest must be specified in the licence application. The holder must submit a report of findings and results and must spend a minimum of \$5.00 per hectare. The maximum area granted under a licence is to be no greater than 5 000 hectares. Restricted areas include beaches and concession lands.

Quarry development requires a permit or a lease. A permit is valid for one year, whereas a lease is valid for 20 years. Each allows the holder to excavate materials within an area up to 5 hectares. In order to maintain the permit or lease status, the holder must submit a royalty of \$0.30/m³ and maintain a record of materials excavated. These records are to be submitted with the royalty payments that are due within two months of the expiration of the permit or lease.

Rehabilitation bonds are not usually necessary but an Environmental Impact Assessment (EIA) may be required for areas greater than ten hectares. The Department

of Mines & Energy must be notified prior to abandonment of a site so that there may be a government site inspection.

The Mineral Act defines a mineral as a naturally occurring inorganic substance including coal and minerals contained in mine tailing, but does not include water, quarry materials, stratified deposits other than coal from which oil can be extracted by destructive distillation or petroleum. Therefore, slate, marble, granite and similar stone used as dimension stone are covered under the Mineral Act.

The Mineral Act outlines the staking procedures, reporting requirements, and the application process for licences and leases. There are five regulations under the Mineral Act that apply to pits and quarries in Newfoundland: 1) Regulation 57/97; 2) Regulation 85/97; 3) Mineral Act Baie Verte Area Exemption Regulations 964/96; 4) Description of Lands Open for Staking in Respect of which the Mineral Claims Recorder Shall Issue only Map Staked Licences Order 1015/96 and 5) Mineral Regulations 1143/96.

In total, there are approximately 700 to 900 applications regarding pits and quarries processed yearly by the Department of Mines & Energy.

5.10 PRINCE EDWARD ISLAND

The quarrying regulations are governed under the Environment Protection Act and Excavation Pits Regulations. Commodities covered include clay, gravel, sand, shale, subsoil, topsoil, rock or any other surface or subterranean deposit.

The Environmental Protection Act defines the powers of the Minister, Council and Cabinet, Environmental Impact Assessment process and regulations. The Excavation Pits

Regulations covers the permit structure, development criteria and waivers of certain requirements.

An application fee of \$100.00, as well as, the details of the proposed quarrying operations must accompany a development permit application. Land use issues are addressed in the Environmental Protection Act. A rehabilitation plan is to be submitted with the development application and an unspecified bond is to be submitted at said time. Exempt lands include areas surrounding personal residences and public buildings.

Discussion with personnel from the Department of Fisheries and Environment revealed that there is very little policy in place for the development for pits and quarries on crown land since there is very little crown land. In addition, that which is crown land is predominantly designated as parks or beach. On average there are between 50 and 75 applications for permits processed on an annual basis.

5.11 NEW BRUNSWICK

The regulatory process for pits and quarries is covered predominately under the Quarriable Substances Act and Quarriable Substance Act Regulation 93/92. The Quarriable Substances Act defines a quarriable substance as ordinary stone, building or construction stone, sand, gravel, peat, clay and soil and peat moss. Quarriable substances that are used for their chemical or special physical properties are covered under the Mines Act.

The Quarriable Substance Act applies to Crown Land and development of materials defined by this Act. The Quarriable Substance Regulation 93/92, under Section 39 of the Quarriable Substance Act, defines the Act, explains exempt shore areas,

outlines quarry permits and leases, peat exploration licences and leases and details renewals, transfers, rents, royalties and fee structures.

An exploration permit may be acquired for a \$10.00 fee submitted with a location map showing the area of interest. Permit approval may take up to two weeks. The permit is valid until December 31 of the year of issue. Exempt areas include shoreline areas.

Development requirements for all materials, excluding peat are covered under a Quarry Lease. A lease may be acquired by submitting a rehabilitation bond, a detailed report outlining the quarry plan with estimated costs, production rates, economic impact and rehabilitation plans. Lease approval may take up to 3 months or more. Once the lease has been issued, the holder must pay an annual rent of \$50.00/ha/year and a royalty \$0.25/tonne. Once production begins, the operation records must be available for inspection. There are approximately 200 leases and 150 permits under the administration of NB DNRE.

To obtain a Peat Exploration Licence with a one year duration, a person may apply in writing to the Minister. Included with the application shall be an application fee of \$100.00, information on the proposed work to be done and a market study. The required annual work expenditure in respect of a licence is \$2.50/ha.

A Licencee may obtain a Peat Lease by submitting an application with the feasibility study and required fees as outlined in the Regulation. A reclamation plan for the site shall be included with the feasibility study. Upon issuance of a Peat Lease the annual rent of \$5.00/ha/year. Royalties of \$0.08/standard bale must be paid semi-annually.

Rehabilitation plans are specified in the lease application and a bond of \$20.00/ha or \$5 000.00, whichever is greater, must be submitted with the application. Registration under the Environmental Impact Assessment (EIA) Regulations is required for both a quarry and a peat development, however, the Minister may waive various stages of the EIA and in most cases, quarrying operations have been screened out.

The Topsoil Preservation Act and Regulation 95/66 is administered by the Minister of Agriculture and Rural Development. Topsoil is defined as the uppermost layer of soil or soil containing 0.9 % or more organic carbon, as determined by the Walkley and Black Method and sand, silt and clay.

A permit to remove topsoil may be obtained by applying to the Minister with an application fee of \$50.00 and the required information including an operation plan and a rehabilitation plan.

Health and safety of a pit or quarry is Governed by the Occupational Health & Safety Act and General Regulations which is administered by the Minister of Advanced Education and Labour.

5.12 NOVA SCOTIA

Pit and quarry exploration and development are covered under the Crown Lands Act, the Metalliferous Mines and Quarries Regulation Act and the Nova Scotia Department of the Environment Pit and Quarry Guidelines (1988). Materials covered include clay, sand, gravel, limestone, gypsum, building stone and any other quarriable minerals or rock. Commodities desired for their specific chemical or physical properties would fall under the jurisdiction of the Mineral Resources Act.

The Crown Lands Act defines the powers of the Minister over Crown Land access and development. The Metalliferous Mines and Quarries Regulation Act is a comprehensive act related to “every mine of whatever description other than a mine to which the Coal Mines Regulation Act applies”. It focuses on mining operations and safety requirements during development and operational phases of the project.

Exploration and development are covered under a permit, which can be acquired for \$5.00 and a non-refundable deposit of \$130.00 for the first 500 m³ of material removed. Under this permit there are two classifications based on the amount of material requested for removal. A Local Permit is issued by the Manager of Forest Resources for development of 5 000 m³ or less. Application for development in excess of 5 000 m³ is submitted to the Regional Office for approval. A rate of \$0.20/yd³ or \$0.14/ton is levied on amounts in excess of the original 500 m³. Quarterly royalty payments are submitted as well as an annual report of the mine workings. The specific royalties are outlined in Appendix 1.

Enforcement of the environmental regulations in regards to pit and quarry development and closure are clearly outlined in the Environmental Pit & Quarry Guidelines. This guideline defines the location and proximity of quarry development with respect to waterways, residential areas and agricultural lands. It also addresses requirements of quarry operations in relation to acceptable environmental thresholds of sound, air, and water pollution, as well as, several aspects of public safety requirements related to quarry and pit workings.

Rehabilitation is addressed in the Nova Scotia Department of the Environment Pit and Quarry Guidelines. These guidelines require a progressive rehabilitation program

and a bond of \$2 000.00 per acre to assure rehabilitation of the site, to the satisfaction of the Nova Scotia Department of the Environment.

Sensitive areas, such as beaches, or areas designated by the Minister, may cause delays in the issuance of a permit. Otherwise, the permit may be issued on the same day as requested.

5.13 ALASKA

In Alaska, although there are large tracts of Federal Land, only a small portion remains as unappropriated. In anticipation of the Alaska Native Claims Settlement Act (passed in 1971), large portions of federal land were withdrawn from developmental access. Rights to minerals were and in some cases still are obtained, not only through lease, sale, permit or licencing, but are claimed by appropriation under the law when the quarriable minerals are locatable under the 1872 Mining Law, as amended.

The regulatory process for American federal and state lands is incorporated into several federal and state laws and regulations, including the General Mining Law (1872), Mineral Leasing Act (1920), Materials Act (1947), Common Varieties Act (1955) and the Code of Federal Regulation 43 CFR 3600, all of which is continually under review. The latter are the most current of all the legislation and covers materials such as sand, gravel, building stone, pumice, cinders and clay without special qualities.

Minerals such as those above are typically sold outright, unless they are deemed to have a special quality, then they are generally appropriated. In addition, if the mineral rights can be locatable under the 1872 Mining Act, then the claimant may appropriate the minerals. Mechanized exploration and development require permitting by up to twenty-

three federal, state and local agencies. Expenditures and reporting requirements are unclear. However, a more prominent regulatory agency is the United States Forest Services who regulate mine operations and quarry site and sand/gravel borrow pit areas. Legislation under the Mineral Materials Disposal 3602.1-2 requiring security deposit and reclamation plans to be submitted before major physical work. EIA's are required for larger developments.

6.0 ANALYSIS

6.1 REVIEW APPROACH

The objective of this study was to analyze current legislation regarding pits and quarries on Territorial Lands under the administration of DIAND with respect to regulatory approaches in other jurisdictions across Canada and in Alaska.

Copies of Legislation were obtained from the University of New Brunswick Law Library. Additional information was gathered by electronic mail, questionnaires were faxed to appropriate contacts, Internet searches of the government web pages and consultation with contacts in relevant government departments.

A benchmark was developed based on the regulatory process for exploration, development, production and rehabilitation of pits and quarries on Territorial Lands. The DIAND approach was dissected with respect to the commodities covered, approach to land use, resource management, environmental issues, and health and safety. Similar processes in other jurisdictions across Canada and in Alaska were compared to this benchmark in an attempt to identify both the strengths and limitations of each regime with respect to the benchmark. Each regime is summarized in Appendix 1 by comparing its characteristics to a checklist formed in conjunction with the Scientific Authority of DIAND. Pertinent information is then summarized in table format in Appendix 2.

A checklist was developed in consultation with the DIAND Departmental Representative to use in a comprehensive, objective description and comparison of the existing legislation and regulations for the management of pit and quarry materials in the

subject jurisdictions. This checklist was also used as a tool to aid in identifying anomalies within individual jurisdictions.

6.2 REGULATORY SUMMARY

One aspect of this study was to review the permitting processes with respect to pits and quarries employed across Canada and in Alaska. However, that is not the only purpose. Each jurisdiction also has its own approach to environmental and health and safety issues. When comparing the different jurisdictions to the benchmark some of the approaches are labeled as fragmented or comprehensive. This is meant as an indication of how completely and clearly all three aspects of pit and quarry regulatory approach are addressed.

Although no jurisdiction employs one comprehensive piece of legislation to regulate pits and quarries there are some jurisdictions that have a more comprehensive approach than the rest. The regulation of pits and quarries in Manitoba is governed by the Mines and Minerals Act. Falling under the Mines & Minerals Act are two separate regulations, the Quarry Minerals Regulation and the Mineral Disposition and Mineral Lease Regulation. Within these three documents, the permitting and leasing process, environmental issues, and health and safety are all addressed making this the most comprehensive and complete legislation currently in use.

Across Canada, statutes serve to regulate different aspects of pits and quarries. The exploration phase typically places initial conditions on materials that may be sought and upon which crown lands one can explore (ie. federal and provincial parks, aboriginal and ecological reserves and other nature and scientific areas which may be exempt).

As areas of interest are detailed and production is proposed, the regulations tighten and typically, strict guidelines are in place to protect environmental concerns. Securities or bonds based on parameters such as the size of the proposed quarry or possible production rates are typically submitted at this time along with detailed reclamation plans. Once these concerns have been met, production may begin. Jurisdictions such as British Columbia also have legislation in place that will allow the security or bond to be modified as the disturbances at the quarry site change. Some jurisdictions require reports on detailing the on-going rehabilitation that has been completed.

The reclamation or closure stage typically falls under environmental legislation, however, Manitoba and Ontario outline rehabilitation requirements within the Mines and Minerals Act and Aggregate Resources Act respectively. Each of the thirteen jurisdictions has its own definition of closure or reclamation. The outlined requirements vary in detail from abandonment with safety precautions in place, to restoring the site to a predetermined form specified in the permit, licence or lease, as it applies.

6.3 REGULATORY EVALUATION

As a result of the diverse designation of lands in the Territories, a unique complexity with respect to the application of statutes has arisen. The Territories are divided into Territorial Lands, Commissioner's Lands, Municipal Lands and privately owned lands. Territorial Lands are Federal Lands or Crown Lands under the management, administration and control of DIAND. Commissioner's Lands are lands whose administration and control have been transferred to the Commissioner of each territory. Municipal lands are those lands that fall within a municipal boundary and privately owned or settlement lands belong to organizations representing aboriginal peoples. Pits and quarries on Territorial Lands are governed by DIAND under the

Territorial Lands Act, the Territorial Land Use Regulation, the Territorial Quarrying Regulation, the Mine Health & Safety Act and the Canadian Environmental Assessment Act. The Commissioner's Lands are governed by these regulations as well as additional regulations put in place by the respective Commissioner. Privately owned lands are subject to the regulations and conditions put in place by both the First Nations Community and DIAND.

The review of other jurisdictions within Canada and Alaska makes evident the focus of statute origin. In a resource-based approach to legislation, there appears to be a weakness in follow up for rehabilitation. In an environmental approach to legislation, weaknesses appear in the concerns for socio-economic and economic aspects of development.

The approach to Health and Safety in Nova Scotia and Manitoba are somewhat of an anomaly. The Nova Scotia Metalliferous Mines and Quarries Regulation Act is specific to health and safety in the development and operational phases of mining. In Manitoba, health and safety requirements are outlined in the Mines and Minerals Act. In the remaining eleven jurisdictions health and safety is typically outlined in a secondary act or regulation that is administered by an Occupational Health and Safety group or Workplace Health and Safety group within that jurisdiction.

7.0 POINTS FOR CONSIDERATION

7.1 GENERAL

With the changing times in Canada, in particular in the North, it is necessary to amend and update existing legislation. To enforce legislation it is imperative that surface materials and ownership thereof, be clearly defined. Based on the review of jurisdictions the following definitions are put forward as options for defining different aspects of pits and quarries:

Pit	an excavation made for the purpose of removing unconsolidated earth, sand or gravel from the environment (Nova Scotia)
Quarry	an excavation requiring the use of explosives, made for the purpose of removing consolidated rock from the environment (Nova Scotia)
Ownership	the owner of the surface of the land is the owner of and entitled to the surface of the land and all sand and gravel obtainable by stripping off the overburden or other surface operation. (Saskatchewan)
Operation	clearing, stripping, excavating, processing and removal of surface materials from and reclamation of public lands described in a lease or licence
Surface Materials	geomaterials excluding high value materials used for their special chemical or physical properties including limestone, granite, slate,

marble, gypsum, loam, marl, gravel, sand, clay, stone, volcanic ash,
peat and peat moss.

Peat and peat moss are not currently considered under the Territorial Quarrying Regulations, however, it is recommended that they be.

7.2 PURPOSE FOR LEGISLATION

In the Saskatchewan Mineral Resource Act the purpose for the Act is given as follows:

1. to promote and encourage the discovery, development, management, utilization and conservation of the mineral resources
2. to regulate the disposition
3. to protect rights of surface holders and mineral rights holders
4. to establish scientific libraries with respect to mineral resources
5. to promote safety

The legislation currently in place in the North serves to regulate the disposition, however, since the legislation has developed from a land use origin in an effort to manage and conserve resources, there doesn't exist the promotion of or encouragement to discover and develop the mineral resources.

By establishing scientific libraries with respect to mineral resources, DIAND would be accumulating the information needed to facilitate promotion of discovery and development of mineral resources. Thus, potentially satisfying socio-economic requirements via the creation of jobs as a result of discoveries and developments.

Currently the safety issues surrounding pits and quarries are outlined in the Mine Health and Safety Act. Creating a pit and quarry specific regulation that is referenced in the applicable section of the Act would add to the legislation making it more comprehensive.

7.3 APPLICATION PROCESS

The process, which takes a project from the exploration stage through to reclamation, is unique to each jurisdiction, as outlined in flowchart form in Appendix 3. Developers new to the industry or who have not worked in the particular jurisdiction of interest may be at a disadvantage when applying to explore for or develop a commodity. The process of permitting and reporting may be foreign to them and communication of correct process of permitting and allowed work is important. Clear conveyance of correct procedure allows for the developer and regulatory body to work together efficiently.

Guidelines for pit and quarry development provide both the developer and regulatory agent with a common starting point and the proper tools to clearly outline the goals of a particular project. A guideline should include a listing of federal, municipal or territorial agencies to be consulted during the process of exploring for or developing a commodity. A breakdown of available mineral resource database information, maps and publications as well as pertinent legislation should be made available for potential developers and where to obtain the documents.

7.4 SUSTAINABLE DEVELOPMENT

The development and inherent decline of available non-renewable resources require that known deposits be developed in an informed and controlled manner. An informed decision with respect to the development of a resource is best made when there exists an understanding of the volume, quality and accessibility of a resource within the regulatory influence of those involved in the decision making process. Sustainable Development requires that informed decisions regarding resource development be made based on the available "inventory" information.

Mineral resource inventories play an essential role in making informed decisions related to sustaining resources for future generations. Concise cataloging and up to date records on quantity, quality and locations of both resources under development and potential development is a key element in the process of making informed decisions on the permitting of an undertaking.

7.5 REPORTING & ROYALTIES

In conjunction with resource inventories, any resource delineation information should be required to be submitted annually or at the expiration of the permit period. Reporting of production should be completed on a semi annual basis with royalty payments as opposed to an annual basis. This should allow for better management of non-renewable resources.

Reporting requirements should be outlined in the legislation requiring information to be submitted in a form compatible with that currently being used within government.

For example, specify that digital copies of maps and reports be submitted in the format currently used.

7.6 NEW LEGISLATION

With the lands issues in the North playing such an important role in the regulations regarding pits and quarries it is difficult to state in a sentence within a "Quarrying Act" how the regulations apply to the different lands. Therefore, maintaining the format already in place and simply amending and/or adding regulations that are specifically referenced within the Territorial Quarrying Regulations or applicable legislation would be the most viable route for the North to take.

By incorporating clear concise definitions such as those mentioned in Section 7.1 and by creating pit and quarry specific environment and health and safety regulations, DIAND would be providing a comprehensive piece of legislation specific to pits and quarries.

APPENDIX 1
PITS & QUARRIES REGULATORY PROCESS
CHECKLISTS

Jurisdiction:	British Columbia
Resource Ownership:	The Government of British Columbia owns and may dispose of subsurface rights to most lands in the province and the Landowner is entitled to the soil, sand and gravel on their property.
Commodities:	Includes, but is not limited to, sand, gravel, crushed stone, quarry rock and similar material used in the construction and maintenance of roads, bridges, buildings, foundations and other similar projects.
Regulatory Approach:	Specific - key issues are covered under a specific regime for quarriable materials but other statutes specifically address remaining aspects (i.e., health and safety and environment).
Statutes:	<p>Mineral Tenure Act This Act details surface rights and mineral reserves.</p> <p>Mineral Act Regulation 587/77 This Regulation outlines the procedure for exploration and development and details the reporting requirements.</p> <p>Mineral Tenure Act Regulation 297/88 The procedure and requirements for claim staking are outlined in this regulation.</p> <p>Mines Act, RSBC 1996 This Act applies to all mines during exploration, development, construction, production, closure, reclamation and abandonment. It outlines the available permits, the prescribed inspections, required engineering reports on safety, health and safety procedures, requirements and comments on day to day administration.</p> <p>Environmental Assessment Act This Act outlines the procedure for obtaining a Project Approval Certificate and details the rehabilitation requirements.</p>
Aspects of Regulations:	<p>Resource Management - The Mineral Tenure Act</p> <p>Land Use - Mineral Tenure Act</p> <p>Environment - Environmental Assessment Act</p> <p>Health and Safety - Mines Act</p>
Exploration Permitting:	
Fees & Duration:	No application fees or set duration.
Required Information:	Not specified.
Exemptions:	Provincial and Federal Parks, protected areas (ie. ecological reserves, etc.), sensitive areas with limited exploration, watersheds, recreational areas, protected studies areas, etc., some municipal bylaws in force to prohibit exploration.
Acquisition Time Frame:	30 - 60 days unless extensive public consultation is required.

Jurisdiction:	British Columbia
Development Permitting:	
Fees & Duration:	No application fees, annual inspection fee based on size of production and duration usually the mine life.
Required Information:	Outlines details of proposed work and submit a reclamation program.
Exemptions:	Provincial and Federal Parks, protected areas (ie. ecological reserves, etc.), sensitive areas with limited exploration, watersheds, recreational areas, protected studies areas, etc., some municipal bylaws in force to prohibit exploration.
Acquisition Time Frame:	30 - 60 days unless extensive public consultation is required.
Rehabilitation Permitting:	
Fees & Duration:	N/A
Required Information:	Outlines details of proposed work and submit a reclamation program.
Exemptions:	N/A
Acquisition Time Frame:	N/A
Exploration Regulatory Requirements:	
Allowable Work Expenditures:	Line cutting, drilling, explosives work, bulk sampling, road construction, soil sampling, geophysical surveys, hand and mechanical trenching (basic exploration work).
Financial Requirements:	Mineral claim fees - \$100.00 / claim / year for the first 3 years; \$200.00 / claim / year for the 4 th and subsequent years. Mineral claim is 500 m x 500 m (25 ha).
Reporting Requirements:	Submit assessment report outlining work performed and expenditures.
Payable Royalties (per tonne):	N/A
Bonds or Securities:	The Chief Inspector may require a security, subject to conditions specified for mine reclamation when a permit is issued. The security may be modified to reflect yearly changes in site disturbances.
Planning Requirements:	Not specified.
EIA:	Not specified.
Development Regulatory Requirements:	
Allowable Work Expenditures:	Open pit and underground work, reclamation and mineral processing.
Financial Requirements:	Not specified.
Reporting Requirements:	Not specified.
Payable Royalties (per tonne):	Royalties payable on a volume basis. Local governments may also assess a volume based fee to recover costs such as road maintenance that is directly related to mine activities.

Jurisdiction:	British Columbia
Bonds or Securities:	The Chief Inspector may require a security, subject to conditions specified for mine reclamation when a permit is issued. The security may be modified to reflect yearly changes in site disturbances.
Planning Requirements:	Reclamation plan to be submitted and may be amended from time to time (ie. Section 10 of the Mines Act).
EIA:	Waste Management Act requires the submission of a site profile, usually a simple checklist. For proposals of > 50,000 tonnes / year sand and gravel or 1,000,000 tonnes / 4 years of quarried rock, > 250,000 tonnes / year are subject to the Environmental Assessment Act.
Rehabilitation Regulatory Requirements:	
Allowable Work Expenditures:	N/A
Financial Requirements:	Security submitted during exploration and is modified as the site conditions change.
Reporting Requirements:	N/A
Payable Royalties (per tonne):	N/A
Bonds or Securities:	The Chief Inspector may require a security, subject to conditions specified for mine reclamation when a permit is issued. The security may be modified to reflect yearly changes in site disturbances.
Planning Requirements:	Up to 90 days to submit a closure plan showing mine workings and the boundaries of the mineral claims in which the workings were situated.
EIA:	Waste Management Act requires the submission of a site profile, usually a simple checklist. For proposals of > 50,000 tonnes / year sand and gravel or 1,000,000 tonnes / 4 years of quarried rock, > 250,000 tonnes / year are subject to the Environmental Assessment Act.

Jurisdiction:	Alberta
Resource Ownership:	Sand, gravel, clay and marl are vested in the surface title holder. The remaining pit and quarry minerals are owned by the Crown as defined under the Mines and Minerals Act.
Commodities:	<p>Mines and Minerals Act</p> <p>Gold, silver, uranium, platinum, pitchblend, radium, precious stones, copper, iron, tin, zinc, asbestos, salts, sulphur, petroleum, oil, asphalt, bituminous sands, oil sands, natural gas, coal, anhydrite, barite, bauzite, bentonite, diatomite, dolomite, epsomite, gypsum, granite, limestone, marble, mica, mirabilite, potash, quartz rock, rock phosphate, sandstone, serpentine, shale, slate, talc, thernardite, trona, volcanic ash, sand, gravel, clay and marl.</p> <p>Surface Materials Regulation</p> <p>Clay, marl, sand, gravel, silica sand, toposoil and peat on public land.</p>
Regulatory Approach:	Fragmented approach of statute application. Several regulations and statutes apply under various commodities and land use conditions.
Statutes:	<p>Mines & Minerals Act Chapter M-15 Part 3</p> <p>Part 3 of the act defines Quarriable mineral and ownership and outlines the mineral lease application, fees, area of work, lease rights, lease terms, royalties and regulations.</p> <p>Mines & Minerals Act Amendment 1997 Chapter 17</p> <p>Amendment to the regulations as outlined in the original Mines and Mineral Act.</p> <p>Metallic and Industrial Minerals Exploration Regulation 95/91</p> <p>This regulation falls under Section 152 of the Mines and Minerals Act, Section 4 of the Forests Act and Section 9 of the Public Lands Act. Licenses and permits for exploration, the exploration approval process, the right to conduct exploration, notices required, field operations, final plan requirements, assessment work reports are all outlined in this regulation.</p> <p>Metallic and Industrial Minerals Royalty Regulation 350/93</p> <p>Part 3 Defines Quarriable substance and outlines the royalties as they apply to specific minerals and royalty due date.</p> <p>Public Lands Act</p> <p>This Act outlines the use and management of public lands. It affects pit operations in terms of allocation of sand and gravel resources, royalties, approval to enter public lands, terms and condition of entry, enforcement and security.</p> <p>Public lands are divided into Green Areas and White Areas. The Green Areas are administered by the Land and Forest Service of Alberta and the White Areas are administered by the Alberta Agriculture, Food and Rural Development.</p> <p>Surface Materials Regulation</p> <p>Falling under the Public Lands Act, this regulation covers the application process for entrance upon land, the required associated fees and reports and the process for obtaining and maintaining a lease.</p>

Jurisdiction:	Alberta
Resource Ownership:	Sand, gravel, clay and marl are vested in the surface title holder. The remaining pit and quarry minerals are owned by the Crown as defined under the Mines and Minerals Act.
Commodities:	<p>Mines and Minerals Act</p> <p>Gold, silver, uranium, platinum, pitchblend, radium, precious stones, copper, iron, tin, zinc, asbestos, salts, sulphur, petroleum, oil, asphalt, bituminous sands, oil sands, natural gas, coal, anhydrite, barite, bauzite, bentonite, diatomite, dolomite, epsomite, gypsum, granite, limestone, marble, mica, mirabilite, potash, quartz rock, rock phosphate, sandstone, serpentine, shale, slate, talc, thernardite, trona, volcanic ash, sand, gravel, clay and marl.</p> <p>Surface Materials Regulation</p> <p>Clay, marl, sand, gravel, silica sand, toposoil and peat on public land.</p>
Regulatory Approach:	Fragmented approach of statute application. Several regulations and statutes apply under various commodities and land use conditions.
Statutes:	<p>Mines & Minerals Act Chapter M-15 Part 3</p> <p>Part 3 of the act defines Quarriable mineral and ownership and outlines the mineral lease application, fees, area of work, lease rights, lease terms, royalties and regulations.</p> <p>Mines & Minerals Act Amendment 1997 Chapter 17</p> <p>Amendment to the regulations as outlined in the original Mines and Mineral Act.</p> <p>Metallic and Industrial Minerals Exploration Regulation 95/91</p> <p>This regulation falls under Section 152 of the Mines and Minerals Act, Section 4 of the Forests Act and Section 9 of the Public Lands Act. Licenses and permits for exploration, the exploration approval process, the right to conduct exploration, notices required, field operations, final plan requirements, assessment work reports are all outlined in this regulation.</p> <p>Metallic and Industrial Minerals Royalty Regulation 350/93</p> <p>Part 3 Defines Quarriable substance and outlines the royalties as they apply to specific minerals and royalty due date.</p> <p>Public Lands Act</p> <p>This Act outlines the use and management of public lands. It affects pit operations in terms of allocation of sand and gravel resources, royalties, approval to enter public lands, terms and condition of entry, enforcement and security.</p> <p>Public lands are divided into Green Areas and White Areas. The Green Areas are administered by the Land and Forest Service of Alberta and the White Areas are administered by the Alberta Agriculture, Food and Rural Development.</p> <p>Surface Materials Regulation</p> <p>Falling under the Public Lands Act, this regulation covers the application process for entrance upon land, the required associated fees and reports and the process for obtaining and maintaining a lease.</p>

Jurisdiction:	<p>Alberta</p> <p>Environmental Protection & Enhancement Act (EPEA) The EPEA outlines the environmental assessment, approvals, appeals, water and air quality emission, conservation, reclamation and enforcement. Several regulations under the EPEA affect pit operations (see below). Activities Designation Regulation (EPEA) Outlines which pits require EPEA approval.</p> <p>Approvals Procedure Regulation (EPEA) Describes the EPEA approval process.</p> <p>Conservation and Reclamation Regulation Outlines reclamation objective, inspections, enforcement, reclamation certification and security.</p> <p>Water Resources Act Addresses regulations regarding washing operations, pit dewatering, diversions, work carried out on flood plains and the creation of water bodies.</p> <p>Planning Act This act empowers local municipalities to regulate land use through land use plans, bylaws and development permits. Impact on pit development is seen in the application of restrictions with respect to adjacent land use, buffer zones, noise, traffic routes and traffic control.</p> <p>Law of Property Act This Act is applicable to all land in Alberta and the owners thereof. It delegates the sand, gravel, clay and marl are vested in the Crown in right of Alberta.</p>
Aspects of Regulations:	<p>Resource Management - Mines and Minerals Act Land Use - Mines and Minerals Act Environment - Environmental Protection and Enhancement Act</p>
Exploration Permitting:	
Fees & Duration:	\$500.00 Exploration Permit or Licence Fee (plus \$350.00 for additional permit to operate machinery). Permit/license good for a maximum of 10 years. Exploration Approval - \$100.00 fee, up to 1 year.
Required Information:	Must submit a preliminary plan of the proposed program, including material sought and methods. Copies of the proposed program sent to the appropriate personnel in "Green" and "White" areas.
Exemptions:	Lands designated under a protective status: provincial parks, reserves and natural areas and other areas deemed to be environmentally sensitive.
Acquisition Time Frame:	Usually within 10 working days.

Jurisdiction:	Alberta
Development Permitting:	
Fees & Duration:	Quarriable Mineral Lease must pay \$500.00 application fee and 1st year rental of \$3.50/ha 15 - 25 year duration depending on lease type.
Required Information:	Must indicate the uses intended to be made of the Quarriable mineral.
Exemptions:	Lands designated under a protective status: provincial parks, reserves and natural areas and other areas deemed to be environmentally sensitive.
Acquisition Time Frame:	Variable.
Rehabilitation Permitting:	
Fees & Duration:	N/A
Required Information:	N/A
Exemptions:	N/A
Acquisition Time Frame:	N/A
Exploration Regulatory Requirements:	
Allowable Work Expenditures:	Prospecting, drilling, stripping and trenching, geological, geochemical or geophysical surveys, assay and analytical work, drill core transport and reclamation studies.
Financial Requirements:	\$5.00/ha/year for the first 2 year period. \$10.00/ha/year for each of the next two year period (ie. year 2 to 4 and 4 to 6) \$15.00/ha/year for each of the remaining two 2 year period (ie. year 6 to 8 and 8 to 10).
Reporting Requirements:	Ensure that the work program outlined in the approved exploration program is carried out.
Payable Royalties (per tonne):	bentonite = \$0.11 clay for pottery and fireclay=\$0.131, other clay marl and volcanic ash = \$0.0655/m ³ . Limestone, shale, slate, granite, gypsum and building stone =\$0.0441. Royalty is halved if the Quarriable material is to be used in the construction of maintenance of a railway roadbed. All royalties payable on or before the last day of the month following the quarter in which the material was quarried.
Bonds or Securities:	N/A
Planning Requirements:	N/A
EIA:	N/A

Jurisdiction: Alberta

Development Regulatory Requirements:

Allowable Work Expenditures: Prospecting, drilling, stripping and trenching, geological, geochemical or geophysical surveys, assay and analytical work, drill core transport and reclamation studies.

Financial Requirements: Annual rental of \$3.50/ha.

Reporting Requirements: Not specified.

Payable Royalties (per tonne): bentonite = \$0.11 clay for pottery and fireclay=\$0.131, other clay marl and volcanic ash = \$0.0655/m³. Limestone, shale, slate, granite, gypsum and building stone =\$0.0441. Royalty is halved if the Quarriable material is to be used in the construction of maintenance of a railway roadbed. All royalties payable on or before the last day of the month following the quarter in which the material was quarried.

Bonds or Securities: Must post unspecified security.

Planning Requirements: Closure plan usually submitted before production starts.

EIA: May be required at the discretion of the Director of the EIA Branch; may also need the approval of the Natural Resources Conservation Board.

Rehabilitation Regulatory Requirements:

Allowable Work Expenditures: N/A

Financial Requirements: N/A

Reporting Requirements: N/A

Payable Royalties (per tonne): N/A

Bonds or Securities: Must post unspecified security.

Planning Requirements: Closure plan usually submitted before production starts.

EIA: May be required at the discretion of the Director of the EIA Branch; may also need the approval of the Natural Resources Conservation Board.

Jurisdiction:	Saskatchewan
Resource Ownership:	Minerals are vested in the crown and the surface title owner owns the sand and gravel on the surface of the land.
Commodities:	<p>Mineral Resource Act Mineral - a non-viable substance formed by the processes of nature irrespective of chemical or physical state and both before and after extraction but does not include surface water, agricultural soil, or sand and gravel that belong to the surface title holder other than the crown.</p> <p>Quarrying Regulations Bentonite, building stone, clay, granite, gravel, gypsum, limestone, marble, marl, sand, slate, volcanic ash, plus other material which may later be deemed a quarriable substance.</p>
Regulatory Approach:	Sub-set - Several aspects are covered under the Mineral Resources Act, the remaining aspects are covered under additional statutes.
Statutes:	<p>Crown Minerals Act The definition of a mineral and resource ownership is outline in this Act.</p> <p>Mineral Resources Act, 1985 This Act is applicable to Crown Lands, its purpose is to:</p> <ol style="list-style-type: none"> 1) promote and encourage the discovery, development, management, utilization and conservation of the mineral resources, 2) to regulate the disposition 3) to protect the rights of surface holders and mineral rights holders 4) to establish scientific libraries with respect of mineral resources, and 5) to promote safety. <p>Quarrying Regulations, 1957 This regulation falls within the Mineral Resource Act. It defines a quarriable substance in specific terms and outlines the requirements surrounding permits, leases, licences, royalties and surface rights.</p> <p>Provincial Lands Act Discusses the reservation of mines and minerals.</p> <p>Provincial Lands Regulations Part III.1 defines a quarry and outlines the requirements for exploration permits, reports, leases and reclamation.</p> <p>Sand and Gravel Act This Act is applicable to all lands in the province. It defines sand, gravel, clay, volcanic ash, marl and bentonite ownership.</p> <p>Environmental Assessment Act This Act aids in the assessment of potential impact on the environment by a development.</p>

Jurisdiction:	Saskatchewan
Aspects of Regulations:	Resource Management - Crown Minerals Act, Mineral Resource Act, Provincial Lands Act Land Use - Crown Minerals Act, Mineral Resource Act, Provincial Lands Act Environment - Environmental Assessment Act
Exploration Permitting:	
Fees & Duration:	\$100.00 application fee, 1 year duration, \$0.50 / acre rental for first 12 months, 2 six month extensions possible.
Required Information:	Plan map and legal description, work details and expenditures, rental payment \$500.00 guarantee and a company financial sheet to prove financial ability.
Exemptions:	Area applied for must be less than 25 square miles.
Acquisition Time Frame:	Not specified.
Development Permitting:	
Fees & Duration:	Lease \$100.00 application, \$2.00 / acre rental, 21 year duration. Licence - \$10.00 not allowed to extract more than 500 tonnes; must be pay applicable royalties.
Required Information:	Legal area description.
Exemptions:	Area applied for must be less than 640 acres.
Acquisition Time Frame:	N/A
Rehabilitation Permitting:	
Fees & Duration:	N/A
Required Information:	N/A
Exemptions:	N/A
Acquisition Time Frame:	N/A
Exploration Regulatory Requirements:	
Allowable Work Expenditures:	Must make the expenditures outlined in the work program submitted with the permit application. Allowable work includes drilling, trenching, coring, excavating, lab testing and other work acceptable to the Minister.
Financial Requirements:	Annual lease rental of \$2.00 / acre paid yearly in advance.
Reporting Requirements:	Not specified.
Payable Royalties (per tonne):	N/A
Bonds or Securities:	\$500.00 submitted with the permit application.
Planning Requirements:	N/A
EIA:	N/A

Jurisdiction: Saskatchewan

Development Regulatory Requirements:

Allowable Work Expenditures: Not specified.

Financial Requirements: Annual lease rental of \$2.00 / acre paid yearly in advance..

Reporting Requirements: Must submit production returns within 30 days of the expiry of each quarter (March 31, June 30, September 30, December 31).

Payable Royalties (per tonne): If taken out of province, sand and gravel - 6 % of selling value, all others - 2 % of the selling value. If processed in province, sand and gravel - \$0.15 per cubic yard, all others - \$0.05 per cubic yard, except clay which is \$0.60 / tonne, sand and gravel used for flux in a smelter is not subjected to the royalty.

Bonds or Securities: Not specified.

Planning Requirements: Not specified.

EIA: An EIA is to be submitted before development begins; the EIA is open to public scrutiny.

Rehabilitation Regulatory Requirements:

Allowable Work Expenditures: N/A

Financial Requirements: N/A

Reporting Requirements: N/A

Payable Royalties (per tonne): N/A

Bonds or Securities: Not specified.

Planning Requirements: Not specified.

EIA: An EIA is to be submitted before development begins; the EIA is open to public scrutiny.

Jurisdiction: Manitoba

Resource Ownership: Minerals are vested in the Crown.

Commodities: Mines and Minerals Act

Quarry Mineral - Sand, gravel, clay, shale, kaolin, bentonite, gypsum, salt, peat, coal, peat moss, rock or stone used for a purpose other than as a source of metal, metalloid or asbestos; other minerals described as a quarry mineral.

Aggregate - a quarry mineral used solely for construction purposes and as a constituent of concrete, including sand, gravel, clay, crushed stone and rock.

Mineral - a non-living substance formed by natural processes found on or under the surface irrespective of chemical or physical state and include peat and peat moss.

Regulatory Approach: Specific regulatory approach with most aspects covered under the Mines and Minerals Act with specifics detailed in the Quarry Mineral Regulation 65/92 and the Mineral Disposition and Mineral Lease Regulation 64/92.

Statutes: Mines and Minerals Act

This document clearly defines quarry minerals. Part 8 of the Act, Quarry Minerals itemizes the permit and lease structure, fees and describes them in general terms. More explicit information is made available in the Quarry Minerals Regulation 65/92, 1992. This Act outlines rehabilitation and environmental requirements as well as the health and safety requirements surrounding a pit or quarry.

Quarry Minerals Regulation 65/92

This regulation is used under Part 8 of the Mines and Minerals Act, Chapter M162 and deals with quarry exploration permits, quarry leases, surface leases, operation and rehabilitation of quarries, schedule of fees, expenditures, required work and reports of required work, royalty rates and rehabilitation levy.

Mineral Disposition and Mineral Lease Regulation 64/92

Exploration permits and licences, as well as, the procedure for claims and surface leases are outlined in this regulation.

Crown Lands Act

This Act discusses dispositions and the reservation of lands.

Aspects of Regulations: Resource Management - Mines and Minerals Act
Land Use - Mines and Minerals Act
Environment - Mines and Minerals Act
Health and Safety - Mines and Minerals Act

Jurisdiction:	Manitoba
Exploration Permitting: Fees & Duration:	Quarry Exploration Permit - 3 year duration granting right to explore for specified quarry mineral within the permit boundary \$10.00 fee, cash deposit of \$1,000.00 or \$25.00 / ha, whichever is greater.
Required Information:	Legal land description of area applied for (if in surveyed area) or latitude and longitude (if in an unsurveyed area), description of local topographic features, specify any work and rehabilitation plans, if applicable.
Exemptions:	No permit issued for sand and gravel included in a placer deposit. Permit area not to exceed 70 ha. Only produce amount specified in the permit.
Acquisition Time Frame:	Notification within 14 days.
Development Permitting: Fees & Duration:	Casual Quarry Permit - 3 year duration granting right to explore, mine and produce. \$10.00 fee, renewable for 1 year terms. Quarry Lease, up to 10 year duration, 10 year renewal period at Minister's discretion. \$10.00 annual fee rental payment (\$18.50 / ha).
Required Information:	Legal land description of area applied for (if in surveyed area) or latitude and longitude (if in an unsurveyed area), description of local topographic features, specify any work and rehabilitation plans, if applicable.
Exemptions:	No permit issued for sand and gravel included in a placer deposit. Permit area not to exceed 70 ha. Only produce amount specified in the permit.
Acquisition Time Frame:	N/A
Rehabilitation Permitting: Fees & Duration:	May be required to get an Advanced Exploration Licence under the Environmental Act; fee not specified; duration for the length of the program.
Required Information:	Legal land description of area applied for (if in surveyed area) or latitude and longitude (if in an unsurveyed area), description of local topographic features, specify any work and rehabilitation plans, if applicable.
Exemptions:	N/A
Acquisition Time Frame:	up to 60 days.

Jurisdiction: Manitoba

Exploration Regulatory Requirements:

Allowable Work Expenditures: Prospecting, trenching or test pitting, land surveys, geological surveys, ground geophysics, drilling and testing, formations, laboratory testing, feasibility studies and other activities approved by the Minister.

Financial Requirements: \$12.00 / ha (1st year), \$24.00 / ha (2nd year), \$36.00 / ha (3rd year). Can carry forward excess expenditures.

Reporting Requirements: Submit report of work performed and expenditures.

Payable Royalties (per tonne): bentonite/kaolin = \$0.60- crushed stone, shale, limestone (>90% CaCO₃), other clays = \$0.25 , coal and salt = \$0.50 - gypsum and gravel = \$0.35, silica sand (>90% SiO₂)= \$0.30,- sand, mining backfill = \$0.15 - common stone = \$0.10, - dimension stone = \$0.75, peat=\$0.06/m³ loose and uncompressed. Payments are due 30 days after permit or lease anniversary or the permit or lease may be forfeited. No payable royalty if the quarry material is used for public purpose.

Bonds or Securities: N/A

Planning Requirements: Not specified.

EIA: Not specified.

Development Regulatory Requirements:

Allowable Work Expenditures: Mining Expenses

Financial Requirements: Annual rent of \$18.50 / ha payable before 30th day of permit or lease anniversary date, permit or lease is forfeited if payment is not received.

Reporting Requirements: Accurate daily record of quantity of quarry mineral produced, accurate statement of total quantity produced no later than 30 days after expiry or surrender of the permit; also submit a statement of expenditures.

Payable Royalties (per tonne): bentonite/kaolin = \$0.60- crushed stone, shale, limestone (>90% CaCO₃), other clays = \$0.25 , coal and salt = \$0.50 - gypsum and gravel = \$0.35, silica sand (>90% SiO₂)= \$0.30,- sand, mining backfill = \$0.15 - common stone = \$0.10, - dimension stone = \$0.75, peat=\$0.06/m³ loose and uncompressed. Payments are due 30 days after permit or lease anniversary or the permit or lease may be forfeited. No payable royalty if the quarry material is used for public purpose.

Bonds or Securities: N/A

Planning Requirements: Submit a closure plan for a quarry other than a non aggregate quarry.

EIA: All developments must file a proposal in accordance with Manitoba Regulation 163/88 under the Environmental Act; further screenings may not be required.

Jurisdiction: Manitoba

Rehabilitation Regulatory Requirements:

Allowable Work Expenditures: N/A

Financial Requirements: Annual rent of \$18.50 / ha payable before 30th day of permit or lease anniversary date, permit or lease is forfeited if payment is not received.

Reporting Requirements: Annual report on previous 12 months rehabilitation due on or before 60th day after the permit or lease anniversary.

Payable Royalties (per tonne): bentonite/kaolin = \$0.60- crushed stone, shale, limestone (>90% CaCO₃), other clays = \$0.25 , coal and salt = \$0.50 - gypsum and gravel = \$0.35, silica sand (>90% SiO₂)= \$0.30,- sand, mining backfill = \$0.15 - common stone = \$0.10, - dimension stone = \$0.75, peat=\$0.06/m³ loose and uncompressed. Payments are due 30 days after permit or lease anniversary or the permit or lease may be forfeited. No payable royalty if the quarry material is used for public purpose.

Bonds or Securities: Rehabilitation of \$0.10 / tonne of a quarry material due no later than 30 days after permit of lease anniversary date.

Planning Requirements: Submit a closure plan for a quarry other than a non aggregate quarry.

EIA: All developments must file a proposal in accordance with Manitoba Regulation 163/88 under the Environmental Act; further screenings may not be required.

Jurisdiction:	Ontario
Resource Ownership:	Aggregate and topsoil are vested in the surface title owner and minerals are vested in the Crown.
Commodities:	<p>Aggregate Resources Act Aggregate - gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, rock or other prescribed material.</p> <p>Mining Act Mineral - naturally occurring metallic and non-metallic minerals, including natural gas, petroleum, coal, salt, quarry and pit material, gold, silver, and all rare and precious metals but does not include sand, gravel and peat.</p>
Regulatory Approach:	Specific - Key issues are covered under a specific regime for quarriable materials but other statutes specifically address remaining aspects (i.e., health and safety and environment).
Statutes:	<p>Aggregate Resources Act Chapter A.8 and Regulations The Act provides for the management of aggregate resources, controls and regulates aggregate operations, defines the rehabilitation processes and aides in minimizing the potential impact that aggregate operations might have on the environment. The designation of Inspectors, licences needed and their requirements are outlined and the influence of municipal zoning on aggregate operations, annual fee structures, duties of the licensee, wayside permits, aggregate permits and rehabilitation are detailed.</p> <p>Mining Act and Regulations This Act deals with abandonment and inspections of pits, quarries and mines and allows for six separate regulations which cover assessment work, claim staking, fee structure, forms and mine development and closure under Part IX of the Act.</p>
Aspects of Regulations:	<p>Resource Management - Aggregate Resource Act and/or Mining Act, depending on the commodity sought Land Use - Aggregate Resource Act and/or Mining Act, depending on the commodity sought Environment - Aggregate Resource Act Health and Safety - Occupational Health and Safety Act</p>
Exploration Permitting:	
Fees & Duration:	Not specified.
Required Information:	Not specified.
Exemptions:	Federal lands, such as parks, reserves, etc.
Acquisition Time Frame:	Not specified.

Jurisdiction:	Ontario
Development Permitting: Fees & Duration:	Applicable Permits Class A - \$0.06 / t or \$200.00, whichever is greater. Class B or Wayside - \$0.06 / t or \$200.00, whichever is greater. Aggregate - \$100.00 (15 permit types in all).
Required Information:	Submit specific details of all aspects of the operations.
Exemptions:	Federal lands, such as parks, reserves, etc.
Acquisition Time Frame:	3 - 4 months.
Rehabilitation Permitting: Fees & Duration:	N/A
Required Information:	N/A
Exemptions:	N/A
Acquisition Time Frame:	N/A
Exploration Regulatory Requirements:	
Allowable Work Expenditures:	Not specified.
Financial Requirements:	Not specified.
Reporting Requirements:	Not specified.
Payable Royalties (per tonne):	N/A
Bonds or Securities:	N/A
Planning Requirements:	N/A
EIA:	N/A
Development Regulatory Requirements:	
Allowable Work Expenditures:	Work as outlined in the application.
Financial Requirements:	Not specified.
Reporting Requirements:	Must submit an annual compliance report or face automatic suspension.
Payable Royalties (per tonne):	No specifics, but a minimum of \$0.25 / t for all materials.
Bonds or Securities:	Financial assurance to accompany the closure plans before production begins.
Planning Requirements:	Must submit a closure plan.
EIA:	EIA is required if there are significant features within 120 m of the site; these features include wetlands, fish or endangered species, habitat, woodlands, valley lands, wildlife habitat or areas of scientific or natural interest.

Jurisdiction: Ontario

Rehabilitation Regulatory Requirements:

Allowable Work Expenditures: N/A

Financial Requirements: Financial assurance to accompany the closure plan.

Reporting Requirements: Must submit a closure plan.

Payable Royalties (per tonne): N/A

Bonds or Securities: N/A

Planning Requirements: N/A

EIA: EIA is required if there are significant features within 120 m of the site; these features include wetlands, fish or endangered species, habitat, woodlands, valley lands, wildlife habitat or areas of scientific or natural interest.

Jurisdiction:	Quebec
Resource Ownership:	Minerals are vested in the crown
Commodities:	Mining Act Surface mineral substances - sand, gravel, clay peat and stone used for construction and certain industrial purposes.
Regulatory Approach:	Subset approach whereby the main aspects are covered under two or more statutes.
Statutes:	Loi sur les Mines (Mines Act) Reglement sur les substances autres que le gaz naturel et la saumure This Act and its regulation outlines the requirements for exploration with respect to pit and quarry materials. Loi sur la Qualite de l'environnement (Environment Quality Act) Reglement sur les carrieres et sablieres. The requirements with respect to the development of pits and quarries is outlined in this Act and the applicable regulation.
Aspects & Regulations:	Resource Management - Mining Act Land Use - Mining Act Environment - Environment Quality Act
Exploration Permitting:	
Fees & Duration:	\$55.00 application fee with a 2 year duration.
Required Information:	Application form accompanied by 1:50,000 location map and an outline of the work program.
Exemptions:	Not specified.
Acquisition Time Frame:	Not specified.
Development Permitting:	
Fees & Duration:	Non Exclusive Lease \$200.00 application fee for 1 year duration Exclusive Lease \$2200.00 application fee for 5 year duration.
Required Information:	1:50,00 location map showing area to be exploited and all cultural features. Detailed report of the area with 1:50,000 location map with in-depth production and market analysis.
Exemptions:	Within 600 m of: lands zoned as residential and/or commercial, a dwelling not owned by the operator, a school, place of worship or campground.
Acquisition Time Frame:	Up to 2 months.

Jurisdiction:	Quebec
Rehabilitation Permitting: Fees & Duration:	No fee for the Certificate of Authorization; 10 year duration.
Required Information:	Certificate of Authorization is needed. Must detail rehabilitation plans; need approval from the municipality with \$5,000.00 guarantee if, 9ha or \$400.00/ha if >9 ha.
Exemptions:	N/A
Acquisition Time Frame:	At least 2 weeks.
Exploration Regulatory Requirements:	
Allowable Work Expenditures:	All basic exploration work.
Financial Requirements:	Not specified.
Reporting Requirements:	Submit work carried out.
Payable Royalties (per tonne):	N/A
Bonds or Securities:	N/A
Planning Requirements:	N/A
EIA:	N/A
Development Regulatory Requirements:	
Allowable Work Expenditures:	Production expenses.
Financial Requirements:	Not specified.
Reporting Requirements:	Submit work carried out.
Payable Royalties (per tonne):	Peat moss - \$0.05/bale sand, gravel, clay - \$0.40, building stone - \$4.40/m ³ , broken stone - \$0.38/m ³ , silica and similar materials - \$0.40 - all others - \$0.19.
Bonds or Securities:	Must post bonds before production starts (see Certificate of Authorization).
Planning Requirements:	Closure and rehabilitation plans submitted with the Certificate application.
EIA:	EIA must be submitted as part of the Certificate of Authorization.

Jurisdiction: Quebec

Rehabilitation Regulatory Requirements:

Allowable Work Expenditures: N/A

Financial Requirements: N/A

Reporting Requirements N/A

Payable Royalties (per tonne): N/A

Bonds or Securities: Payable with the Certificate of Authorization.

Planning Requirements: Closure and rehabilitation plans submitted with the Certificate application.

EIA: N/A

Jurisdiction:	New Brunswick
Resource Ownership:	Quarriable substances and topsoil are vested in the surface title holder.
Commodities:	<p>Quarriable Substances Act Quarriable substance - ordinary stone, building and construction stone, sand, gravel, peat, clay, soil and peat moss.</p> <p>Topsoil Preservation Act Topsoil - the uppermost layer of soil or soil containing 0.9 per cent or more organic carbon, as determined by the Walkley and Black Method and sand, silt and clay.</p>
Regulatory Approach:	Sub-set regulatory approach. Soil, peat and or quarriable substances which are used for their chemical or special physical properties have other amending statutes.
Statutes:	<p>Quarriable Substances Act Applies to crown land development of quarriable material resources as defined by the Act.</p> <p>Quarriable Substances Act Regulation 93/92 General Regulation - Quarriable Substances Act 93/92 falls under Section 39 of the Quarriable Substances Act. Defines the Act exempt shore areas, Quarry Permits and Leases, Peat Exploration Licences and Leases, renewals, transfers, rents, royalties and fee structures.</p> <p>Topsoil Preservation Act, Regulation 95-66 This Act regulates topsoil resource development and is enforced by the Departments of Agriculture and Environment.</p> <p>Clean Environment Act This Act outlines the requirements with respect to Environmental Impact Assessment Registration and Process.</p>
Aspects of Regulations:	<p>Resource Management - Quarriable Substance Act and Topsoil Preservation Act Land Use - Quarriable Substance Act and the Topsoil Preservation Act Environment - Clean Environment Act Health and Safety - Occupational Health and Safety Act</p>
Exploration Permitting: Fees & Duration:	Quarry Permits - \$10.00 for all materials, excluding peat. \$100.00 for peat exploration licence. Licences good up to the year ending December 31.
Required Information:	Location map showing legal interest.
Exemptions:	Shore areas outside of crown land.
Acquisition Time Frame:	Approximately 2 weeks.

Jurisdiction:	New Brunswick
Development Permitting:	
Fees & Duration:	Quarry Leases - \$50.00 application fee and \$50.00 / year renewable fee. Peat Lease \$50.00 application fee and \$50.00 renewable fee.
Required Information:	Detailed quarry plan with estimated costs and production rate, economic impact statement, reclamation study, proof of startup within 1 year, similar procedure for peat.
Exemptions:	Shore areas outside of crown land.
Acquisition Time Frame:	May take 3 months or longer.
Rehabilitation Permitting:	
Fees & Duration:	N/A
Required Information:	N/A
Exemptions:	N/A
Acquisition Time Frame:	N/A
Exploration Regulatory Requirements:	
Allowable Work Expenditures:	Not specified.
Financial Requirements:	Expenditures of \$2.50 / ha / year for peat.
Reporting Requirements:	Not specified.
Payable Royalties (per tonne):	N/A
Bonds or Securities:	N/A
Planning Requirements:	N/A
EIA:	N/A
Development Regulatory Requirements:	
Allowable Work Expenditures:	N/A
Financial Requirements:	see Bonds or Securities.
Reporting Requirements:	Rehabilitation Plan submitted with development application.
Payable Royalties (per tonne):	N/A
Bonds or Securities:	\$20.00 / ha or \$5,000.00 whichever greater for all materials, also must submit a rehabilitation plan.
Planning Requirements:	Detailed quarry description and rehabilitation plan accompanying application.
EIA:	EIA registration required for peat, but the actual EIA is not usually required.

Jurisdiction: New Brunswick

Rehabilitation Regulatory Requirements:

Allowable Work Expenditures: N/A

Financial Requirements: N/A

Reporting Requirements: N/A

Payable Royalties (per tonne): N/A

Bonds or Securities: N/A

Planning Requirements: N/A

EIA: Not specified.

Jurisdiction:	Nova Scotia
Resource Ownership:	Minerals are vested in the Crown.
Commodities:	Any ore body, mineral deposit, rock, stratum, earth, clay, sand, gravel, limestone, gypsum, building materials, natural gas and oil, shale and fire clay.
Regulatory Approach:	Sub-set approach to quarrying regulations. Development of Crown Land Pits and Quarries in the area beaches or inland is covered under the Lands and Forest Management Branch.
Statutes:	<p>Metalliferous Mines and Quarries Regulation Act Chapter 284 Metalliferous Mines and Quarries Regulation Act is a comprehensive act related to "every mine of whatever description other than a mine to which the Coal Mines Regulation Act applies" and focuses on mining operations and safety requirements during development and operational phases of the project.</p> <p>Crown Lands Act Chapter 114 Defines the powers of the Minister over Crown Land access and development.</p> <p>NS Department of Environment Pit and Quarry Guidelines Revised May 1, 1988 Defines the location and proximity of quarry development with respect to waterways, residential areas and agricultural lands. Addresses requirements of quarry operations in conjunction with acceptable environmental thresholds in sound, air and water pollution as well as several aspects of public safety requirements related to quarry workings.</p>
Aspects of Regulations:	Resource Management - Crown Lands Act Land Use - Crown Lands Act Environment - Pit and Quarry Guidelines Health and Safety - Metalliferous Mines and Quarries Regulation Act
Exploration Permitting:	
Fees & Duration:	No fees, just permission to explore on crown land. Permit duration not specified.
Required Information:	Not specified.
Exemptions:	Each permission application is reviewed by different organizations; some groups may object to some lands being developed. Resources with a value greater than \$3,000.00 may go to tender.
Acquisition Time Frame:	Not specified.
Development Permitting:	
Fees & Duration:	Permits have a \$5.00 application fee and \$130.00 non-refundable deposit for the first 500 m ³ , good for a maximum of 1 year.
Required Information:	Notify Minister at least 1 week prior to opening a mine.
Exemptions:	Each permission application is reviewed by different organizations; some groups may object to some lands being developed. Resources with a value greater than \$3,000.00 may go to tender.
Acquisition Time Frame:	Variable from 1 day to years for sensitive areas.

Jurisdiction: Nova Scotia

Rehabilitation Permitting:

Fees & Duration: N/A

Required Information: N/A

Exemptions: N/A

Acquisition Time Frame: N/A

Exploration Regulatory Requirements:

Allowable Work Expenditures: Not specified.

Financial Requirements: Not specified.

Reporting Requirements: Not specified.

Payable Royalties (per tonne): Payable quarterly royalties. Fill - \$0.45 - \$1.00 / m³, Gravel - \$0.50 - \$1.20 / m³, Sand - \$0.90 - \$2.00 / m³, Class A Gravel or Rip-rap - \$0.66 - \$1.65 / m³, Armourstone - \$0.70 - \$1.00 / m³, Marble Chips - \$1.50 - \$2.00 / m³.

Bonds or Securities: N/A

Planning Requirements: N/A

EIA: N/A

Development Regulatory Requirements:

Allowable Work Expenditures: Set limits on each site as to how much material may be removed; each case is reviewed.

Financial Requirements: Not specified.

Reporting Requirements: Maintain accurate plan of workings of the mine in office; maintain accurate plan of progress of workings of the mine in office; submit an annual report of workings of mine.

Payable Royalties (per tonne): Payable quarterly royalties. Fill - \$0.45 - \$1.00 / m³, Gravel - \$0.50 - \$1.20 / m³, Sand - \$0.90 - \$2.00 / m³, Class A Gravel or Rip-rap - \$0.66 - \$1.65 / m³, Armourstone - \$0.70 - \$1.00 / m³, Marble Chips - \$1.50 - \$2.00 / m³.

Bonds or Securities: Bond or certified cheque of \$2,000.00 per acre to ensure site rehabilitation.

Planning Requirements: Resources > \$3,000.00 are reviewed by an Integrated Resource Management Process involving various Natural Resource personnel; may be a lengthy process.

EIA: Not specified.

Jurisdiction: Nova Scotia

Reclamation Regulatory Requirements:

Allowable Work Expenditures: N/A

Financial Requirements: N/A

Reporting Requirements: N/A

Payable Royalties (per tonne): N/A

Bonds or Securities: Bond or certified cheque of \$2,000.00 per acre to ensure site rehabilitation.

Planning Requirements: Must submit a closure plan.

EIA: Not specified.

Jurisdiction:	Prince Edward Island
Resource Ownership:	Quarriable materials are vested in the surface title owner.
Commodities:	Excavation Pits Regulations Clay, gravel, sand, shale, subsoil topsoil rock or any other surface or subterranean deposit.
Regulatory Approach:	Comprehensive approach of regulation under the Environmental Protection Act.
Statutes:	Environmental Protection Act & Amendments With respect to excavation pit development the Act defines: the powers of the Minister, Council and Cabinet, Environmental Impact Assessment process and regulations. Environmental Protection Act Regulations Environmental Protection Act Regulation as per Section 25 of The Environmental Act Chapter E-9 is specific to Excavation Pit Regulations. This regulation covers the permit structure, development criteria and waivers of certain requirements.
Aspects of Regulations:	Environment - Environmental Protection Act
Exploration Permitting:	
Fees & Duration:	Not specified.
Required Information:	Not specified.
Exemptions:	Land within 300 m of residential property, land within 500 m of any church, school, hospital, cemetery, public hall, bathing beach, public part or public playground. Regulations apply to all excavation pits except those located in the City of Charlottetown or any town.
Acquisition Time Frame:	Variable.
Development Permitting:	
Fees & Duration:	\$100.00 application fee (payable in respect of a pit for which a valid permit has not been in effect within 6 months).
Required Information:	A detailed map or plan of the area. Details of the existing land use, entrances, exists, stockpiles, overburden and waste. Proposals for the protection of people and livestock, restoration of the pit and an undertaking to post a bond for site rehabilitation.
Exemptions:	Land within 300 m of residential property, land within 500 m of any church, school, hospital, cemetery, public hall, bathing beach, public part or public playground. Regulations apply to all excavation pits except those located in the City of Charlottetown or any town.
Acquisition Time Frame:	Variable.

Jurisdiction: Prince Edward Island

Rehabilitation Permitting:

Fees & Duration: N/A

Required Information: N/A

Exemptions: N/A

Acquisition Time Frame: N/A

Exploration Regulatory Requirements:

Allowable Work Expenditures: Not specified.

Financial Requirements: Not specified.

Reporting Requirements: Not specified.

Payable Royalties (per tonne): N/A

Bonds or Securities: N/A

Planning Requirements: N/A

EIA: N/A

Development Regulatory Requirements:

Allowable Work Expenditures: Very little crown land in PEI and that which si crown land is predominately parks, beaches, etc. Therefore, there is no policy in place to acquire crown lands for the development of pits and quarries.

Financial Requirements: Not specified.

Reporting Requirements: Not specified.

Payable Royalties (per tonne): Not specified.

Bonds or Securities: Unspecified bond to be submitted with the restoration plan.

Planning Requirements: Submit a restoration plan with the development application.

EIA: Not specified.

Jurisdiction: Prince Edward Island

Rehabilitation Regulatory Requirements:

Allowable Work Expenditures: N/A

Financial Requirements: N/A

Reporting Requirements: N/A

Payable Royalties (per tonne): N/A

Bonds or Securities: N/A

Planning Requirements: N/A

EIA: Not specified.

Jurisdiction:	Newfoundland
Resource Ownership:	Quarriable materials and minerals are vested in the Crown.
Commodities:	<p>Quarry Minerals Act Quarry minerals - a substance used in its natural form for civil construction or agricultural purposes including clay, sand, gravel, rock, soil, peat and slag but does not include slate, marble, granite and similar stone used as dimension stone.</p> <p>Mineral Act Mineral - a naturally occurring inorganic substance including coal and minerals contained in mine tailings, but doesn't include water, quarry materials, stratified deposits other than coal which can be extracted by destructive distillation or petroleum.</p>
Regulatory Approach:	Specific - most key issues are covered under a specific regime for quarriable materials but other statutes specifically cover the remaining aspects.
Statutes:	<p>Crown Lands Act This Act defines and outlines surface rights and designates quarry minerals and minerals as vested in the Crown.</p> <p>Quarry Minerals Act The Quarry Materials Act covers interpretation, limitations on removal of quarry materials, royalties on act violation, exploration licence, quarry permits and leases, power to prescribe royalties and regulations.</p> <p>Quarry Materials Regulation 804/96 Regulation 804/96 defines the regulatory process under Section 12 of the Quarry Materials Act. Items covered under this Regulation are: definitions within the said regulation, quarry permit application, terms and conditions of quarry development, situations in which no permits are available.</p> <p>Mineral Act and Regulations This Act outlines the procedure for staking, reporting as well as the details for applying for licences and leases.</p> <p>Environmental Assessment Act The requirements for Environmental Impact Assessments are outlined in this Act.</p>
Aspects of Regulations:	<p>Resource Management - Quarry Minerals Act and/or Mineral Act</p> <p>Land Use - Crown Lands Act</p> <p>Environment - Environmental Assessment Act</p>

Jurisdiction:	Newfoundland
Exploration Permitting: Fees & Duration:	Exploration License - up to 1 year for dimension stone, slate, peat and aggregates for export- up to 4 months for construction aggregate for use within the province - maximum area is 5,000 ha, - renewable.
Required Information:	Must specify quarry materials.
Exemptions:	A beach, an established quarry under control of Dept of Works, Services and Transportation, Reid Lots and A&D Chartered Lands.
Acquisition Time Frame:	3-4 weeks
Development Permitting: Fees & Duration:	Quarry Permit - up to 1 year permit to dig for, excavate remove and dispose of quarry materials - maximum area is 5 ha except with written permission by the Minister- no renewable - Quarry Lease - up to 20 years in duration with a maximum area of 5 ha with written permission by the Minister.
Required Information:	Quarry Permit - a plan showing the area of land - Quarry Lease - plan together with survey notes, calculations and description of the area.
Exemptions:	A beach, an established quarry under control of Dept of Works, Services and Transportation, Reid Lots and A&D Chartered Lands.
Acquisition Time Frame:	3-4 weeks for both a permit and lease.
Rehabilitation Permitting: Fees & Duration:	N/A
Required Information	N/A
Exemptions:	N/A
Acquisition Time Frame:	N/A
Exploration Regulatory Requirements:	
Allowable Work Expenditures:	Can remove quarry material for sampling, assaying and testing only.
Financial Requirements:	Exploration License - undertake exploration work of not less than \$5.00/ha-cannot carry forward expenditures - \$100.00 credit for 8 hours of field work by an individual holding a registered interest in that license.
Reporting Requirements:	Exploration License - submit report of logistics, results, interpretations, conclusions, costs and map of work undertaken.
Payable Royalties (per tonne):	\$0.30/m ³ payable within 2 months of expiration of permit.
Bonds or Securities:	N/A
Planning Requirements:	N/A
EIA:	N/A

Jurisdiction: Newfoundland

Development Regulatory Requirements:

Allowable Work Expenditures: Not specified, but permits and leases will be canceled if not used.

Financial Requirements: Quarry Permit - \$80.00/ha.

Reporting Requirements: Keep and maintain a record of quarry materials excavated and removed from permit or lease area - report quantity and type of material removed when filing the royalty payment.

Payable Royalties (per tonne): \$0.30/m³ payable within 2 months of expiration of permit.

Bonds or Securities: Not specified.

Planning Requirements: Not specified.

EIA: EIA for areas greater than 10 ha.

Reclamation Regulatory Requirements:

Allowable Work Expenditures: N/A

Financial Requirements: N/A

Reporting Requirements: Notify Department of Mines & Energy prior to abandonment.

Payable Royalties (per tonne): N/A

Bonds or Securities: Not specified.

Planning Requirements: Not specified.

EIA: EIA for areas greater than 10 ha.

Jurisdiction:	Alaska
Resource Ownership:	Surface materials are typically vested in the surface title owner.
Commodities:	Commodities 43 CFR 3600 covers materials such as: sand, gravel, building stone, pumice, cinders, clay without special qualities.
Regulatory Approach:	Varied depending on location and commodity
Statutes:	Several applicable federal and state laws and regulations apply none of which are attached: Mineral Materials Disposal Rules. A Review of Regulatory Impediments to Mineral exploration and Developments in Alaska. Laws and Regulations for Mineral Rights on State Land. Disposal of Minerals on Public Lands
Aspects & Regulations:	Varied depending on location and commodity.
Exploration Permitting: Fees & Duration:	Variable depending on the laws and regulations involved.
Required Information:	Variable depending on the laws and regulations involved.
Exemptions:	Limited federal lands open for exploration; large tracts of land are in National parks, Preserves, and Refuges, and vast tracts are appropriated to Native Corporations; these lands are only open under special circumstances.
Acquisition Time Frame:	Variable depending on the scale of the project (from 1 week to years).
Development Permitting: Fees & Duration:	Variable depending on the laws and regulations involved.
Required Information:	Variable depending on the laws and regulations involved.
Exemptions:	Limited federal lands open for exploration; large tracts of land are in National parks, Preserves, and Refuges, and vast tracts are appropriated to Native Corporations; these lands are only open under special circumstances.
Acquisition Time Frame:	Variable depending on the scale of the project (from 1 week to years).
Rehabilitation Permitting: Fees & Duration:	N/A
Required Information:	N/A
Exemptions:	N/A
Acquisition Time Frame:	N/A
Exploration Regulatory Requirements: Allowable Work Expenditures:	Variable
Financial Requirements:	Variable
Reporting Requirements:	Not specified

Jurisdiction:	Alaska
Payable Royalties (per tonne):	N/A
Bonds or Securities:	Bonds are required for almost all site developments; the exception is Community Pit Mineral Materials where the minerals are sold outright at a price high enough to cover reclamation.
Planning Requirements:	Reclamation plans are required for all mechanized mineral exploration and development.
EIA:	Not specified.
Development Regulatory Requirements:	
Allowable Work Expenditures:	Variable
Financial Requirements:	Variable
Reporting Requirements:	Not specified.
Payable Royalties (per tonne):	Required under the Mineral Leasing Act; based on the material and volume extracted.
Bonds or Securities:	Bonds are required for almost all site developments; the exception is Community Pit Mineral Materials where the minerals are sold outright at a price high enough to cover reclamation.
Planning Requirements:	Reclamation plans are required for all mechanized mineral exploration and development.
EIA:	Required for all developments except for operations under the Mining Law of 5 acres or less or "casual" operations which are small non-mechanized operations.
Rehabilitation Regulatory Requirements:	
Allowable Work Expenditures:	N/A
Financial Requirements:	Security bonds must be posted before most mechanized exploration and development.
Reporting Requirements:	Not specified.
Payable Royalties (per tonne):	N/A
Bonds or Securities:	Bonds are required for almost all site developments; the exception is Community Pit Mineral Materials where the minerals are sold outright at a price high enough to cover reclamation.
Planning Requirements:	Reclamation plans are required for all mechanized mineral exploration and development.
EIA:	Required for all developments except for operations under the Mining Law of 5 acres or less or "casual" operations which are small non-mechanized operations.

APPENDIX 2
PITS & QUARRIES REGULATORY PROCESS
JURISDICTIONAL SUMMARY TABLES

Jurisdiction: British Columbia

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Mines Act, RSBC 1996, Mineral Tenure Act, Environmental Assessment Act.		
Commodities under the Mineral Tenure Act	ore of metal, or a natural substance that can be mined, that is in the place or position in which it was originally formed or deposited or is in talus rock.		
Commodities under the Mines Act	coal, mineral bearing substances, placer minerals, rock, limestone, earth, clay, sand or gravel		
Fees & Duration	No application fees or set duration.	No application fees, annual inspection fee based on size of production and duration usually the mine life.	N/A
Required Information	Not specified.	Outlines details of proposed work and submit a reclamation program.	Outlines details of proposed work and submit a reclamation program.
Exemptions	Provincial and Federal Parks, protected areas (ie. ecological reserves, etc.), sensitive areas with limited exploration, watersheds, recreational areas, protected studies areas, etc., some municipal bylaws in force to prohibit exploration.	Provincial and Federal Parks, protected areas (ie. ecological reserves, etc.), sensitive areas with limited exploration, watersheds, recreational areas, protected studies areas, etc., some municipal bylaws in force to prohibit exploration.	N/A
Acquisition Time Frame	30 - 60 days unless extensive public consultation is required.	30 - 60 days unless extensive public consultation is required.	N/A
Allowable Work Expenditures	Line cutting, drilling, explosives work, bulk sampling, road construction, soil sampling, geophysical surveys, hand and mechanical trenching (basic exploration work).	Open pit and underground work, reclamation and mineral processing.	N/A

Jurisdiction: British Columbia

Stage	Exploration	Development	Rehabilitation
Financial Requirements	Mineral claim fees - \$100.00 / claim / year for the first 3 years; \$200.00 / claim / year for the 4 th and subsequent years. Mineral claim is 500 m x 500 m (25 ha).	Not specified.	Security submitted during exploration and is modified as the site conditions change.
Reporting Requirements	Submit assessment report outlining work performed and expenditures.	Not specified.	N/A
Payable Royalties (per tonne)	N/A	Royalties payable on a volume basis. Local governments may also assess a volume based fee to recover costs such as road maintenance that is directly related to mine activities.	N/A
Bonds or Securities	The Chief Inspector may require a security, subject to conditions specified for mine reclamation when a permit is issued. The security may be modified to reflect yearly changes in site disturbances.	The Chief Inspector may require a security, subject to conditions specified for mine reclamation when a permit is issued. The security may be modified to reflect yearly changes in site disturbances.	The Chief Inspector may require a security, subject to conditions specified for mine reclamation when a permit is issued. The security may be modified to reflect yearly changes in site disturbances.
Planning Requirements	Not specified.	Reclamation plan to be submitted and may be amended from time to time (ie. Section 10 of the Mines Act).	Up to 90 days to submit a closure plan showing mine workings and the boundaries of the mineral claims in which the workings were situated.
EIA	Not specified.	Waste Management Act requires the submission of a site profile, usually a simple checklist. For proposals of > 50,000 tonnes / year sand and gravel or 1,000,000 tonnes / 4 years of quarried rock, > 250,000 tonnes / year are subject to the Environmental Assessment Act.	Waste Management Act requires the submission of a site profile, usually a simple checklist. For proposals of > 50,000 tonnes / year sand and gravel or 1,000,000 tonnes / 4 years of quarried rock, > 250,000 tonnes / year are subject to the Environmental Assessment Act.

Jurisdiction: Alberta

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Mines and Minerals Act and Mines and Minerals Act Amendment 1997, Metallic and Industrial Minerals Royalty Regulation 350/93, Metallic and Industrial Minerals Exploration Regulation 95/91, Metallic and Industrial Minerals Regulation 66/93, Law of Property Act, Public Lands Act, Surface Materials Regulation, Environmental Protection and Enhancement Act (EPEA), Activities Designation Regulation, Approvals Procedure Regulation, Conservation & Reclamation Regulation		
Commodities under the Surface Materials Regulation	clay, marl, sand, gravel, silica sand, topsoil and peat on public land		
Commodities under the Mines and Minerals Act	gold, silver, uranium, platinum, pitchblend, radium, precious stones, copper, iron, tin, zinc, asbestos, salts, sulphur, petroleum, oil, asphalt, bituminous sands, oil sands, natural gas, coal, anhydrite, barite, bauxite, bentonite, diatomite, dolomite, epsomite, gypsum, granite, limestone, marble, mica, mirabilite, potash, quartz rock, rock phosphate, sandstone, serpentine, shale, slate, talc, thenardite, trona, volcanic ash, sand, gravel, clay and marl		
Fees & Duration	\$500.00 Exploration Permit or Licence Fee (plus \$350.00 for additional permit to operate machinery). Permit/license good for a maximum of 10 years. Exploration Approval - \$100.00 fee, up to 1 year.	Quarriable Mineral Lease must pay \$500.00 application fee and 1st year rental of \$3.50/ha 15 - 25 year duration depending on lease type.	N/A
Required Information	Must submit a preliminary plan of the proposed program, including material sought and methods. Copies of the proposed program sent to the appropriate personnel in "Green" and "White" areas.	Must indicate the uses intended to be made of the Quarriable mineral.	N/A
Exemptions	Lands designated under a protective status: provincial parks, reserves and natural areas and other areas deemed to be environmentally sensitive.	Lands designated under a protective status: provincial parks, reserves and natural areas and other areas deemed to be environmentally sensitive.	N/A
Acquisition Time Frame	Usually within 10 working days.	Variable.	N/A

Jurisdiction: Alberta

Stage	Exploration	Development	Rehabilitation
Allowable Work Expenditures	Prospecting, drilling, stripping and trenching, geological, geochemical or geophysical surveys, assay and analytical work, drill core transport and reclamation studies.	Prospecting, drilling, stripping and trenching, geological, geochemical or geophysical surveys, assay and analytical work, drill core transport and reclamation studies.	N/A
Financial Requirements	\$5.00/ha/year for the first 2 year period.\$10.00/ha/year for each of the next two year period (ie. year 2 to 4 and 4 to 6) \$15.00/ha/year for each of the remaining two 2 year period (ie. year 6 to 8 and 8 to 10).	Annual rental of \$3.50/ha	N/A
Reporting Requirements	Ensure that the work program outlined in the approved exploration program is carried out.	Not specified.	N/A
Payable Royalties (per tonne)	bentonite = \$0.11 clay for pottery and fireclay=\$0.131, other clay marl and volcanic ash = \$0.0655/m ³ . Limestone, shale, slate, granite, gypsum and building stone =\$0.0441. Royalty is halved if the Quarriable material is to be used in the construction of maintenance of a railway roadbed. All royalties payable on or before the last day of the month following the quarter in which the material was quarried.	bentonite = \$0.11 clay for pottery and fireclay=\$0.131, other clay marl and volcanic ash = \$0.0655/m ³ . Limestone, shale, slate, granite, gypsum and building stone =\$0.0441. Royalty is halved if the Quarriable material is to be used in the construction of maintenance of a railway roadbed. All royalties payable on or before the last day of the month following the quarter in which the material was quarried.	N/A
Bonds or Securities	N/A	Must post unspecified security.	Must post unspecified security.
Planning Requirements	N/A	Closure plan usually submitted before production starts.	Closure plan usually submitted before production starts.

Jurisdiction: Alberta

Stage	Exploration	Development	Rehabilitation
EIA	N/A	May be required at the discretion of the Director of the EIA Branch; may also need the approval of the Natural Resources Conservation Board.	May be required at the discretion of the Director of the EIA Branch; may also need the approval of the Natural Resources Conservation Board.

Jurisdiction: Saskatchewan

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Mineral Resources Act, 1985, Crown Minerals Act, Quarrying Regulations, 1957, Mineral Disposition Regulations, 1986, Provincial Lands Act, Provincial Lands Regulations, Sand and Gravel Act, and Environmental Assessment Act		
Commodities under the Mineral Resources Act	A non-viable substance formed by the processes of nature irrespective of chemical or physical state and both before and after extraction but does not include surface water, agricultural soil, or sand and gravel that belong to the surface title holder other than the crown.		
Commodities under the Quarrying Regulations	Bentonite, building stone, clay, granite, gravel, gypsum, limestone, marble, marl, sand, slate, volcanic ash, plus other material which may later be deemed a quarriable substance.		
Commodities under the Sand and Gravel Act	Sand and gravel obtainable by stripping off the overburden, excavating from the surface or other surface operation. This also applies to any clay required for construction of an earthen dam or road grade and all volcanic ash, marl and bentonite.		
Fees & Duration	\$100.00 application fee, 1 year duration, \$0.50 / acre rental for first 12 months, 2 six month extensions possible.	Lease \$100.00 application, \$2.00 / acre rental, 21 year duration. Licence - \$10.00 not allowed to extract more than 500 tonnes; must be pay applicable royalties.	N/A
Required Information	Plan map and legal description, work details and expenditures, rental payment \$500.00 guarantee and a company financial sheet to prove financial ability.	Legal area description.	N/A
Exemptions	Area applied for must be less than 25 square miles.	Area applied for must be less than 640 acres.	N/A
Acquisition Time Frame	Not specified.	N/A	N/A
Allowable Work Expenditures	Must make the expenditures outlined in the work program submitted with the permit application. Allowable work includes drilling, trenching, coring, excavating, lab testing and other work acceptable to the Minister.	Not specified.	N/A
Financial Requirements	Annual lease rental of \$2.00 / acre paid yearly in advance.	Annual lease rental of \$2.00 / acre paid yearly in advance.	N/A

Jurisdiction: Saskatchewan

Stage	Exploration	Development	Rehabilitation
Reporting Requirements	Not specified.	Must submit production returns within 30 days of the expiry of each quarter (March 31, June 30, September 30, December 31).	N/A
Payable Royalties (per tonne)	N/A	If taken out of province, sand and gravel - 6 % of selling value, all others - 2 % of the selling value. If processed in province, sand and gravel - \$0.15 per cubic yard, all others - \$0.05 per cubic yard, except clay which is \$0.60 / tonne, sand and gravel used for flux in a smelter is not subjected to the royalty.	N/A
Bonds or Securities	\$500.00 submitted with the permit application.	Not specified.	Not specified.
Planning Requirements	N/A	Not specified.	Not specified.
EIA	N/A	An EIA is to be submitted before development begins; EIA is open to public scrutiny	An EIA is to be submitted before development begins; EIA is open to public scrutiny.

Jurisdiction: Manitoba

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Mines & Minerals Act, Quarry Mineral Regulation 65/92, Mineral Disposition and Mineral Lease Regulation 64/92, Crown lands Act.		
Commodities under the Mines and Minerals Act	<p>Mineral - a non-living substance formed by natural processes found on or under the surface, irrespective of chemical or physical state and include peat and peat moss.</p> <p>Aggregate - a quarry mineral used solely for construction purposes and as a constituent of concrete, including sand, gravel, clay, crushed stone and rock.</p> <p>Quarry Mineral - Sand, gravel, clay, shale, kaolin, bentonite, gypsum, salt, peat, coal, peat moss, rock or stone used for a purpose other than as a source of metal, metalloid or asbestos; other minerals described as a quarry mineral.</p>		
Fees & Duration	Quarry Exploration Permit - 3 yr duration granting right to explore for specified quarry mineral within the permit boundary \$10.00 fee, cash deposit of \$1,000.00 or \$25.00/ha, whichever is greater.	Casual Quarry Permit - 3 yr duration granting right to explore, mine & produce. \$10.00 fee, renewable for 1 year terms. Quarry Lease, up to 10 yr duration, 10 yr renewal period at Minister's discretion. \$10.00 annual fee rental payment (\$18.50/ha).	May be required to get an Advanced Exploration Licence under the Environmental Act; fee not specified; duration for the length of the program.
Required Information	Legal land description of area applied for (surveyed area) or latitude & longitude (unsurveyed area), local description of topographic features, specify any work & rehabilitation plans, if applicable.	Legal land description of area applied for (surveyed area) or latitude & longitude (unsurveyed area), local description of topographic features, specify any work & rehabilitation plans, if applicable.	Legal land description of area applied for (surveyed area) or latitude & longitude (unsurveyed area), local description of topographic features, specify any work & rehabilitation plans, if applicable.
Exemptions	No permit issued for sand & gravel included in a placer deposit. Permit area not to exceed 70 ha. Only produce amount specified in permit.	No permit issued for sand & gravel included in a placer deposit. Permit area not to exceed 70 ha. Only produce amount specified in permit.	N/A
Acquisition Time Frame	Notification within 14 days.	N/A	up to 60 days.
Allowable Work Expenditures	Prospecting, trenching, test pitting, land surveys, geological surveys, ground geophysics, drilling and testing, formations, lab testing, feasibility studies & other activities approved by the Minister.	Mining Expenses	N/A

Jurisdiction: Manitoba

Stage	Exploration	Development	Rehabilitation
Financial Requirements	\$12.00 / ha (1 st year), \$24.00 / ha (2 nd year), \$36.00 / ha (3 rd year). Can carry forward excess expenditures.	Annual rent of \$18.50 / ha payable before 30 th day of permit or lease anniversary date, permit or lease is forfeited if payment is not received.	Annual rent of \$18.50 / ha payable before 30 th day of permit or lease anniversary date, permit or lease is forfeited if payment is not received.
Reporting Requirements	Submit report of work performed and expenditures.	Accurate daily record of quantity of quarry mineral produced, accurate statement of total quantity produced no later than 30 days after expiry or surrender of the permit; also submit a statement of expenditures.	Annual report on previous 12 months rehabilitation due on or before 60 th day after the permit or lease anniversary.
Payable Royalties (per tonne)	bentonite/kaolin = \$0.60- crushed stone, shale, limestone (>90% CaCO ₃), other clays = \$0.25, coal & salt = \$0.50 - gypsum & gravel = \$0.35, silica sand (>90% SiO ₂)= \$0.30, - sand, mining backfill = \$0.15 - common stone = \$0.10, - dimension stone = \$0.75, peat = \$0.06/m ³ loose and uncompressed. Payments are due 30 days after permit or lease anniversary or permit or lease may be forfeited. No royalty payable if quarry material is used for public purpose.	bentonite/kaolin = \$0.60- crushed stone, shale, limestone (>90% CaCO ₃), other clays = \$0.25 , coal & salt = \$0.50 - gypsum & gravel = \$0.35, silica sand (>90% SiO ₂) = \$0.30, - sand, mining backfill = \$0.15 - common stone = \$0.10, - dimension stone = \$0.75, peat = \$0.06/m ³ loose and uncompressed. Payments are due 30 days after permit or lease anniversary or the permit or lease may be forfeited. No payable royalty if quarry material is used for public purposes.	bentonite/kaolin = \$0.60- crushed stone, shale, limestone (>90% CaCO ₃), other clays = \$0.25, coal & salt = \$0.50 - gypsum & gravel = \$0.35, silica sand (>90% SiO ₂)= \$0.30, - sand, mining backfill = \$0.15 - common stone = \$0.10, - dimension stone = \$0.75, peat = \$0.06/m ³ loose and uncompressed. Payments are due 30 days after permit or lease anniversary or the permit or lease may be forfeited. No payable royalty if quarry material is used for public purposes.
Bonds or Securities	N/A	N/A	Rehabilitation of \$0.10 / tonne of quarry material due no later than 30 days after permit of lease anniversary date.
Planning Requirements	Not specified.	Submit a closure plan for a quarry other than a non aggregate quarry.	Submit a closure plan for a quarry other than a non aggregate quarry.

Jurisdiction: Manitoba

Stage	Exploration	Development	Rehabilitation
EIA	Not specified.	All developments must file a proposal in accordance with MB Regulation 163/88 under the Environmental Act; further screenings may not be required.	All developments must file a proposal in accordance with MB Regulation 163/88 under the Environmental Act; further screenings may not be required.

Jurisdiction: Ontario

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Aggregate Resources Act Chapter A.8 and Regulations, Mining Act, Ontario Regulations 116/91 - Assessment Work, 115/91 - Claims Staking, 112/91 - Fees, 111/91 - Forms, 113/91 - General, 114/91 - Mine Development and Closure under Part IX of the Act, Occupational Health & Safety Act.		
Commodities under the Aggregate Resources Act	Sand, gravel, clay, shale, earth (less peat and topsoil), stone limestone, dolostone, sandstone, marble, granite, rock or other prescribed material. Rock does not include metallic ores, asbestos, graphite, kyanite, mica, nepheline, syenite, talc, wollastonite, and other prescribed materials.		
Commodities under the Mining Act	Mineral - naturally occurring metallic and non-metallic minerals, including natural gas, petroleum, coal, salt, quarry and pit material, gold, silver, and all rare and precious metals but does not include sand, gravel and peat.		
Fees & Duration	Not specified.	Applicable Permits Class A - \$0.06 / t or \$200.00, whichever is greater. Class B or Wayside - \$0.06 / t or \$200.00, whichever is greater. Aggregate - \$100.00 (15 permit types in all).	N/A
Required Information	Not specified.	Submit specific details of all aspects of the operations.	N/A
Exemptions	Federal lands, such as parks, reserves, etc.	Federal lands, such as parks, reserves, etc.	N/A
Acquisition Time Frame	Not specified.	3 - 4 months.	N/A
Allowable Work Expenditures	Not specified.	Work as outlined in application.	N/A
Financial Requirements	Not specified.	Not specified.	Financial assurance to accompany the closure plan.
Reporting Requirements	Not specified.	Must submit an annual compliance report or face automatic suspension.	Must submit a closure plan.
Payable Royalties (per tonne)	N/A	No specifics, but a minimum of \$0.25 / t for all materials.	N/A
Bonds or Securities	N/A	Financial assurance to accompany the closure plans before production begins.	N/A
Planning Requirements	N/A	Must submit a closure plan.	N/A

Jurisdiction: Ontario

Stage	Exploration	Development	Rehabilitation
EIA	N/A	EIA required if there are significant features within 120 m of the site; features include wetlands, fish or endangered species, habitat, woodlands, valley lands, wildlife habitat or areas of scientific or natural interest.	EIA required if there are significant features within 120 m of the site; features include wetlands, fish or endangered species, habitat, woodlands, valley lands, wildlife habitat or areas of scientific or natural interest.

Jurisdiction: Quebec

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Loi sur les Mines (Mines Act) Reglement sur les substances autres que le gaz naturel et la saumure, Loi sur la Qualite de l'environnement (Environment Quality Act) Reglement sur les carrieres et sablieres.		
Commodities	Sand, gravel, clay, peat and stone used for construction and certain industrial purposes.		
Fees & Duration	\$55.00 application fee with a 2 year duration	Non Exclusive Lease \$200.00 application fee for 1 year duration Exclusive Lease \$2200.00 application fee for 5 year duration.	No fee for the Certificate of Authorization; 10 year duration.
Required Information	Application form accompanied by 1:50,000 location map and an outline of the work program.	1:50,00 location map showing area to be exploited and all cultural features. Detailed report of the area with 1:50,000 location map with in-depth production and market analysis.	Certificate of Authorization is needed. Must detail rehabilitation plans; need approval from the municipality with \$5,000.00 guarantee if, 9ha or \$400.00/ha if >9 ha.
Exemptions	Not specified.	Within 600 m of: lands zoned as residential and/or commercial, a dwelling not owned by the operator, a school, place of worship or campground.	N/A
Acquisition Time Frame	Not specified.	Up to 2 months.	At least 2 weeks.
Allowable Work Expenditures	All basic exploration work.	Production expenses.	N/A
Financial Requirements	Not specified.	Not specified.	N/A
Reporting Requirements	Submit work carried out.	Submit work carried out.	N/A
Payable Royalties (per tonne)	N/A	Peat moss - \$0.05/bale sand, gravel, clay - \$0.40, building stone - \$4.40/m ³ , broken stone - \$0.38/m ³ , silica and similar materials - \$0.40 - all others - \$0.19.	N/A
Bonds or Securities	N/A	Must post bonds before production starts (see Certificate of Authorization).	Payable with the Certificate of Authorization.

Jurisdiction: **Quebec**

Stage	Exploration	Development	Rehabilitation
Planning Requirements	N/A	Closure & rehabilitation plans submitted with the Certificate application.	Closure & rehabilitation plans submitted with the Certificate application.
EIA	N/A	EIA must be submitted as part of the Certificate of Authorization.	N/A

Jurisdiction: New Brunswick

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Quarriable Substances Act, Regulation 93/92, Topsoil Preservation Act, Regulation 95-66 - General Regulation - Topsoil Regulation Act, Clean Environment Act.		
Commodities under the Quarriable Substances Act	Quarriable Substance - ordinary stone, building and construction stone, sand, gravel, peat, clay, soil and peat moss.		
Commodities under the Topsoil Preservation Act	Topsoil - the uppermost layer of soil or soil containing 0.9 per cent or more organic carbon, as determined by the Walkley and Black Method and sand, silt and clay.		
Fees & Duration	Quarry Permits - \$10.00 for all materials, excluding peat. \$100.00 for peat exploration licence. Licences good up to the year ending December 31.	Quarry Leases - \$50.00 application fee and \$50.00 / year renewable fee. Peat Lease \$50.00 application fee and \$50.00 renewable fee.	N/A
Required Information	Location map showing legal interest.	Detailed quarry plan with estimated costs and production rate, economic impact statement, reclamation study, proof of startup within 1 year, similar procedure for peat.	N/A
Exemptions	Shore areas outside of crown land.	Shore areas outside of crown land.	N/A
Acquisition Time Frame	Approximately 2 weeks.	May take 3 months or longer.	N/A
Allowable Work Expenditures	Not specified.	N/A	N/A
Financial Requirements	Expenditures of \$2.50 / ha / year for peat.	see Bonds or Securities.	N/A
Reporting Requirements	Not specified.	Rehabilitation Plan submitted with development application.	N/A
Payable Royalties (per tonne)	N/A	N/A	N/A
Bonds or Securities	N/A	\$20.00 / ha or \$5,000.00 whichever greater for all materials, also must submit a rehabilitation plan.	N/A
Planning Requirements	N/A	Detailed quarry description and rehabilitation plan accompanying application.	N/A

Jurisdiction: **New Brunswick**

Stage	Exploration	Development	Rehabilitation
EIA	N/A	EIA registration required for peat, but the actual EIA is not usually required.	Not Specified.

Jurisdiction: Nova Scotia

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Metalliferous Mines & Quarries Regulation Act, Crown Lands Act, NS Department of the Environment Pit & Quarry Guidelines Revised May 1, 1988.		
Commodities	Any orebody, mineral deposit, rock, stratum, earth, clay, sand, gravel, limestone, gypsum, building materials, natural gas and oil, shale and fire clay.		
Fees & Duration	No fees, just need permission explore on crown land. Permit duration was not specified.	Permits have a \$5.00 application fee and \$130.00 non-refundable deposit for the first 500 m ³ , good for a maximum of 1 year.	N/A
Required Information	Not specified.	Notify Minister at least 1 week prior to opening a mine.	N/A
Exemptions	Each permission application is reviewed by different organizations; some groups may object to some lands being developed. Resources with a value greater than \$3,000.00 may go to tender.	Each permission application is reviewed by different organizations; some groups may object to some lands being developed. Resources with a value greater than \$3,000.00 may go to tender.	N/A
Acquisition Time Frame	Not specified.	Variable from 1 day to years for sensitive areas.	N/A
Allowable Work Expenditures	Not specified.	Set limits on each site as to how much material may be removed; each case is reviewed.	N/A
Financial Requirements	Not specified.	Not specified.	N/A
Reporting Requirements	Not specified.	Maintain accurate plan of workings of the mine in office; maintain accurate plan of progress of workings of the mine in office; submit an annual report of workings of mine.	N/A
Payable Royalties (per tonne)	Payable quarterly royalties. Fill - \$0.45 - \$1.00 / m ³ , Gravel - \$0.50 - \$1.20 / m ³ , Sand - \$0.90 - \$2.00 / m ³ , Class A Gravel or Rip-rap - \$0.66 - \$1.65 / m ³ , Armourstone - \$0.70 - \$1.00 / m ³ , Marble Chips - \$1.50 - \$2.00 / m ³ .	Payable quarterly royalties. Fill - \$0.45 - \$1.00 / m ³ , Gravel - \$0.50 - \$1.20 / m ³ , Sand - \$0.90 - \$2.00 / m ³ , Class A Gravel or Rip-rap - \$0.66 - \$1.65 / m ³ , Armourstone - \$0.70 - \$1.00 / m ³ , Marble Chips - \$1.50 - \$2.00 / m ³ .	N/A

Jurisdiction: Nova Scotia

Stage	Exploration	Development	Rehabilitation
Bonds or Securities	N/A	Bond or certified cheque of \$2,000.00 per acre to ensure site rehabilitation.	Bond or certified cheque of \$2,000.00 per acre to ensure site rehabilitation.
Planning Requirements	N/A	Resources > \$3,000.00 are reviewed by an Integrated Resource Management Process involving various Natural Resource personnel; may be a lengthy process.	Must submit a closure plan.
EIA	N/A	Not specified.	Not specified.

Jurisdiction: Prince Edward Island

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Environmental Protection Act and Amendments, Environmental Protection Act and Excavation Regulations, Sand Removal from Beaches Regulations.		
Commodities	Clay, gravel, sand, shale, subsoil topsoil rock or any other surface or subterranean deposit.		
Fees & Duration	Not specified.	\$100.00 application fee (payable in respect of a pit for which a valid permit has not been in effect within 6 months).	N/A
Required Information	Not specified.	A detailed map or plan of the area. Details of the existing land use, entrances, exists, stockpiles, overburden & waste. Proposals for people & livestock protection, pit restoration & an undertaking to post a bond for site rehabilitation.	N/A
Exemptions	Land within 300 m of residential property, land within 500 m of any church, school, hospital, cemetery, public hall, bathing beach, public part or public playground. Regulations apply to all excavation pits except those located in the City of Charlottetown or any town.	Land within 300 m of residential property, land within 500 m of any church, school, hospital, cemetery, public hall, bathing beach, public part or public playground. Regulations apply to all excavation pits except those located in the City of Charlottetown or any town.	N/A
Acquisition Time Frame	Variable.	Variable.	N/A
Allowable Work Expenditures	Not specified.	Very little crown land in PEI and that which is crown land is predominately parks, beaches, etc. Therefore, there is no policy in place to acquire crown lands for the development of pits and quarries.	N/A
Financial Requirements	Not specified.	Not specified.	N/A
Reporting Requirements	Not specified.	Not specified.	N/A
Payable Royalties (per tonne)	N/A	Not specified.	N/A
Bonds or Securities	N/A	Unspecified bond to be submitted with the restoration plan.	N/A

Jurisdiction: Prince Edward Island

Stage	Exploration	Development	Rehabilitation
Planning Requirements	N/A	Submit a restoration plan with the development application.	N/A
EIA	N/A	Not specified.	Not specified.

Jurisdiction: Newfoundland

Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Quarry Materials Act , Quarry Materials Regulation 804/96, Mineral Act, Regulation 57/97. Regulation 85/97, Mineral Act Baie Verte Area Exemption Regulations 964/96, Description of Lands Open for Staking in Respect of which the Mineral Claims Recorder Shall Issue only Map Staked Licences Order 1015/96, Mineral Regulations 1143/96, Crown Lands Act, Environmental Assessment Act.		
Commodities under the Quarry Materials Act	Quarry Materials - a substance used in its natural form for civil construction or agricultural purposes including clay, sand, gravel, rock, soil, peat, and slag but does not include slate, marble, granite and similar stone used as dimension stone.		
Commodities under the Mineral Act	Mineral - a naturally occurring inorganic substance including coal and minerals contained in mine tailings but does not include; water, quarry materials, stratified deposits other than coal from which can be extracted by destructive distillation or petroleum.		
Fees & Duration	Exploration License - up to 1 year for dimension stone, slate, peat and aggregates for export-up to 4 months for construction aggregate for use within the province - maximum area is 5,000 ha, - renewable.	Quarry Permit - up to 1 year permit to dig for, excavate remove & dispose of quarry materials - max. area is 5 ha except with written permission by the Minister - no renewable - Quarry Lease - up to 20 years in duration with a max. area of 5 ha with written permission by the Minister.	N/A
Required Information	Must specify quarry materials.	Quarry Permit - a plan showing the area of land - Quarry Lease - plan together with survey notes, calculations & area description.	N/A
Exemptions	A beach, an established quarry under control of Dept of Works, Services & Transportation, Reid Lots and A&D Chartered Lands.	A beach, an established quarry under control of Dept of Works, Services & Transportation, Reid Lots and A&D Chartered Lands.	N/A
Acquisition Time Frame	3-4 weeks	3-4 weeks for both a permit and lease.	N/A
Allowable Work Expenditures	Can remove quarry material for sampling, assaying and testing only.	Not specified, but permits and leases will be canceled if not used.	N/A

Jurisdiction: Newfoundland

Stage	Exploration	Development	Rehabilitation
Financial Requirements	Exploration License - undertake exploration work of not less than \$5.00/ha-cannot carry forward expenditures - \$100.00 credit for 8 hours of field work by an individual holding a registered interest in that license.	Quarry Permit - \$80.00/ha.	N/A
Reporting Requirements	Exploration License - submit report of logistics, results, interpretations, conclusions, costs and map of work undertaken.	Keep and maintain a record of quarry materials excavated and removed from permit or lease area - report quantity and type of material removed when filing the royalty payment.	Notify Department of Mines & Energy prior to abandonment.
Payable Royalties (per tonne)	\$0.30/m ³ payable within 2 months of expiration of permit.	\$0.30/m ³ payable within 2 months of expiration of permit.	N/A
Bonds or Securities	N/A	Not specified.	Not specified.
Planning Requirements	N/A	Not specified.	Not specified.
EIA	N/A	EIA for areas greater than 10 ha.	EIA for areas greater than 10 ha.

Jurisdiction: Alaska

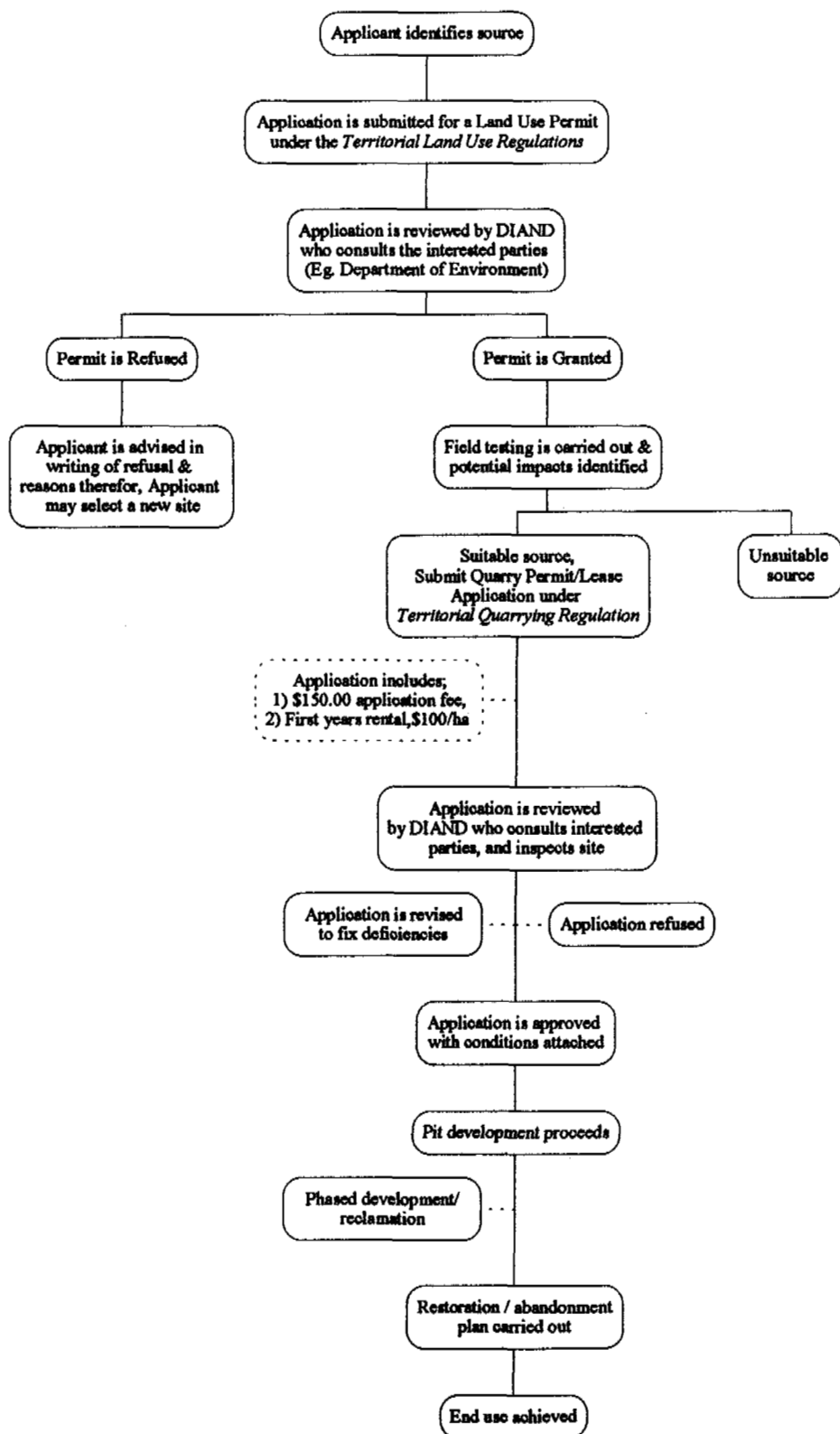
Stage	Exploration	Development	Rehabilitation
Governing Acts & Regulations	Several applicable federal and state laws and regulations apply (none of which are attached: Mineral Materials Disposal Rules. A Review of Regulatory Impediments to Mineral exploration and Developments in Alaska. Laws and Regulations for Mineral Rights on State Land. Disposal of Minerals on Public Lands		
Commodities	Commodities 43 CFR 3600 covers materials such as: sand, gravel, building stone, pumice, cinders, clay without special qualities.		
Fees & Duration	Variable depending on the laws and regulations involved.	Variable depending on the laws and regulations involved.	N/A
Required Information	Variable depending on the laws and regulations involved.	Variable depending on the laws and regulations involved.	N/A
Exemptions	Limited federal lands open for exploration; large tracts of land are in National parks, Preserves and Refuges and vast tracts are appropriated to Native Corporations; these lands are only open under special circumstances.	Limited federal lands open for exploration; large tracts of land are in National parks, Preserves and Refuges and vast tracts are appropriated to Native Corporations; these lands are only open under special circumstances.	N/A
Acquisition Time Frame	Variable depending on the scale of the project (from 1 week to years).	Variable depending on the scale of the project (from 1 week to years).	N/A
Allowable Work Expenditures	Variable	Variable	N/A
Financial Requirements	Variable	Variable	Security bonds must be posted before most mechanized exploration and development.
Reporting Requirements	Not specified	Not specified.	Not specified.
Payable Royalties (per tonne)	N/A	Required under the Mineral Leasing Act; based on the material and volume extracted.	N/A

Jurisdiction: Alaska

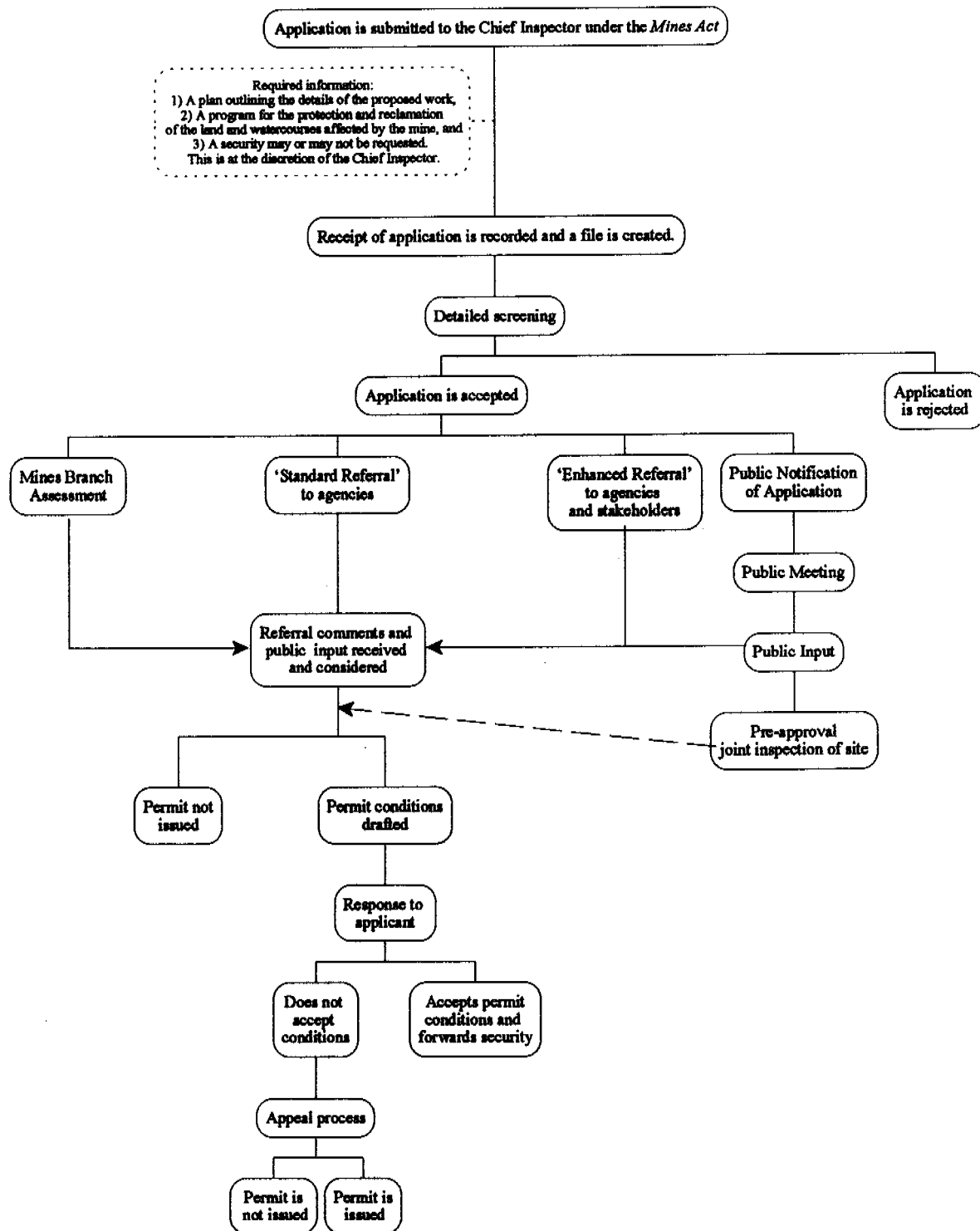
Stage	Exploration	Development	Rehabilitation
Bonds or Securities	Bonds are required for almost all site developments; the exception is Community Pit Mineral Materials where the minerals are sold outright at a price high enough to cover reclamation.	Bonds are required for almost all site developments; the exception is Community Pit Mineral Materials where the minerals are sold outright at a price high enough to cover reclamation.	Bonds are required for almost all site developments; the exception is Community Pit Mineral Materials where the minerals are sold outright at a price high enough to cover reclamation.
Planning Requirements	Reclamation plans are required for all mechanized mineral exploration and development.	Reclamation plans are required for all mechanized mineral exploration and development.	Reclamation plans are required for all mechanized mineral exploration and development.
EIA	Not specified.	Required for all developments except for operations under the Mining Law of 5 acres or less or "casual" operations which are small non-mechanized operations	Required for all developments except for operations under the Mining Law of 5 acres or less or "casual" operations which are small non-mechanized operations

APPENDIX 3
PITS & QUARRIES REGULATORY PROCESS
APPLICATION REQUIREMENTS & PROCEDURES

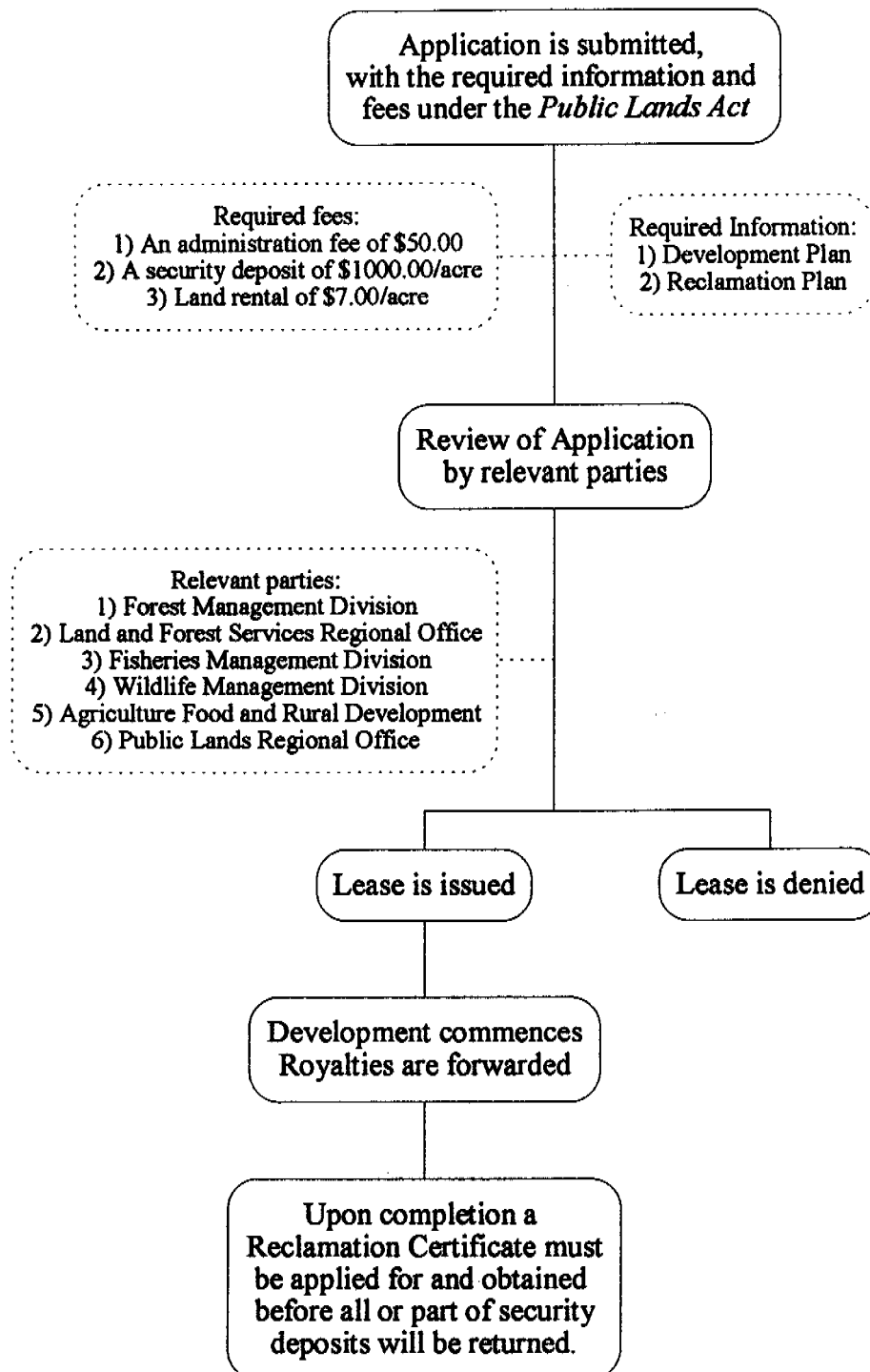
Yukon Territory and Northwest Territories - Territorial Land Permit Application Process



British Columbia Development Permit Application Process



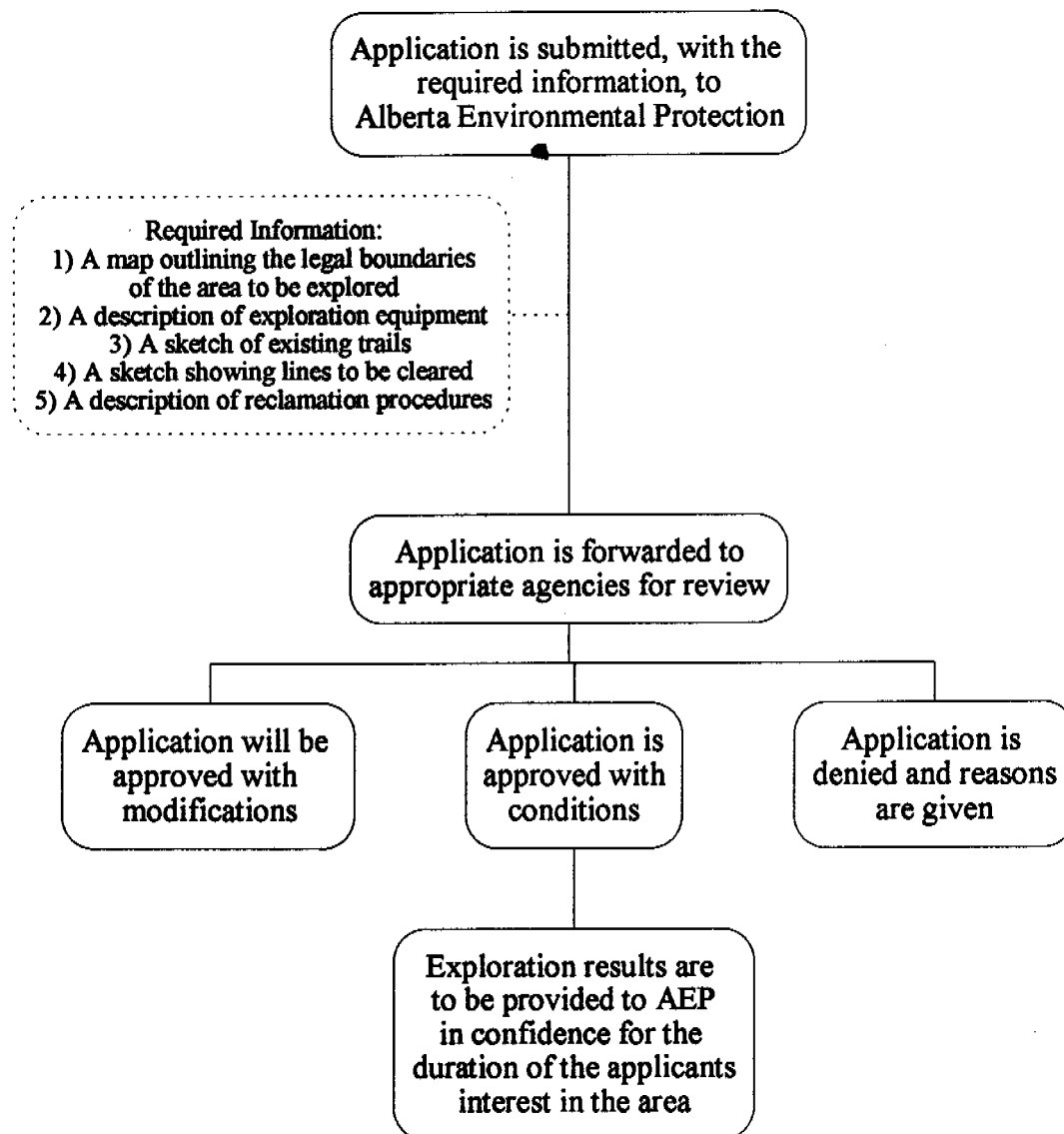
Alberta Surface Materials Lease Application Process



Note: A lease is obtained for long term projects requiring exclusivity.

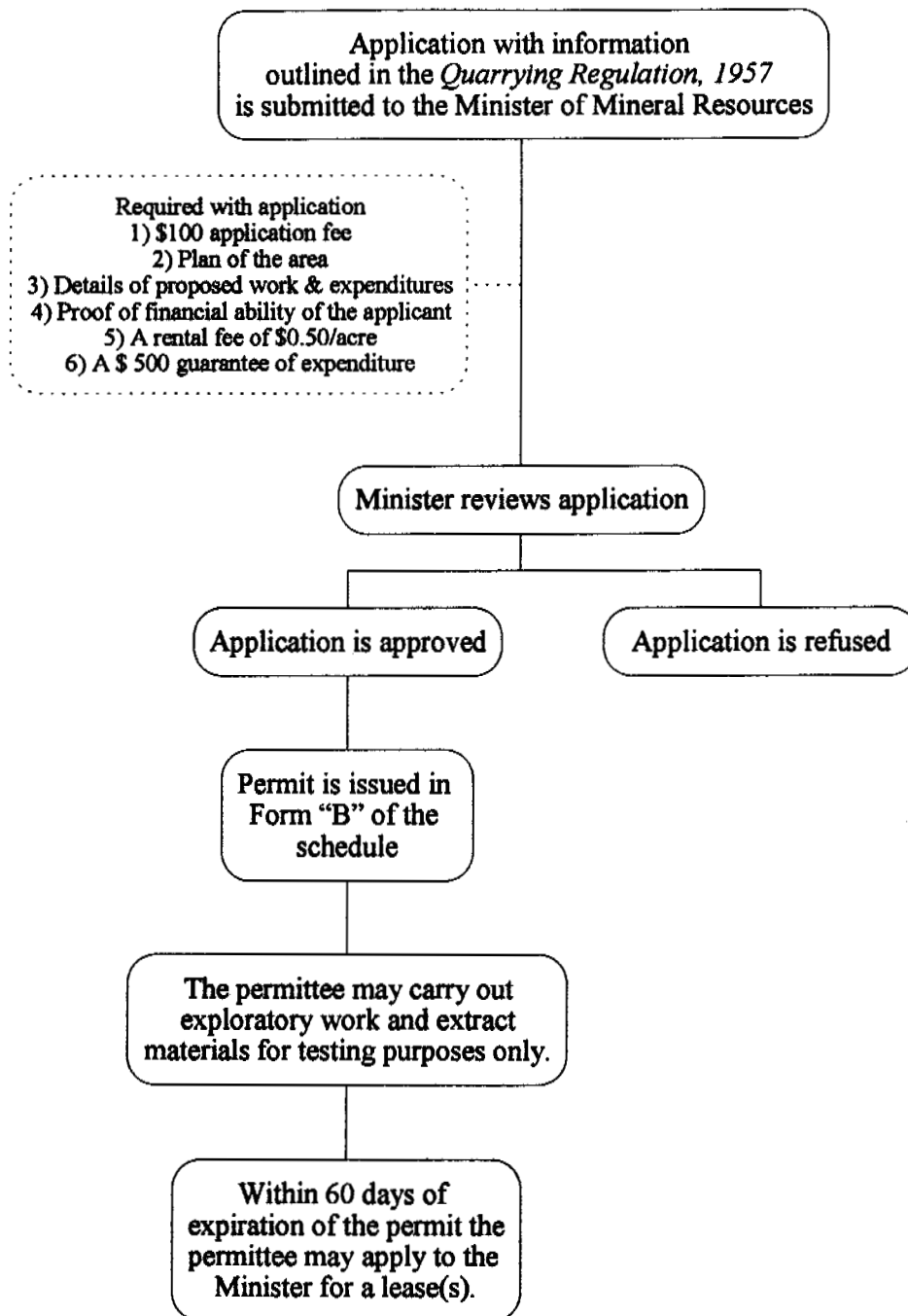
Applicable commodities include sand, gravel, silica sand, non manufacturing clay, manufacturing clay, marl and topsoil.

Alberta Exploration Licence, Permit and Approval Application Process



Note: An Exploration Licence grants the right to explore.
An Exploration Permit allows physical exploration using conventional techniques.
An Exploration Approval grants the operator a 90 day term to determine if sand and/or gravel exists in sufficient quantities and must be obtained in situations where environmental disturbances are likely to occur.

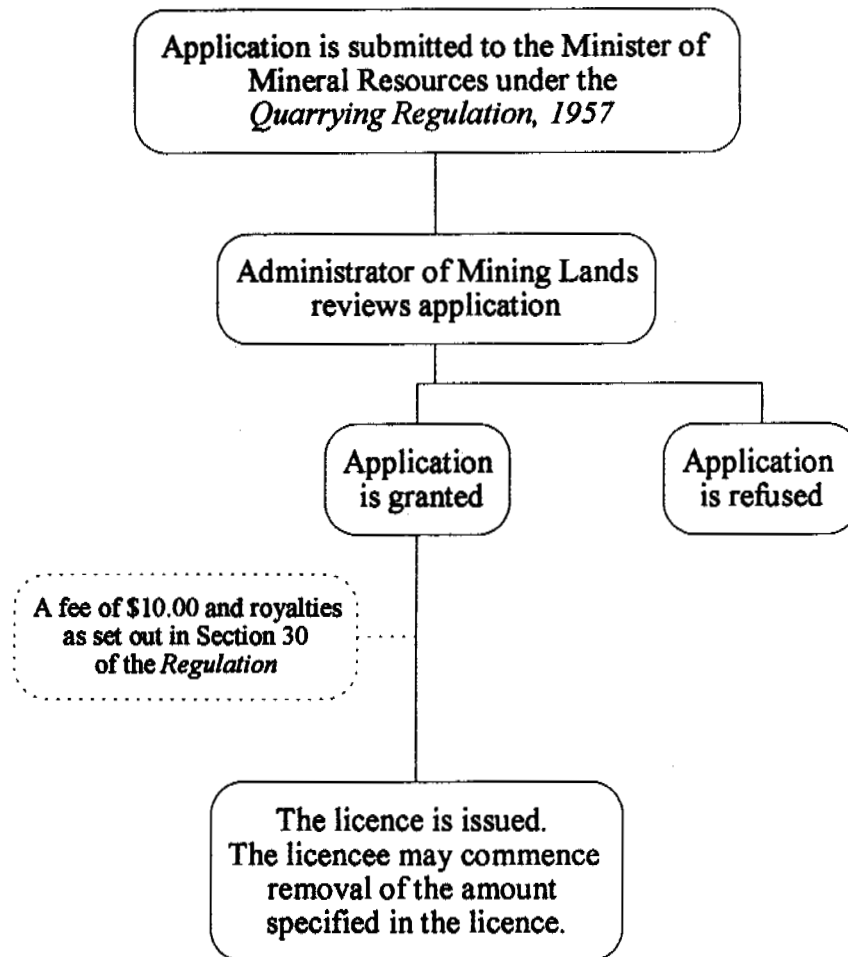
Saskatchewan Prospecting Permit Application Process



Note: Area of permit will not exceed 25 m².
The permit is valid for one year.

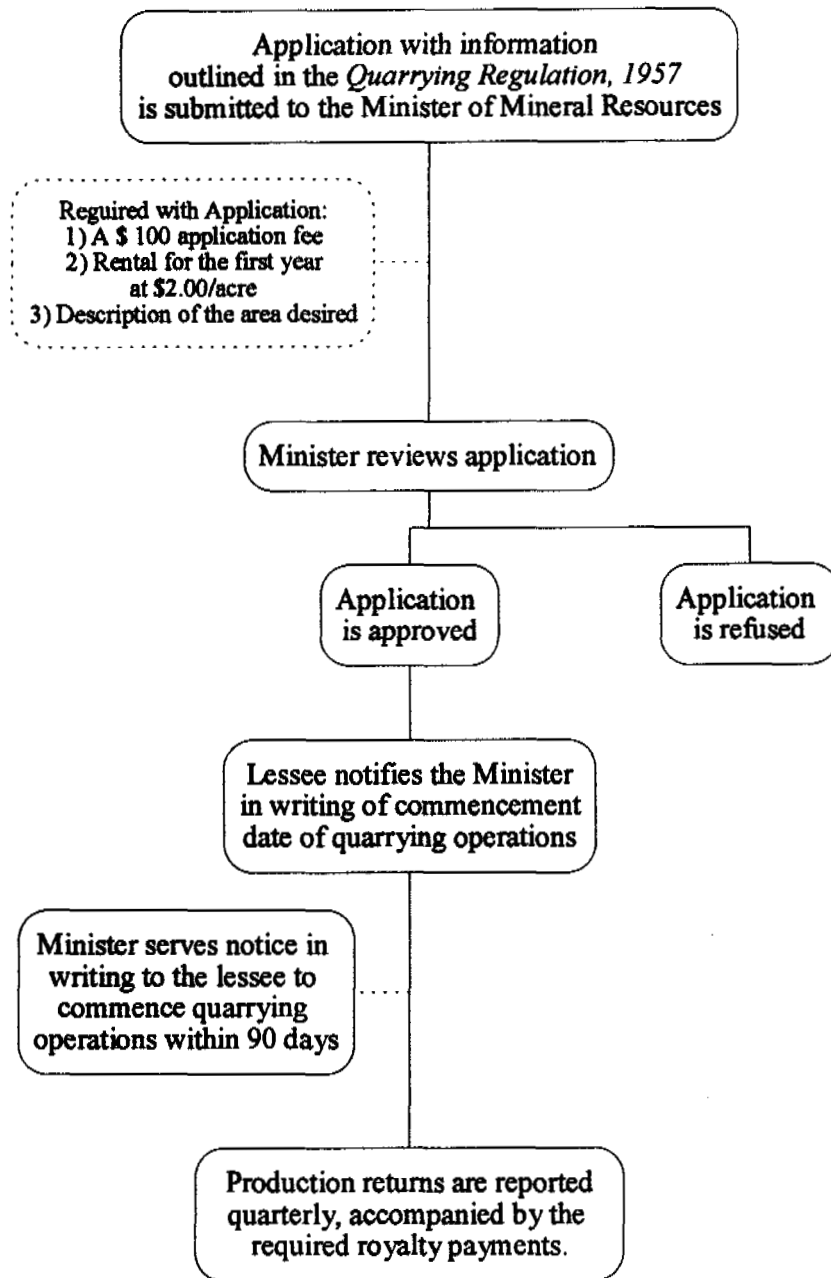
Saskatchewan Quarry Licences Application Process

Production of 500 tonnes or less



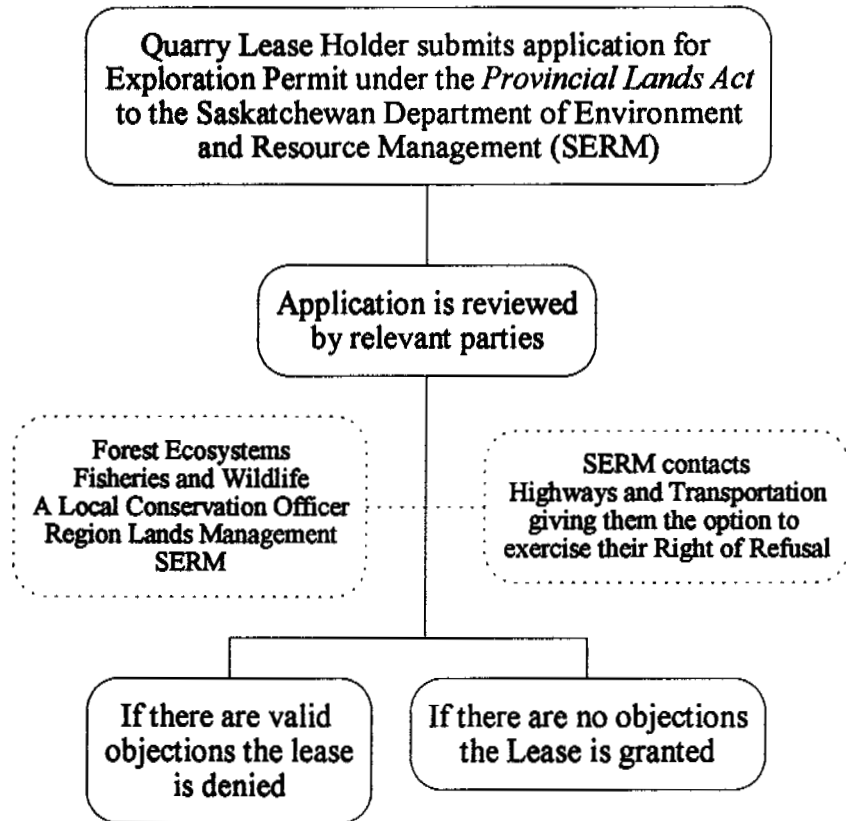
Note: The lease will expire on the 31st day of March following the date of issue.
The area of the licence will not exceed 40 acres.

Saskatchewan Quarry Lease Application Process Production Greater than 500 tonnes



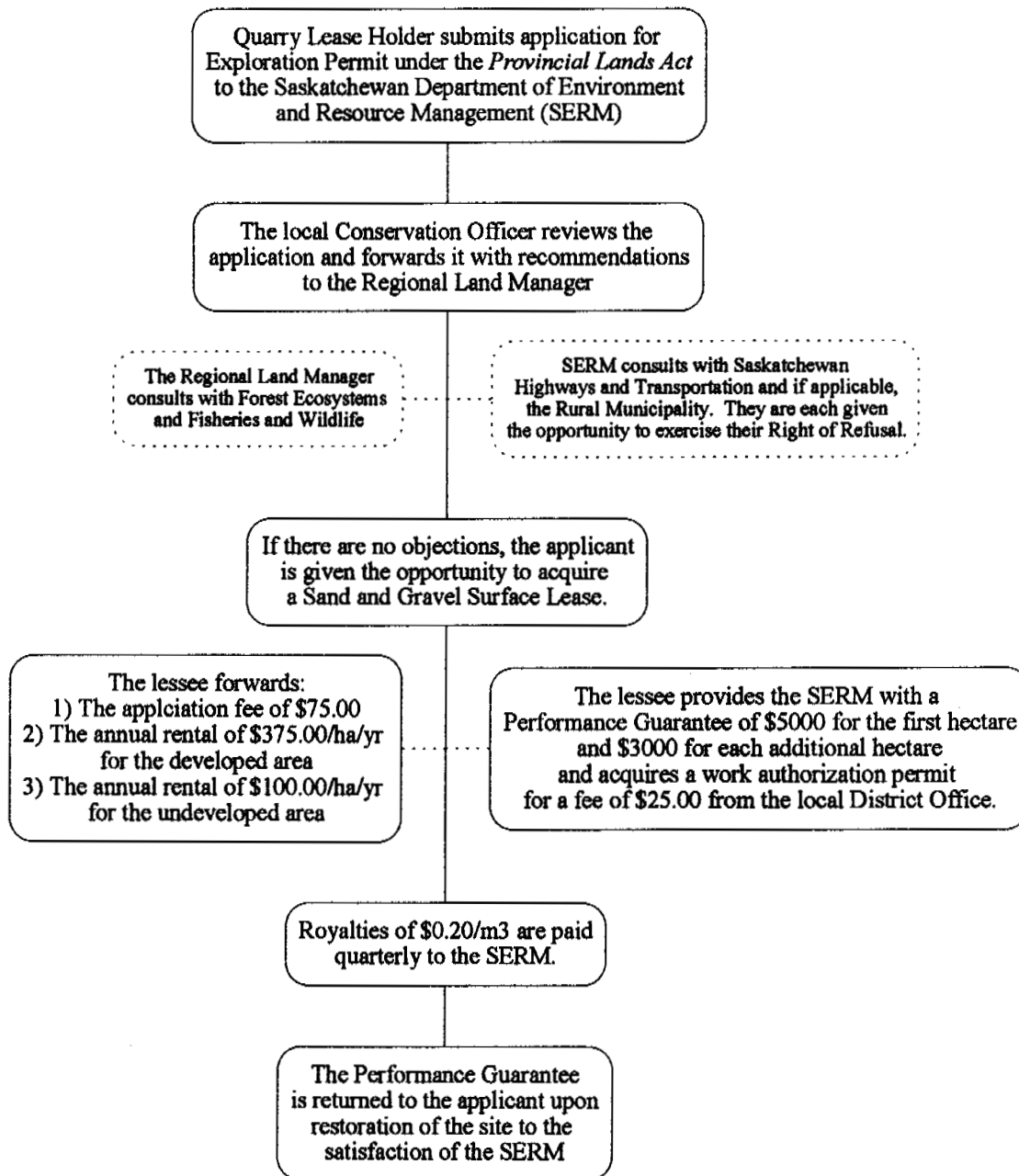
Note: The term of the lease will not exceed 21 years.
The area of the lease shall not exceed 640 acres.

Saskatchewan Sand and Gravel Exploration Permit Application Process



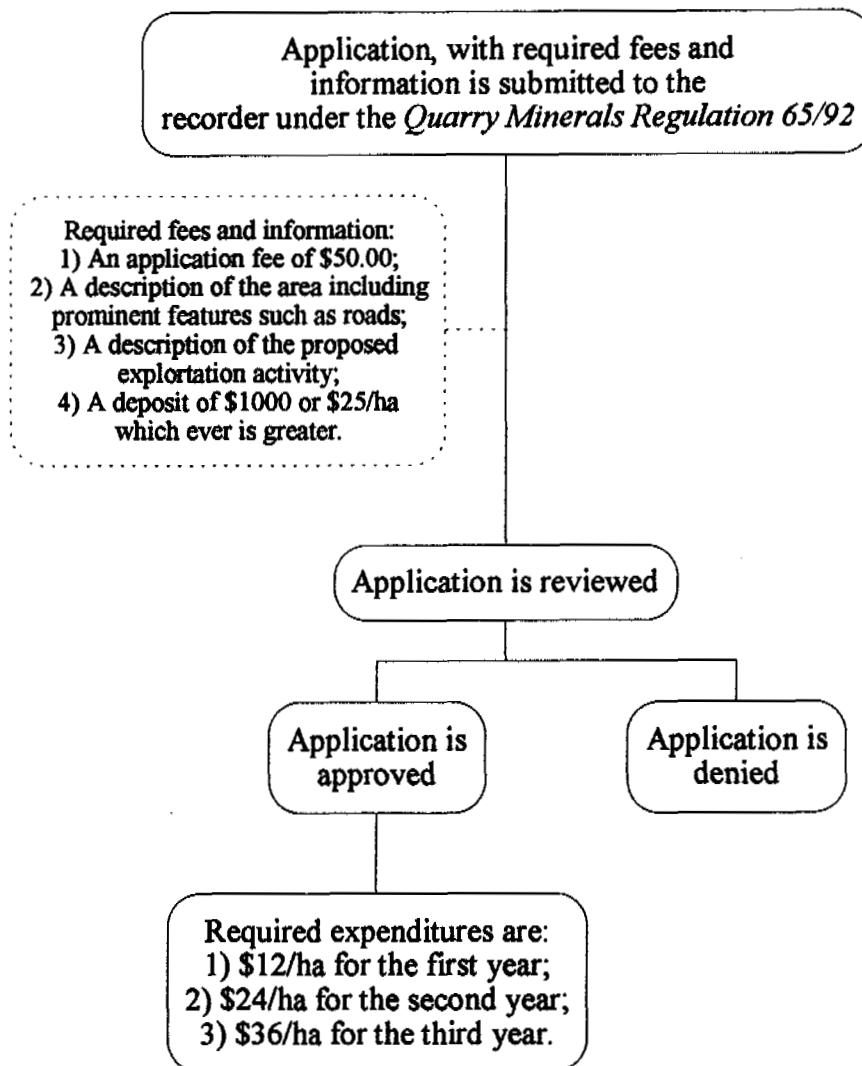
Note: The exploration permit grants the applicant exclusive right to apply for Sand and Gravel dispositions. However an Exploration Permit is not required to apply for a Quarrying Surface Lease.

Saskatchewan Sand and Gravel Surface Lease Application Process



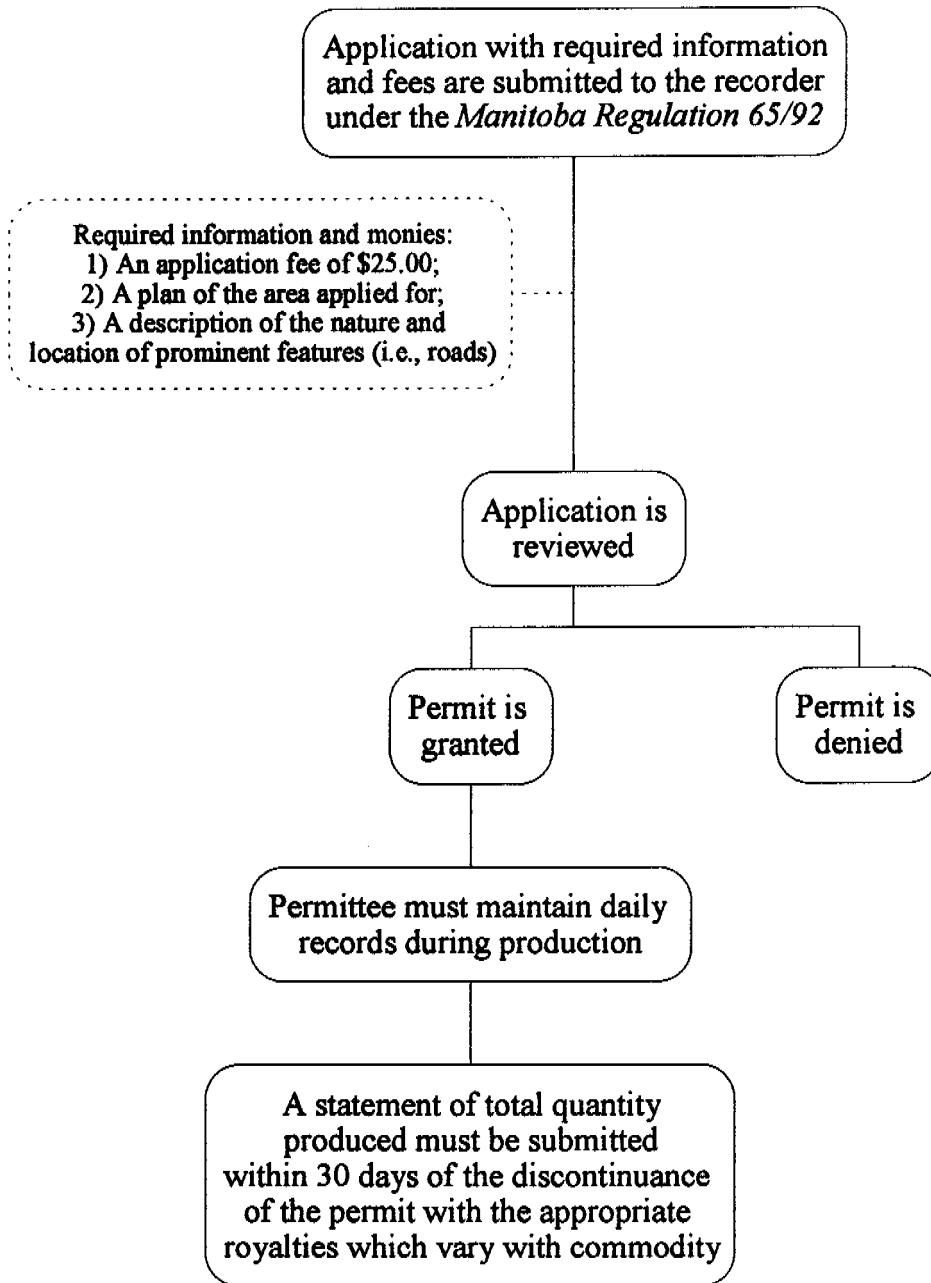
Note: The exploration permit grants the applicant exclusive right to apply for Sand and Gravel dispositions. However an Exploration Permit is not required to apply for a Quarrying Surface Lease.

Manitoba Quarry Exploration Permit Application Process



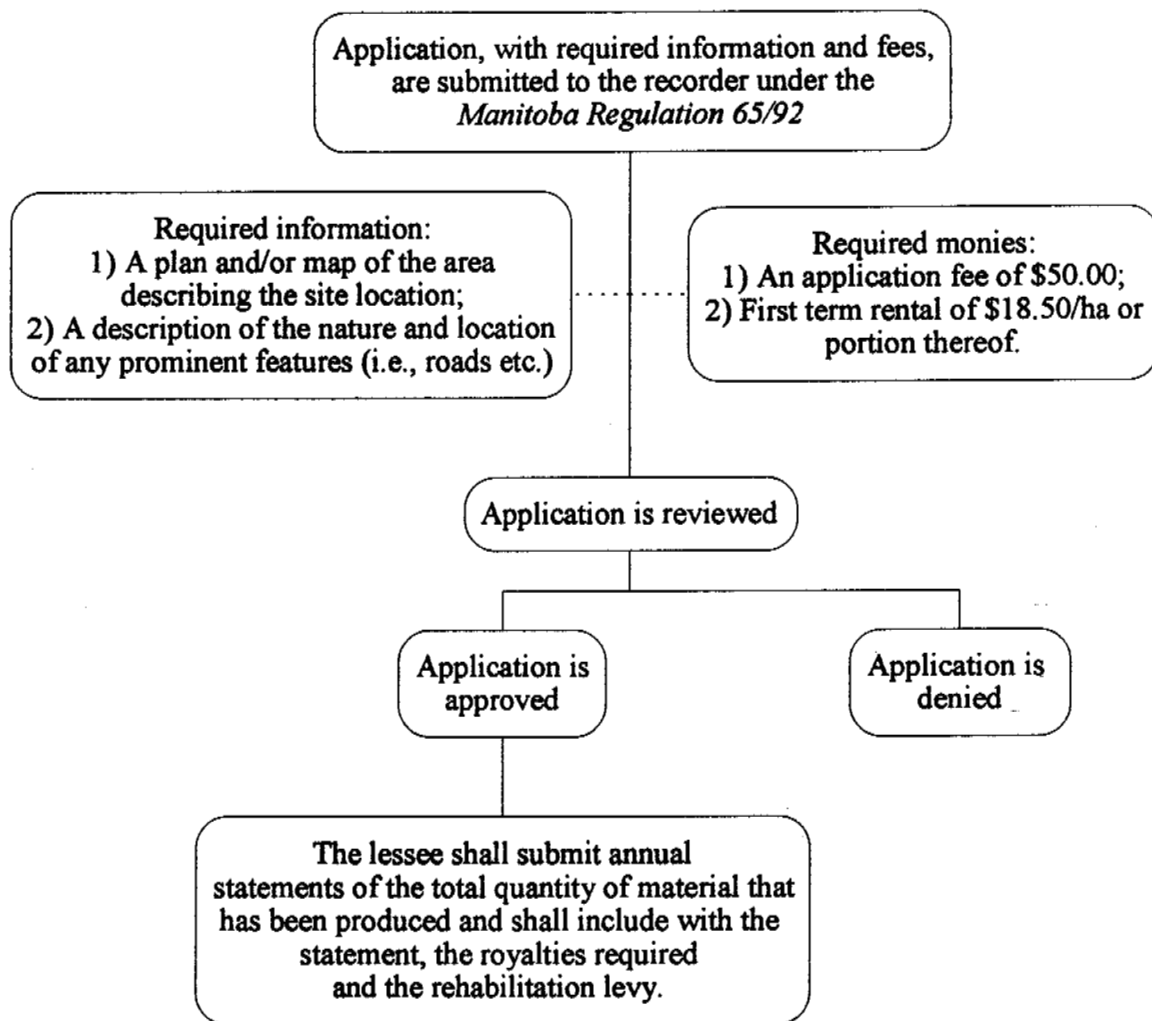
Note: An Exploration Permit gives the permittee the exclusive right to explore.

Manitoba Casual Quarry Permit Application Process



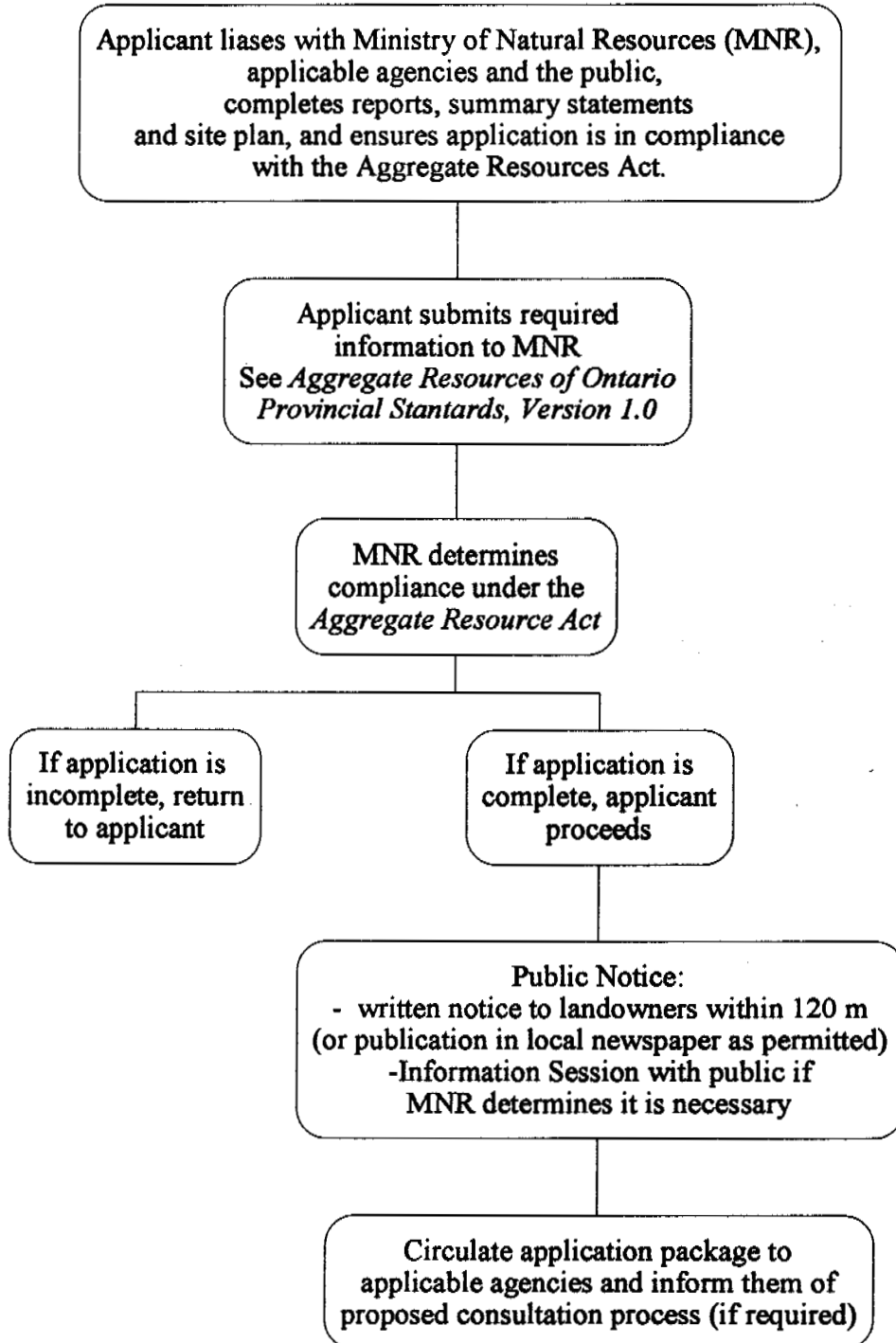
Note: A permit is for a term not exceeding three years.

Manitoba Quarry Lease Application Process

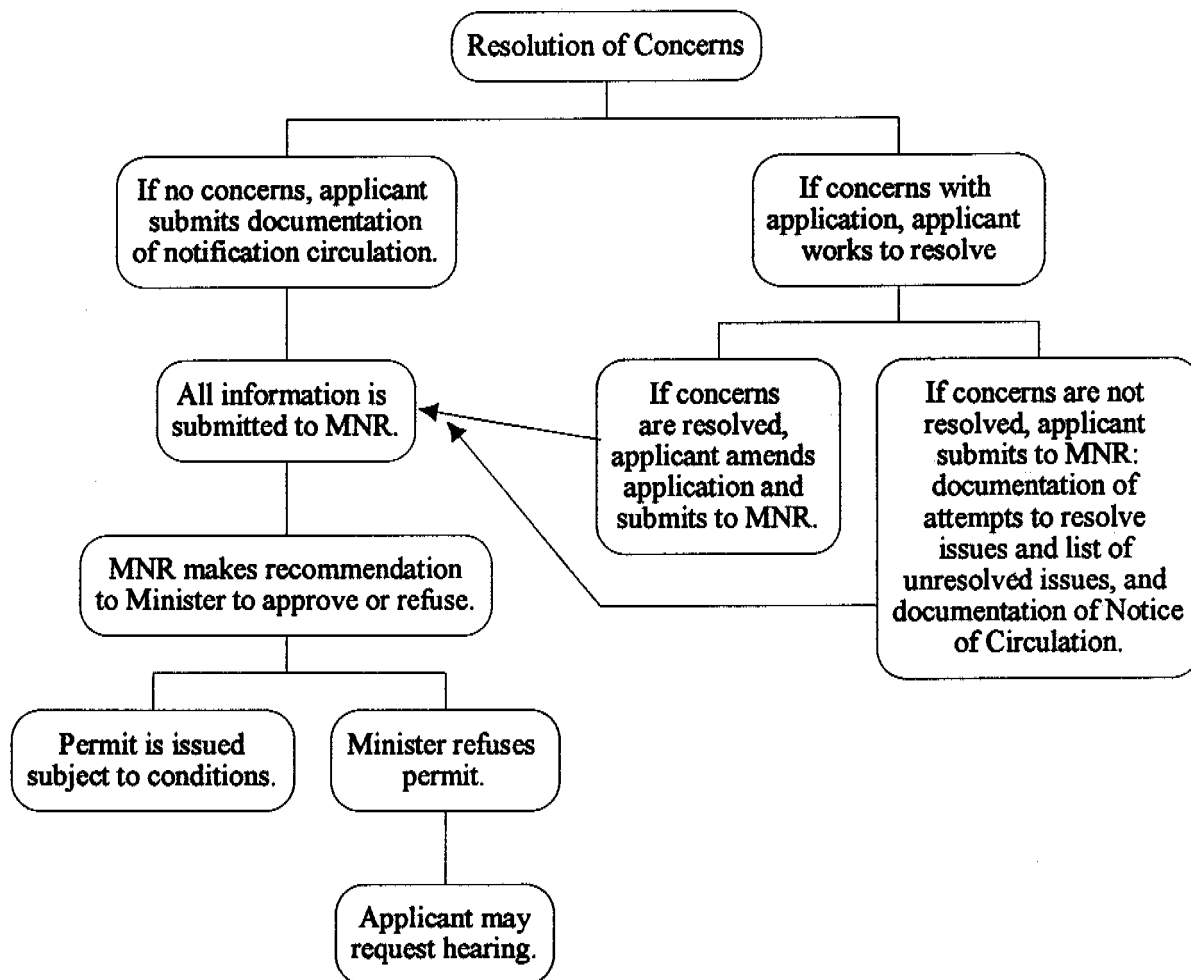


Note: A Quarry Lease is valid for a ten year term.
The area of a Quarry Lease shall not exceed 70 hectares.

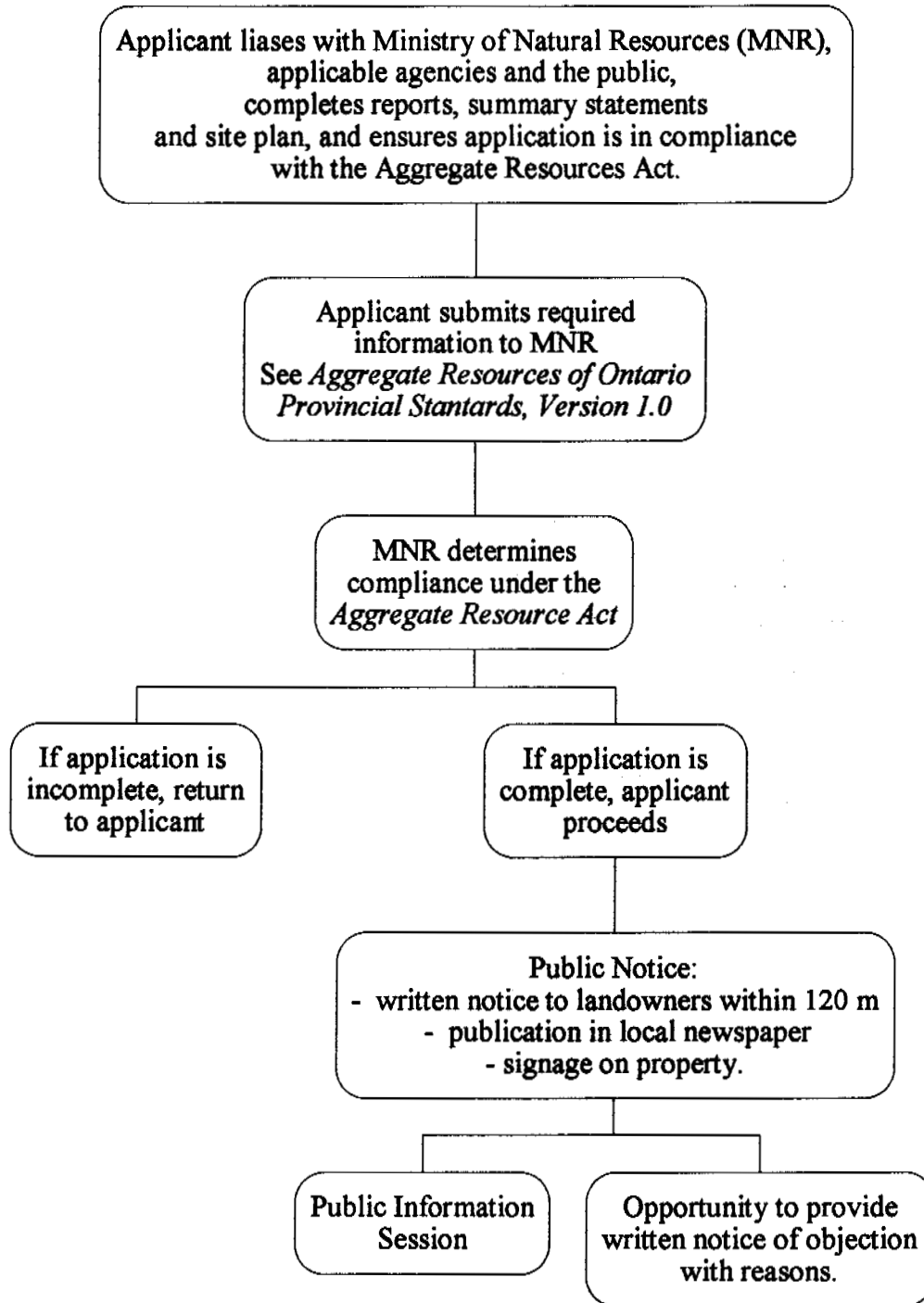
Ontario Aggregate Permit Application Process (Step 1, 2 and 3)



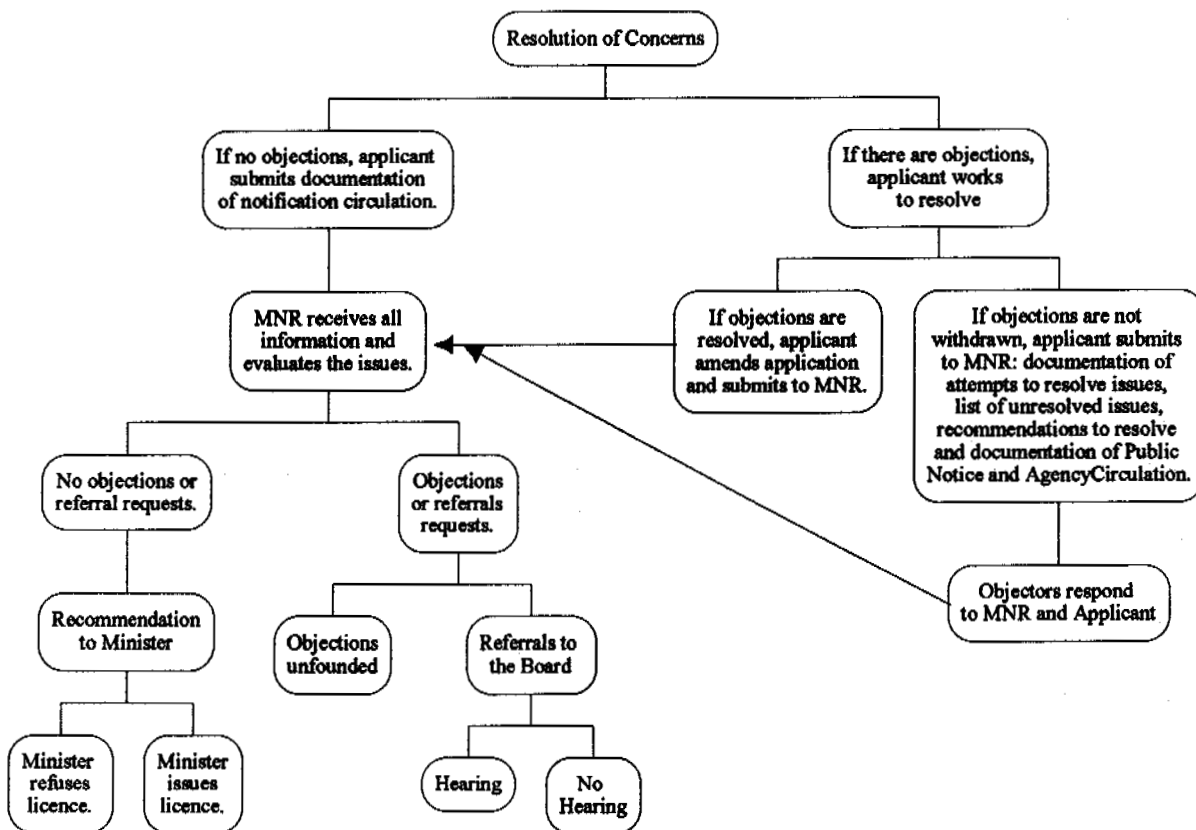
Ontario Aggregate Permit Application Process (Step 4 and 5)



Ontario Licence Application Process (Step 1, 2, 3 and 4)



Ontario Licence Application Process (Step 5 and 6)



Nova Scotia Peat Land Production Lease

Letters of interest to obtain a Peat Lease for the first time are directed to the Manager, Leasing and Claims of the NS Department of Natural Resources.

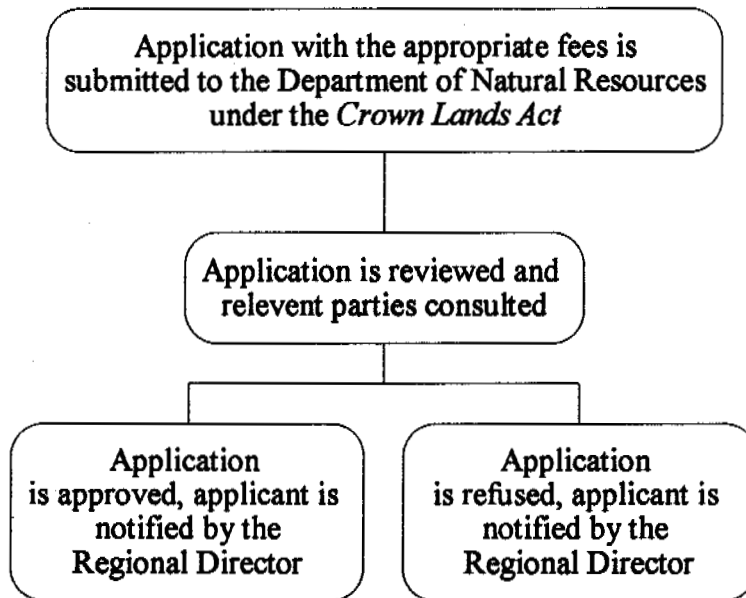
The Department sends out a formal tender for development proposals.

During a minimum waiting period of 18 months, proposals are reviewed by the Department of Natural Resources and the Department of Environment.

A proposal is awarded the lease and required fees are submitted.

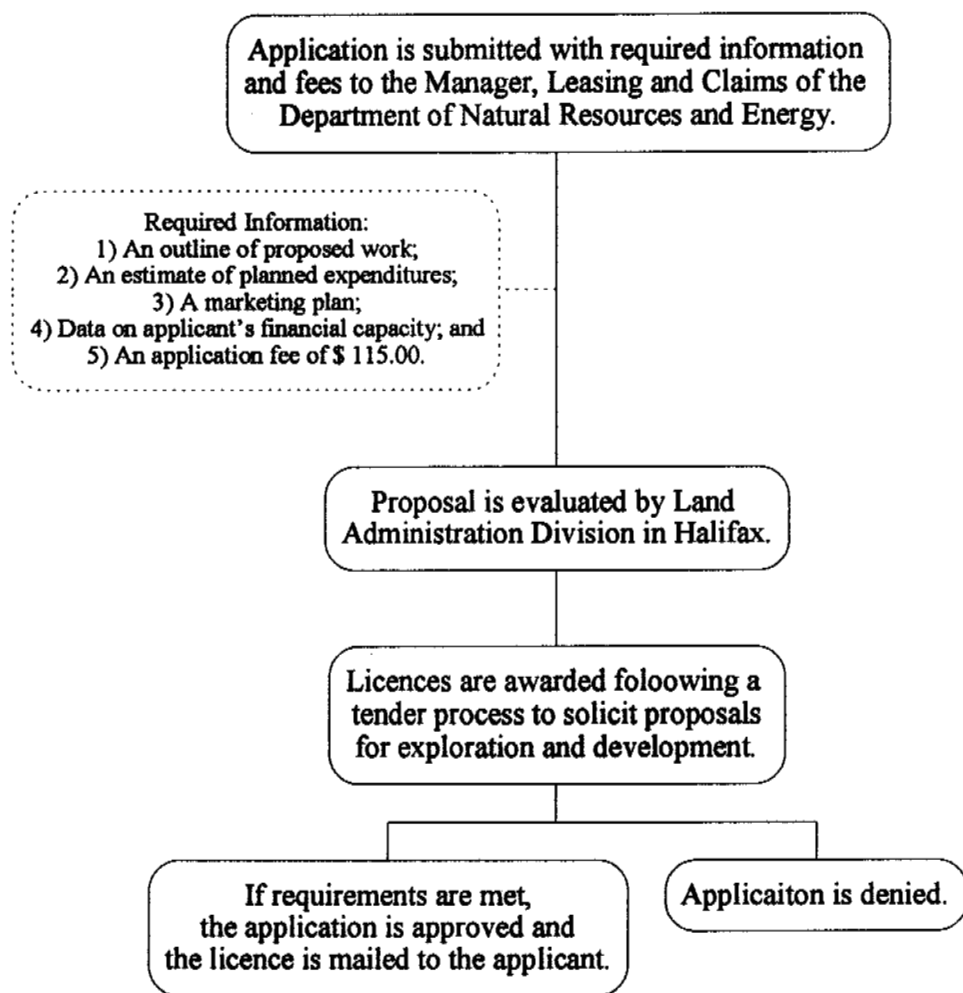
Note: A lease is valid for up to 10 years.
A lease shall not exceed 500 hectares (1235 acres).
The applicant should not incur any expense without first contacting the Nova Scotia Department of Natural Resources.

Nova Scotia Inland Aggregate Removal Local Permit
(Not more than 5000 cubic metres or 7000 metric tonnes)



Note: Permit is valid for 12 months from the date issued and is not renewable.

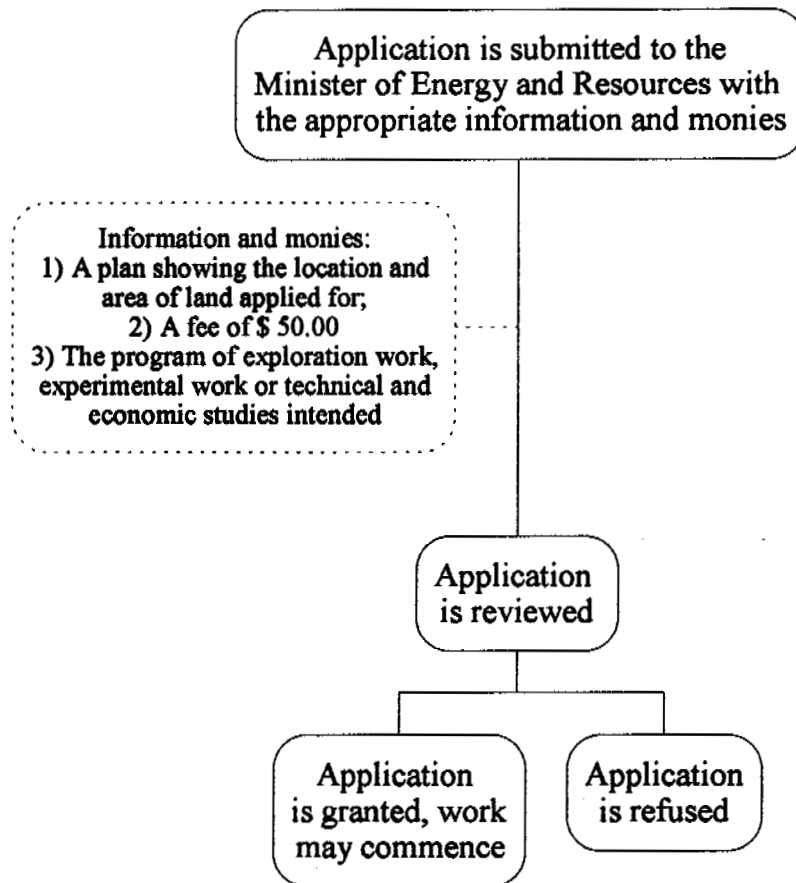
Nova Scotia Peat Land Exploration Licence



Notes: A licence is valid for one year from the date of issue and renewable each year for up to three years, provided requirements are met.

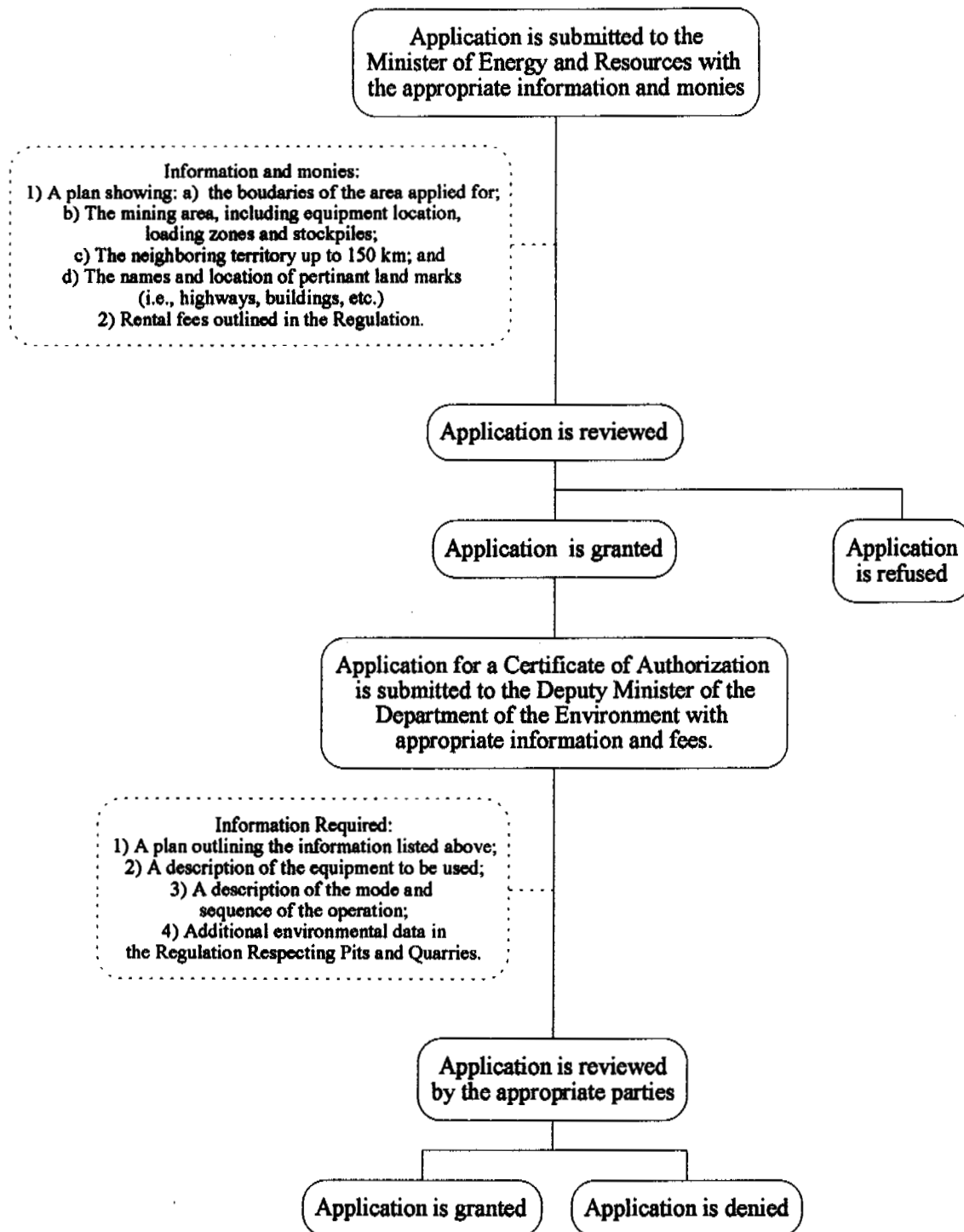
An applicant may possess only one exploration licence at a time.

Quebec Exploration Licence for Surface Material Substances Application Process



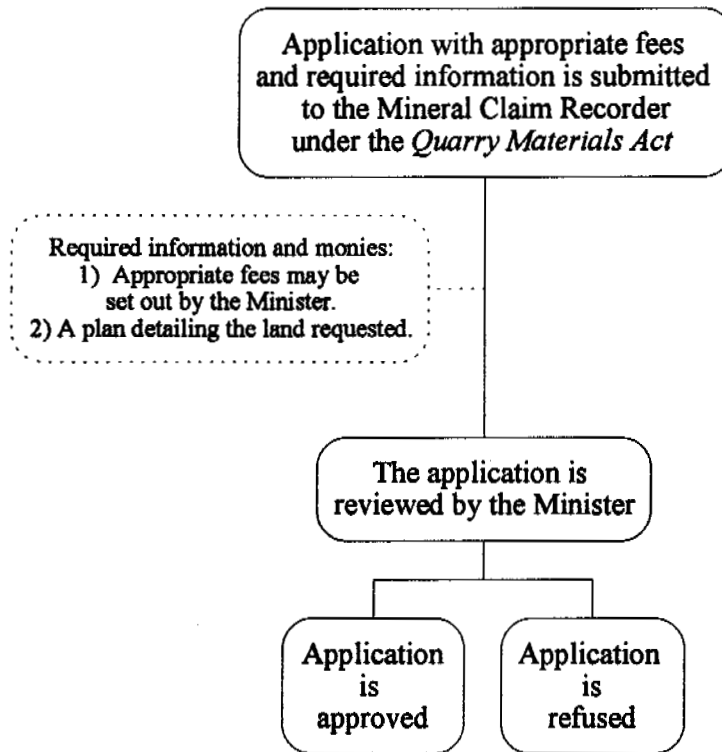
Note: The minimum cost of required work is \$3000.00.
A Licence is granted for a maximum of two years.

Quebec Lease to Mine Surface Material Substances Application Process



Note: A non-exclusive lease is granted for the extraction of unconsolidated material. It is valid for one year with a fee of \$200.00.
An exclusive lease is applicable for the quarrying of consolidated material. It is valid for up to five years with a fee of \$2200.00.

Newfoundland Quarry Permit Application Process



Note:

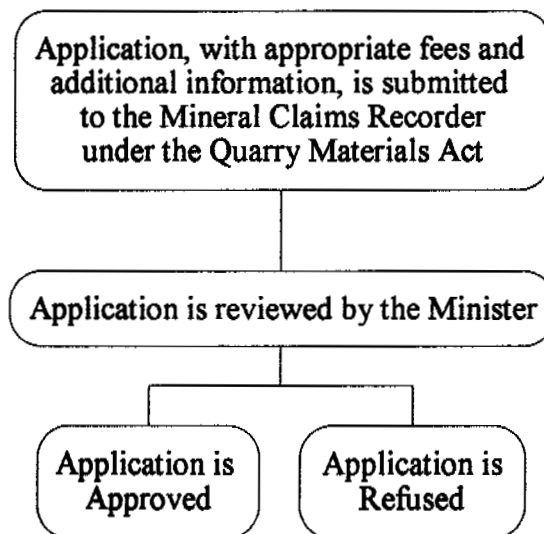
Fees which may be required are set out specific to each permit.

A permit is valid for one year.

A beach quarry permit and a highway quarry permit are obtainable through the minister in special situations.

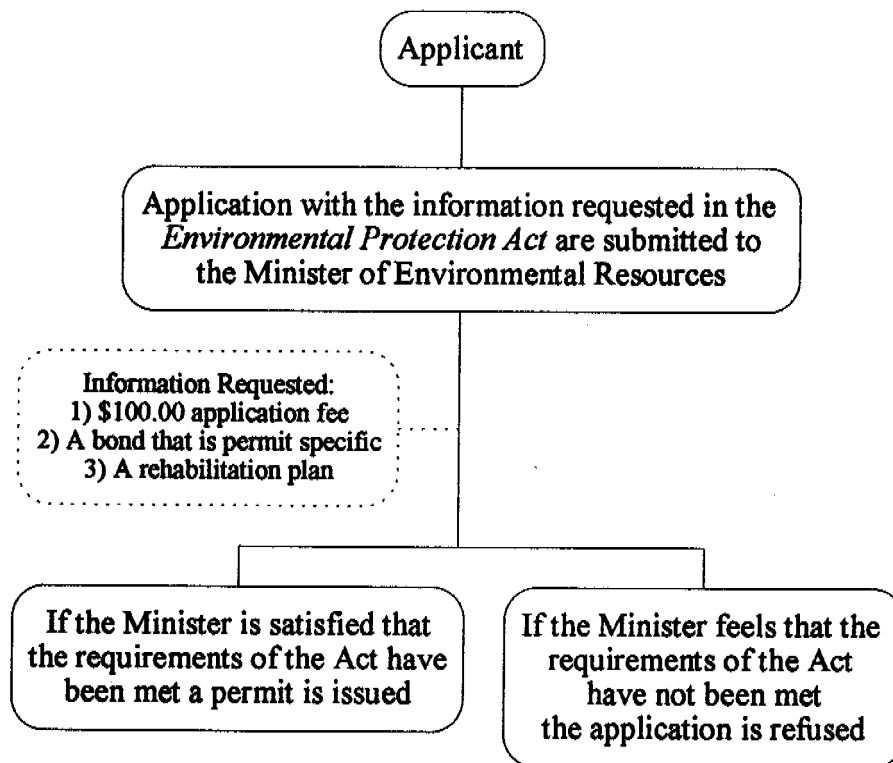
It is the applicants responsibility to contact relevent departments and obtain required permits for the quarry development.(i.e. municipal development permits, development control permits, highway access permits, cutting permits, environmental permits, stream crossing etc)

Newfoundland Quarry Lease Application Process



Note: EIA may be required if the lease area is greater than ten hectares
A lease will not be issued in respect of an area of land greater than five hectares.

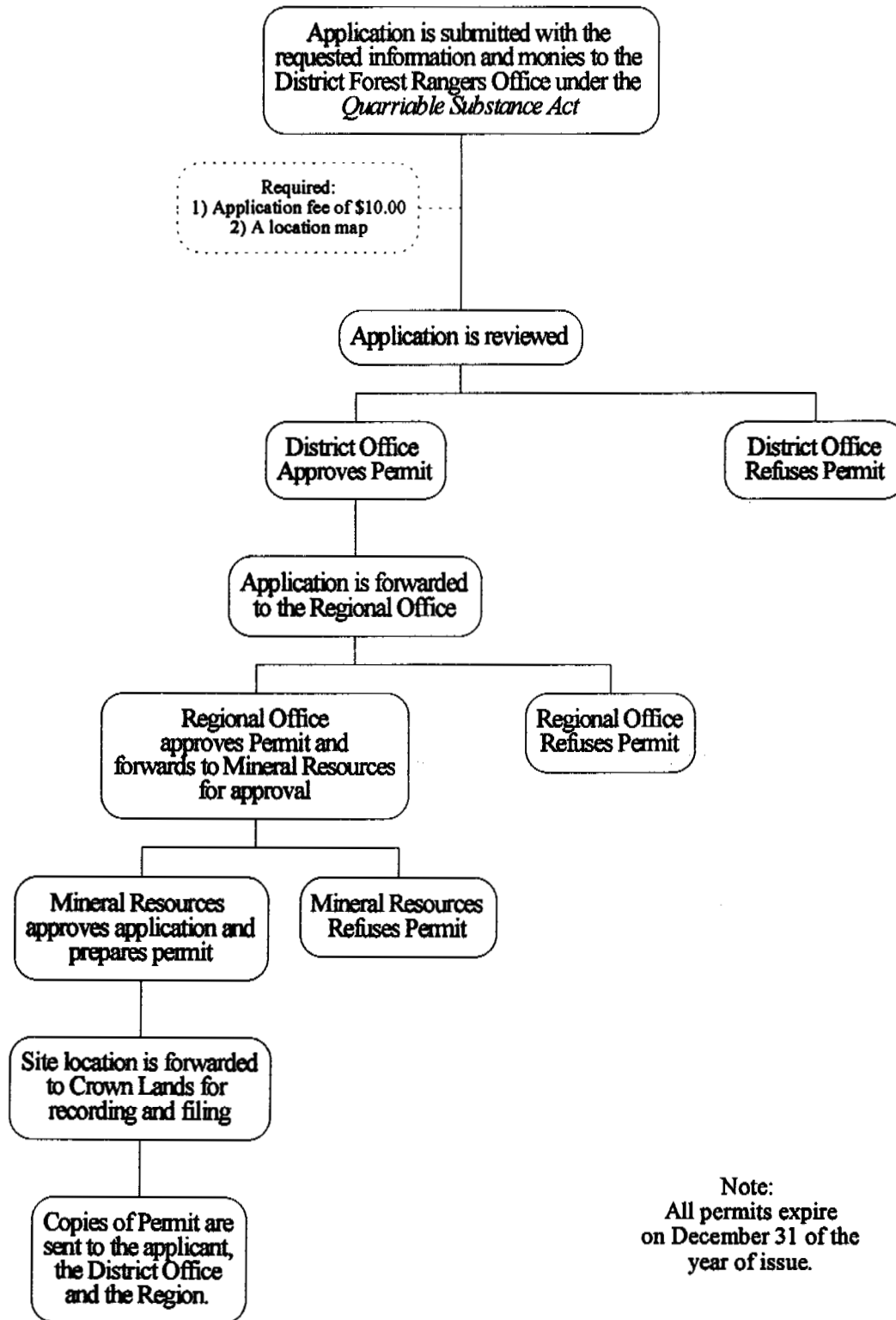
**Prince Edward Island
Excavation Pit Permit Application Process**



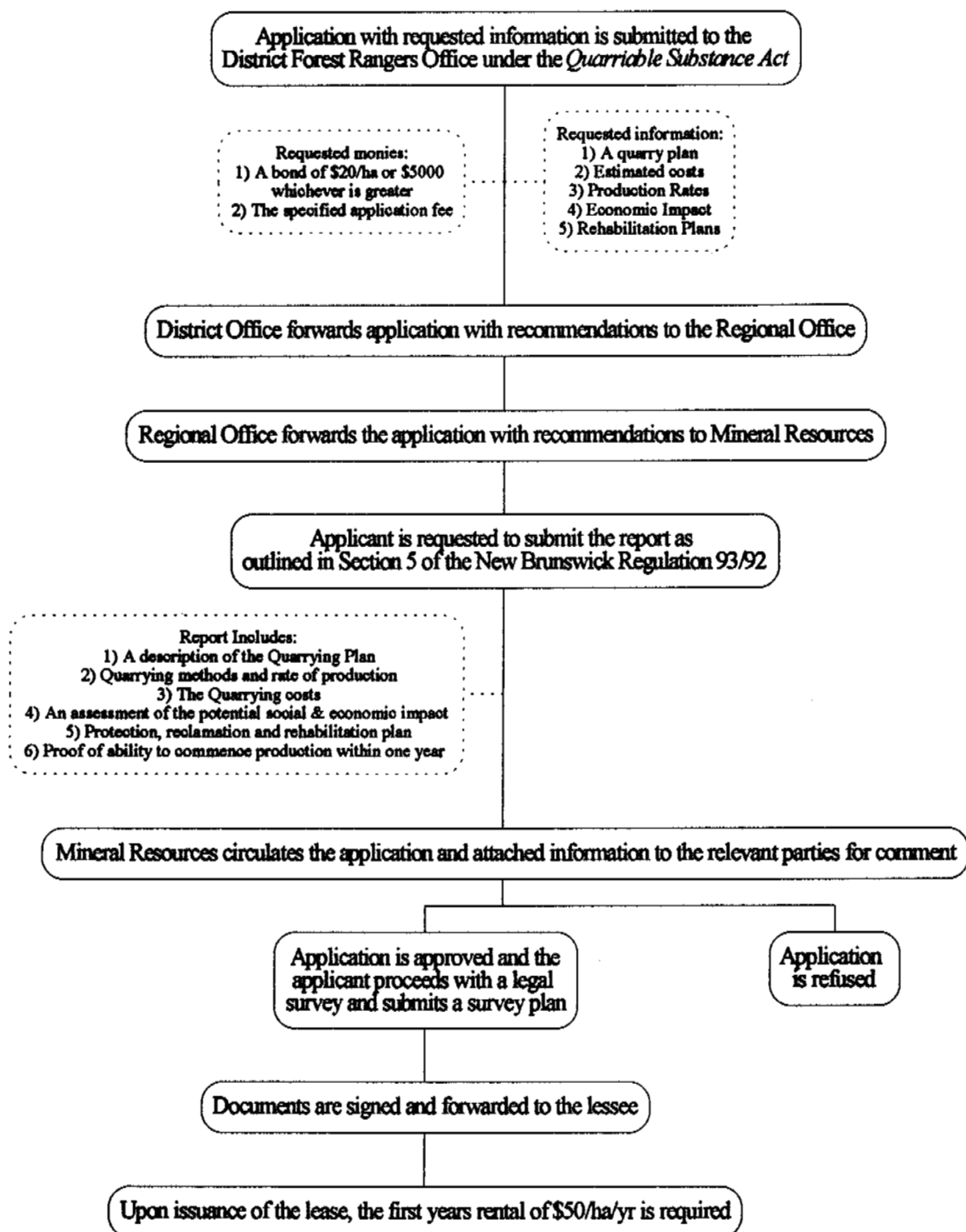
Note: If the applicant is not the land owner, permission must be obtained from the land owner in writing prior to making application.

New Brunswick Exploration Permit Application Process

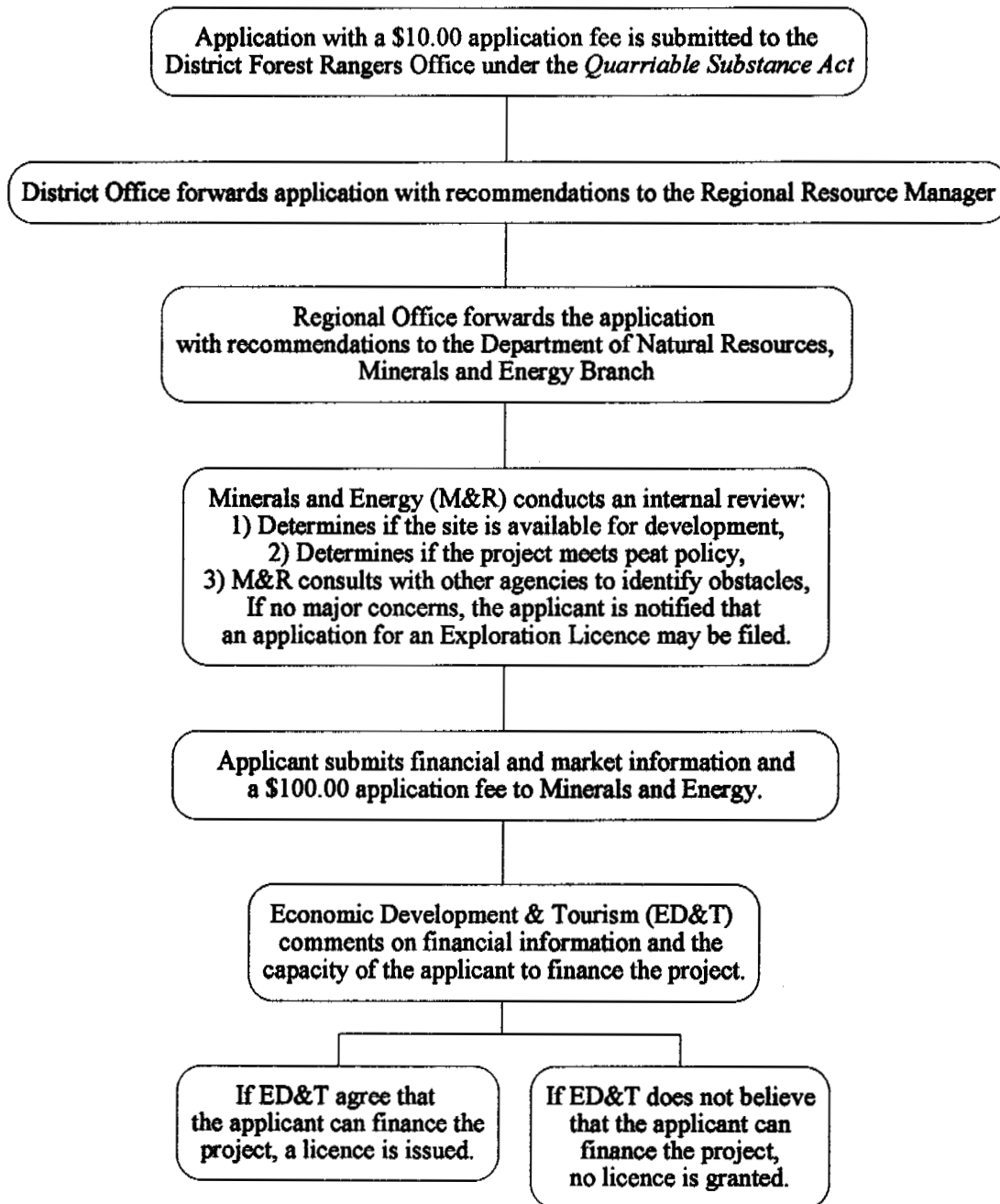
Greater than 1000 tonnes



New Brunswick Quarry Lease Application Process

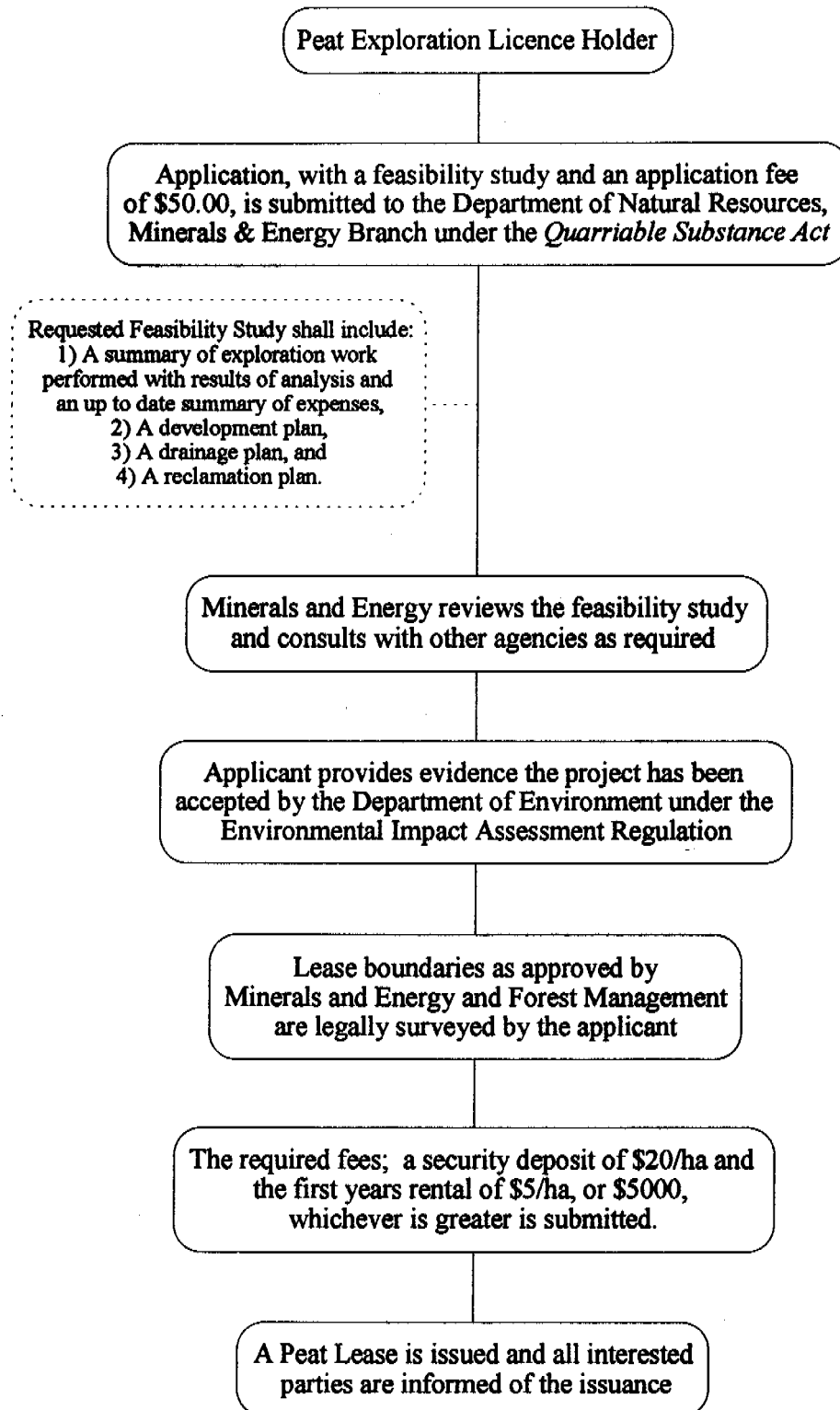


New Brunswick Peat Exploration Licence Application Process



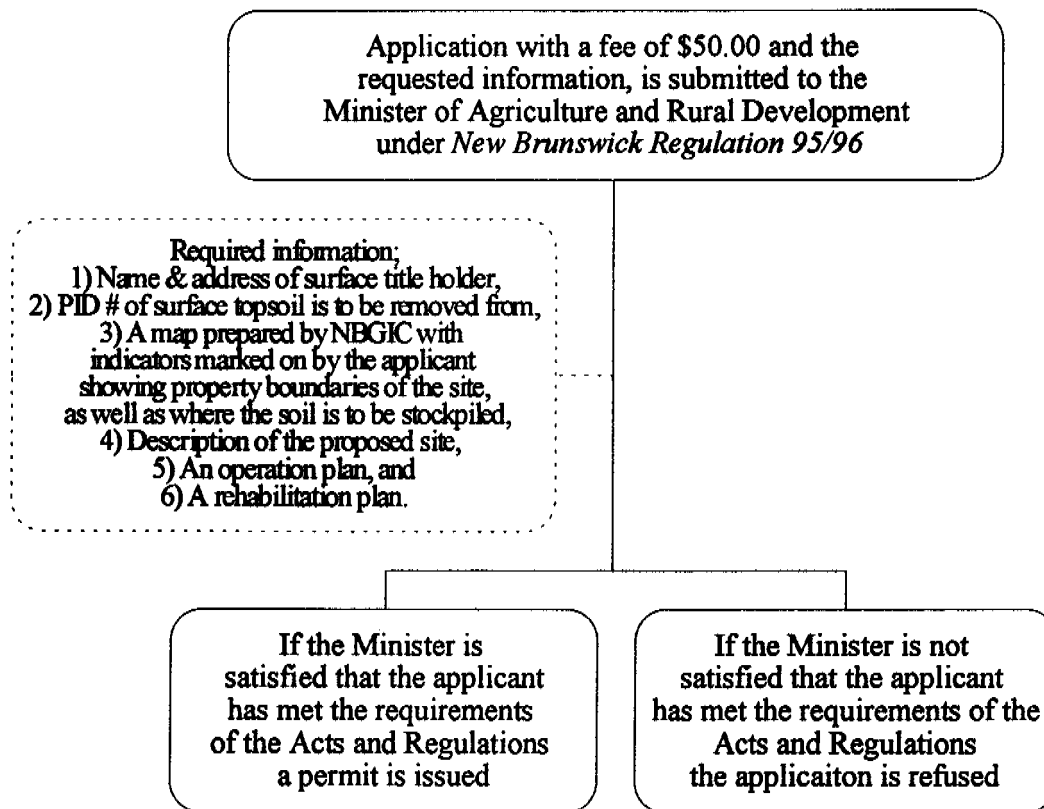
Note: Annual exploration spending of \$2.50/ha is mandatory or the equivalent sum of money is to be paid to the Minister.

New Brunswick Peat Lease Application Process



Note: A peat lease is issued for a term not to exceed ten years.

New Brunswick Topsoil Removal Permit Application Process



Note: A permit is valid only for the calendar year issued.

APPENDIX 4
PITS & QUARRIES REGULATORY PROCESS
JURISDICTIONAL COMPARISONS

Quarriable Substances - Exploration Permit

Jurisdiction	Major Acts and Regulations	Application	Acquisition Time Frame	Exemptions	Term	Regulatory Conditions	Reporting	Bonds/ Securities
		Fees/Rental				Assessment Work/ Financial Requirements		
Northwest Territories Yukon Territory Nunavut Territorial Land	Territorial Land Act Territorial Land Use Regulation Territorial Quarrying Regulation	\$50 for permit	not specified	no permit needed for residents who take less than 40 m3 or other certain agencies	up to 1 yr	not specified	not specified	not specified
British Columbia	Mines Act R.S.B.C. (1996)	no fees	30 - 60 days	parks, reserves, other protected areas	no set duration	all exploration work is assessable	submit assessment report outlining work performed and expenditures	at the discretion of the Chief Inspector
Alberta	Mines and Minerals Act Regulations 95/91, 350/93 Public Lands Act Environmental Protection and Enhancement Act	\$100 to \$500 depending on permit type	usually within 10 working days	protective lands: parks, reserves, nature areas and other areas which are environmentally sensitive	Expl. Approval is up to 1 yr; Expl. Permit is up to 10 yrs	all exploration work is assessable; \$5/ha/yr for the first 2 years and graduates \$5/ha every 4 years up to a maximum of 10 years	ensure that the proposed work program is carried out	N/A
Saskatchewan	Mineral Resources Act Quarrying Regulations Crown Minerals Act Mineral Disposition Regulation	\$100 plus rental of \$0.50/acre	not specified	area applied for must be < 25 square miles	1 yr with possible two 6 month extensions	must complete the work outlined in the permit application; basic exploration work is assessable	not specified	\$500 submitted with the permit application
Manitoba	Mines and Minerals Act Quarry Minerals Regulation 65-92	\$10 fee plus cash deposit	within 14 days	limited permit area; not valid for placer sand and gravel	3 years	all exploration work is assessable; \$12/ha for 1st yr, \$24/ha (2nd yr), \$36/ha (3rd yr)	submit report of work performed and expenditures	not specified
Ontario	Aggregate Resources Act Ontario Regulation 244/97 Mining Act	not specified	not specified	federal lands such as parks, reserves, etc..	not specified	not specified	not specified	not specified
Quebec	Mines Act; Regulation for mineral substances other than petroleum, natural gas, and brine	\$55 fee	not specified	not specified	2 years	all exploration work is assessable; expenditures not specified	submit report of work performed	not specified
Newfoundland	Quarry Minerals Act Quarry Materials Regulation 170/93	none specified	variable	beaches	4 months to 1 year dependant on use	must spend at least \$5/ha; cannot carry excess \$ forward	must submit report of all work performed	N/A
Prince Edward Island	Environment Protection Act Excavation Pits Regulations	not specified	variable	no quarries within 300m of residences; 500m of public lands and structures	not specified	not specified	not specified	N/A
New Brunswick	Quarriable Substances Act	\$10 except for peat (\$100)	approximately 2 weeks	not within 300m of the high tide mark; federal and provincial parks, reserves, etc.	up to Dec. 31 in year of issue	work not specified; \$2.50/ha/yr for peat	submission of yearly peat report	not specified
Nova Scotia	Metalliferous Mines and Quarries Regulation Act NS DOE Pit and Quarry Guidelines	no fees	not specified	area of interest to be reviewed by different groups; may tender resource >\$3000	not specified	not specified	not specified	not specified
Alaska	several different Laws and Regulations	variable depending on permit type	variable depending on permit type	different types of Federal lands	variable depending on permit type	not specified	not specified	unspecified bond amount to be submitted

Quarriable Substances Exploration Jurisdictional Comparison

N/A = not applicable

Quarriable Substances - Development Permit

Jurisdiction	Major Acts and Regulations	Permit Application	Acquisition Time Frame	Permit Term	Regulatory Conditions	Reporting	Bonds/ Securities	Cancellation Terms	
		Fees/Rental			Assessment Work/ Financial Requirements			by Licencee	by Minister
Northwest Territory Yukon Territory Nunavut Federal	Territorial Land Act Territorial Land Use Regulation Territorial Quarrying Regulation	\$150 for lease \$100 per hectare	not specified	up to 10 yrs	royalties to be paid on time	not specified	\$0.50/m ³ for quarry restoration	notify proper authorities	non-compliance with a condition of the lease or the Act
British Columbia	Mines Act R.S.B.C. (1996)	no fees	30 - 60 days	usually the life of the mine (quarry)	open pit work, reclamation, processing, royalties to be paid on time	not specified	at the discretion of the Chief Inspector	written notice to the District Inspector at least 7 days prior to shutdown	non-compliance with a condition of the lease or the Act
Alberta	Mines and Minerals Act Regulations 95/91, 350/93 Public Lands Act Environmental Protection and Enhancement Act	\$500 plus rental of \$3.50/ha	variable	15-25 yr depending on the permit type	work not specified; annual rental of \$3.50/ha; royalties to be paid on time	not specified	must post an unspecified bond	must cancel in writing and meet reclamation requirements; bonds returned if all is satisfactory	can be cancelled if conditions of approval are not followed
Saskatchewan	Mineral Resources Act Quarrying Regulations Crown Minerals Act Mineral Disposition Reg.	Lease - \$100 plus \$2/acre rent Licence - \$10	not specified	Lease - 21 yr Licence - expires following Mar.31	not specified	Lease - submit production returns on a quarterly basis	not specified	not specified	non-compliance with the Regulations or non-payment of rentals or royalties
Manitoba	Mines and Minerals Act Quarry Minerals Reg.65-92	\$10 fee	within 14 days	3 years (renewable for) 1 yr terms	mining expenses; annual rent of \$18.50/ha; royalties to be paid on	submit statement of quantity produced at expiration of permit	N/A	written notification to the Department of Energy and Mines	non-compliance with a condition of the permit or the Act
Ontario	Aggregate Resources Act; Ontario Regulation 244/97 Mining Act	variable depending on the permit type	3 to 4 months	not specified	work as outlined in the application; financial requirement not specified; royalties to be paid on time	must submit an annual compliance report	unspecified amount to be submitted with the closure plans	notify proper authorities restoration bond returned if all conditions met)	contravention of the Act or Regulations, site plan, condition of the licence
Quebec	Environment Quality Act Regulation regarding Pits and Quarries	Non Exclusive Lease - \$200 Exclusive Lease - \$2200	up to 2 months	Non Exclusive Lease - 1 yr Exclusive Lease - 5 yrs	production expenses; expenditures not specified; royalties to be paid on time	submit work carried out	\$5000 if <9ha; \$400/ha if area>9ha	notify proper authorities restoration bond returned if all conditions met)	non-compliance with a condition of the permit or plan, lease, or the Act
Newfoundland	Quarry Minerals Act Quarry Materials Reg 170/93	none specified	variable	up to 1 yr	must spend at least \$80/ha; royalties to be paid on time	must report production statistic when royalty payment is due	not specified	notify proper authorities	non-compliance with the Acts or Regulations
Prince Edward Island	Environment Protection Act Excavation Pits Regulations	\$100 application for a quarry not used in previous six months	variable	not specified	not specified	not specified	unspecified bond amount to be submitted	notify proper authorities	non-compliance with the Acts or Regulations
New Brunswick	Quarriable Substances Act	\$50 fee; \$50/yr renewable fee	up to 3 months	up to Dec. 31 in year of issue	work as approved by the Minister; royalties to be paid on time	quarry operation records must be available for inspection	under Rehabilitation	notify proper authorities	non-compliance with a condition of reclamation plan, lease, or the Act
Nova Scotia	Metalliferous Mines and Quarries Regulation Act NS DOE Pit and Quarry Guidelines (1988)	\$5 fee and \$130 non refundable deposit on initial production	variable depending on sensitivity of area of interest	up to 1 yr	submit annual report of mine workings; royalties to be paid on time	maintain accurate plan of mine workings; submit annual report	\$2000 in cash or certified cheque	notify proper authorities	non-compliance with the Acts or Regulations
Alaska	several different Laws and Regulations	variable depending on permit type	variable depending on permit type	variable depending on permit type	not specified	not specified	unspecified bond amount to be submitted	not specified	not specified

Quarriable Substances Development Jurisdictional Comparison

Quarriable Substances - Rehabilitation

Jurisdiction	Rehabilitation Planning Requirements	Bonds/ Securities	Closure Plan	Environmental Impact Assessment
Northwest Territory Yukon Territory Nunavut (Territorial Lands)	not specified	\$0.50/m ³ for quarry restoration	not specified	not specified; possibly covered screening by CEAA
British Columbia	Reclamation Plan submitted before production and is amended from time to time	at the discretion of the Chief Inspector	must be submitted within 90 days of the mine closure, showing workings, and the mineral claim boundaries	EIA is required for larger size operations
Alberta	EIA may have to be submitted	must post an unspecified bond	closure plan submitted before production starts	may be required at the discretion of the EIA Branch Director; may also need the approval of the Natural Resources Conservation Board
Saskatchewan	Environmental Assessment Impact to be submitted	not specified	not specified	EIA to be submitted before production begins
Manitoba	not required	rehabilitation levy of \$0.10/tonne due 30 days after permit or lease anniversary	must submit a closure plan for a quarry other than a non-aggregate quarry	must file an EIA proposal under Reg. 163/88 of the Environment Act; further screenings may not be required
Ontario	closure plans to be submitted before production begins	unspecified financial assurance to be submitted with the closure plans	to be submitted before production begins	EIA is required if there are sensitive environmental conditions within 120m of the operation site
Quebec	must submit a Reclamation Plan with the Certificate of Authorization before production	\$5000 if area < 9ha; \$4000/ha if the area is > 9ha	must submit a closure plan as part of the Certificate of Authorization	EIA is submitted with the Certificate of Authority
Newfoundland	not specified	not specified	not specified	EIA for areas greater than 10 ha
Prince Edward Island	not specified	unspecified bond to be submitted with restoration plan	submit a restoration plan with development application	not specified
Nova Scotia	resources >\$3000 are reviewed by an Integrated Resource Management Process	\$2000/acre	closure plan to be submitted	not specified
New Brunswick	must submit a Reclamation Plan before development	\$20/ha or \$5000 whichever is greater	not required; quarrying machines must be removed within 60 days of quarry shut-down	EIA registration is required for peat, but an actual EIA report is usually not necessary
Alaska	not specified	unspecified bond amount to be submitted	not specified	required for all developments under the Mining Law of 5 acres or less or 'casual operations' which are small non-mechanized operations

Quarriable Substances Rehabilitation Jurisdictional Comparison

APPENDIX 5
PITS & QUARRIES REGULATORY PROCESS
JURISDICTIONAL CONTACTS

Province / Territory	Contact / Department	Address
Newfoundland	<p>Fred Kirby Department of Mines & Energy Mineral Lands Division</p>	<p>Department of Mines & Energy P.O. Box 8700 St. John's, NF, A1B 4J6 Tel: 709-729-6447 Fax: 709-729-6782 E-Mail: fkirby@dnr.gov.nf.ca</p>
Prince Edward Island	<p>Kevin Curley Department of Fisheries & Environment</p>	<p>Department of Fisheries & Environment P.O. Box 2000 Charlottetown, PEI, C1A 7N8 Tel: 902-368-5000 Fax: 902-368-5830 E-Mail: tkcurley@gov.pe.ca</p>
Nova Scotia	<p>Darlene Fenton Department of the Environment</p> <p>Dan Eidt Department of Natural Resources</p>	<p>Department of the Environment 1595 Bedford Highway, Suite 224 Halifax, NS, B4A 3YA Tel: 902-424-7773 Fax: 902-424-0597 E-Mail: fentonds@gov.ns.ca</p> <p>Department of Natural Resources P.O.Box 698 Halifax, NS, B3J 2T9 Tel: 902-424-7594 Fax: 902-424-7735</p>
New Brunswick	<p>Mitchell O'Donnell Department of Natural Resources & Energy</p>	<p>Department of Natural Resources & Energy P.O. Box 6000 Fredericton, NB, E3B 5H1 Tel: 506-453-2206 Fax: 506-453-3671</p>

Province / Territory	Contact / Department	Address
Quebec	<p>Ressources Naturelles</p> <p>Robin Harrisson L'Environnement et de la Faune</p>	<p>Charlesbourg, PQ, G1H 6R1 Tel: 418-643-9297 Fax: 418-627-6290</p> <p>L'Environnement et de la Faune 212 Avenue Belzile Rimouski, PQ, G5L 3C3 Tel: 418-727-3511 Fax: 418-727-3849 E-Mail: Robin.harrisson@mef.gouv.qc.ca</p>
Ontario	<p>Brian Messeschmidt Department of Natural Resources</p> <p>Ministry of Northern Development & Mines, Mines Group</p> <p>Myra Gerow Commodities Coordinator</p> <p>John Robertson Manager, Mines Rehabilitation</p>	<p>Department of Natural Resources 300 Water Street Peterborough, ON, K9J 3C7 Tel: 705-755-1949</p> <p>Ministry of Northern Development & Mines 933 Ramsey Lake Road Sudbury, ON, P3E 6B5 Tel: 705-670-5828 Fax: 705-670-5803 E-Mail: gerowmy@epo.gov.on.ca</p>
Manitoba	<p>Brian Bailey Department of Energy & Mines Mines Branch</p>	<p>Department of Energy & Mines Unit 360, 1395 Ellice Avenue Winnipeg, MB, R3G 3P2 Tel: 204-945-6516 Fax: 204-945-8427 E-Mail: BBAiley@em.gov.mb.ca</p>

Province / Territory	Contact / Department	Address
Saskatchewan	Sustainable Lands Management	P.O. Box 3003 Prince Albert, SK, S6V 6G1 Tel: 306-953-2685 Fax: 306-953-2684 E-Mail: osler@derm.gov.sk.ca
Alberta	Diane Fournier Land Administration Division Alberta Environmental Protection	Alberta Environmental Protection Land Administration Division 3rd Floor, South Tower, Petroleum Plaza Edmonton, AB, T5K 2G8 Tel: 403-427-3570 Fax: 403-427-1185 E-Mail: diane.fournier@gov.ab.ca
British Columbia	Brian Braidwood Ministry of Energy & Mines Mines Branch	Employment & Investment Energy & Mines Division 5th Floor, 1810 Blanshard Street P.O. Box 9320, Sta. Provincial Government Victoria, BC, V8W 9N1 Tel: 250-952-0478 Fax: 250-952-0481 E-mail: bbraidwood@galaxy.gov.bc.ca
Yukon	Marg White Federal lands	DIAND - Land Resources, Land Use Section Elijah Smith Building 345 - 300 Main Street Whitehorse, YK, Y1A 2B5 Tel: 867-667-3173 Fax: 867-667-6038 E-Mail: whitem@inac.gc.ca

Province / Territory	Contact / Department	Address
Territories & Nunavut	Buddy Williams Federal Lands	Yellowknife, NT, X1A 2R3 Tel: 867-669-2697 Fax: 867-669-2713 E-Mail: WilliamsB@inca.gc.ca
Alaska	<p>Bob Merrill Federal Lands</p> <p>Mitch Henning State Lands</p>	<p>United States Department of the Interior Bureau of Land Management Alaska State Office 222 West 7th Avenue, #13 Anchorage, AK, USA, 99513-7599 Tel: 907-271-4426 Fax: 907-271-5479 E-Mail: N/A</p> <p>Department of Natural Resources Division of Mining (Mining & Water) 3601 C St., Suite 884 Anchorage, AK, USA, 99503-5935 Tel: 907-269-8600</p>

APPENDIX 6
PITS & QUARRIES REGULATORY PROCESS
QUESTIONNAIRES

QUESTIONNAIRE

DIAND - Pits and Quarries Regulatory Process

Province/Territory:

Contact:

Department:

Address:

Phone/Fax:

Email:

- 1) Does the regulatory process of Exploration, Development, Production and Rehabilitation of pits and quarries on Crown Lands for your jurisdiction currently fall under the _____ Act & Regulations?

What, if any, additional Acts or Regulations apply?

- 2) Have there been any amendments or updates to these Acts or Regulations in the last year (i.e. Since February 1998)?

If yes, please provide information on how to access these revisions.

- 3) What process is involved in taking a project from the Exploration phase, through the Development phase to the Production and Rehabilitation phase?
- 4) By whom is approval granted?
- 5) How are interested parties notified?

- 6) Inspection and Monitoring:
- a) What inspections are required?
 - b) Who has the authority to go on site and conduct the inspections?
 - c) What power or authority do the inspectors have?
- 7) Reporting:
- a) What information is required to be reported (quantity of material, financial information, unexpected conditions encountered, etc.)?
 - b) When are the reports required to be submitted?
 - c) Is there a requirement for reporting to be completed by a professional?
- 8) On a yearly basis, how many applications for Pits and Quarriable Substance Exploration, Development and Production and Reclamation do you process?
- a) < 25
 - b) > 50
 - c) > 100
 - d) > 150
 - e) > 200

APPENDIX 7
PITS & QUARRIES REGULATORY PROCESS
DEPARTMENTAL STATISTICS

Jurisdiction	Budget per Year	Persons Allocated	Number of Applications Processed per Year
Yukon	~\$200,000	6	80 Quarry Permits 4 Long Term Leases
Northwest Territories & Nunavut	not available	not available	114 Land Permits 110 Quarry Permits 140 Land Use Permits
British Columbia	unspecified portion of Government Budget	25 (Province wide)	150 – 200
Alberta	unspecified portion of Government Budget	not available	Information not available
Saskatchewan	not available	not available	25 – 50
Manitoba	not available	8	800 registration 750 Casual Quarry Permits 650 Quarry Leases in good
Ontario	~\$2,200,000	34	50 – 70 licences 100 – 200 permits
Quebec	~\$420,000 (DNR) ~\$900,000 (DOE)	8 15	> 200
Newfoundland	~\$160,000	4	700 – 900
Prince Edward Island	not available	2	50 – 100
New Brunswick	~\$90,000	1	> 200
Nova Scotia	not available	1 (part time)	Information not available
Alaska	not available	not available	Information not available