



**KTH Architecture and
the Built Environment**

Mineral Rights

Legal Systems Governing Exploration and Exploitation

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Doctoral Thesis in Real Estate Planning

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Abstract

The objective of this thesis is to examine the legal procedures and systems concerning granting or possessing mineral rights, and how such rights may be exercised, particularly given the diametric interests of land use, ownership and land tenure. The study, comparative in its nature, aims at highlighting the similarities and differences between the countries and states of comparison, and thereby identify interesting solutions of issues relating to the granting and exercising of mineral rights.

The study examines mineral rights and different legal systems regulating mineral exploration and exploitation. The focus is on mining and mineral legislation and its application, including the exercise of mineral rights. The systems chosen are those of Sweden, Finland and the states of Ontario and Western Australia.

The main result is generated by the comparison dealing with the application, granting and possession of mineral rights related to the development of a mine. Several processes are thereby identified. In addition, the content and extent of the different rights and obligations related to exploration and exploitation activities are examined, as well as land areas open or closed for the exercise of these rights.

The legal processes concerning granting mineral rights are in fact complex as evidenced by this work, particularly when land-use and environmental legislation is taken into account. The perception of a good balance in legislation between diametric interests of land use, ownership and land tenure is heavily linked to the view of sustainable development. The difficulties of achieving this are confirmed by the countries and states compared. The continuous change of mineral legislation during the course of this study is an indication of the complexity of the topic.

Keywords: Mineral rights, mineral legislation, exploration permit, claim, exploitation- mining concession, mining lease

Preface

This study has been written at Real Estate Planning and Land Law Division (*Fastighetsvetenskap*) at the Royal Institute of Technology (*Kungl. Tekniska Högskolan*, KTH) in Stockholm, Sweden. Its origins stem from the Swedish debate several years ago about whether the Swedish Minerals Act was appropriately framed as to the situation of landowners. It is a natural continuation of a historical overview I completed in 2000 of how the rights to minerals in Sweden have been allocated as between property owners, prospectors or miners and the State historically up to the year 2000.

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I would like to thank Mr. Roger Tanner for translating chapters four and five concerning Sweden and Finland from Swedish to English. My thanks also go to Dr. Laura Carlson, who helped me with language refinements and readability. I am, however, solely responsible for any remaining errors of either a linguistic or factual nature.

Finally, I want to express my thanks to my colleagues at Real Estate Planning and Land Law and to all the other people who have helped and supported me during my work. I am grateful to my father who took the time and effort to read my thesis and point out obscurities. My husband, sons and close friends have helped me to focus on matters of importance in life besides this thesis. It is easy to become

absorbed in studies if you dig too deep. However, I will always dream of the level where I find the precious minerals.

Stockholm, January 2010

Eva Liedholm Johnson

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1. Introduction

*“Furthermore, there are many arts and sciences of which a miner should not be ignorant. First there is **Philosophy**, that he may discern the origin, cause, and nature of subterranean things; for then he will be able to dig out the veins easily and advantageously, and to obtain more abundant results from his mining. Secondly, there is **Medicine**, that he may be able to look after his diggers and other workmen, that they do not meet with those diseases to which they are more liable than workmen in other occupations, or if they do meet with them, that he himself may be able to heal them or may see that the doctors do so. Thirdly follows **Astronomy**, that he may know the divisions of the heavens and from them judge the direction of the veins. Fourthly, there is science of **Surveying** that he may be able to estimate how deep a shaft should be sunk to reach the tunnel which is being driven to it, and to determine the limits and boundaries in these workings, especially in depth. Fifthly, his knowledge of **Arithmetical Science** should be such that he may calculate the cost to be incurred in the machinery and the working of the mine. Sixthly, his learning must comprise **Architecture**, that he himself may construct the various machines and timber work required underground, or that he may be able to explain the method of the construction to others. Next, he must have knowledge of **Drawing**, that he can draw plans of his machinery. Lastly, there is the **Law**, especially that dealing with metals, that he may claim his own rights, that he may undertake the duty of giving others his opinion on legal matters, that he may not take another man’s property and so make trouble for himself, on that he may fulfil his obligations to others according to the law.”*

- Georgius Agricola, DE RE METALLICA (1556)¹



Drawing 1: Mining Veins
(Description of Ore-deposits)²

¹ Georgius Agricola, DE RE METALLICA BOOK I, p. 3 (1556), translated by Herbert Clark Hoover and Lou Henry Hoover 1912 (reprinted unabridged, Dover 1986).

² Ibid., Book III, p. 71.

1.1 Background

This study examines mineral rights and different legal systems regulating mineral exploration and exploitation. Minerals as a category generally includes metals, such as gold, copper, and iron, as well as non-metallic minerals and mineable rock products in the forms of limestone, gypsum, salt. Oil, natural gas, coal, sand, gravel, peat and marl may also be included. Minerals can also be divided into construction, industrial and metallic minerals. The term “mineral rights” as used in this study means the different rights relating to the exploration and development of mines, such as claims, exploration permits, licences, exploitation concessions, leases, etc. The focus is on mining and mineral legislation and its application, including the exercise of mineral rights. A primary function of mining legislation is to encourage and facilitate the exploration and exploitation of certain minerals considered valuable to society. The higher valued minerals, such as metallic ores, energy minerals and certain industrial minerals, are often owned or controlled by the state.

Minerals are of fundamental importance to the development and functioning of societies, as evidenced by the names given to the periods of early human history; the Stone Age, the Copper Age, the Bronze Age and the Iron Age. Now in the “Information Age”, the demand for a wide range of minerals for the development of new technologies is apparent. For example, the components of a cellular telephone contain and depend on minerals and mineral products to function. Demands for minerals have been globally increasing significantly in recent years, mainly due to the rapid industrialisation of China and India. Awareness of the need for security of supply and the risk for resource depletion is also evident globally.³

The European Union (“EU”), a major consumer of minerals, is highly dependent on imports of metallic minerals. Concerns have been raised lately about the impact of regulatory frameworks on the competitiveness of industry, for instance with regards to the difficulties of land access due to environmental protection, etc. During 2008, the European Commission proposed an integrated raw materials strategy based on the following three pillars: access to raw materials on world markets upon non-distorted conditions; fostering sustainable supplies of raw materials from European sources (by setting the right framework conditions); and reducing the EU’s consumption of primary raw materials.⁴ At the beginning of this decade, much of the work within the EU concerned promoting sustainable

³ See, for instance, National Research Council of the National Academies (2008) and Andrews-Speed (2008).

⁴ See *The Raw Materials Initiative: Meeting Our Critical Needs for Growth and Jobs in Europe* (COM) (2008) 699 and Commission Staff Working Document, *Analysis of the competitiveness of the non-energy extractive industry in the EU*. (SEC) (2007) 771.

development in the mining industry, triggered partially by serious accidents caused by broken tailings in Romania and Spain.⁵

Mineral rights and the different national regulatory systems governing exploration and exploitation are very pertinent topics of study in today's world. Developing minerals requires access to land surfaces, *e.g.* land access is a crucial question. Issues of land use are inextricably linked to questions of access to mineral resources. Mining is only one of several possible uses for a given area of land. Other uses include conservation, preserving the heritage of native peoples, recreation, farming, forestry, urban settlement and so on. At times, these uses can be mutually exclusive, but more often than not, some combination of uses is possible (multiple land use).

In several mining countries today, the conditions attached to mining operations can be engulfed by uncertainty, for example, due to the claims of native peoples to land and any attached mineral rights. With the expansion of environmental concerns, the extraction of minerals becomes less firmly assured. Mineral extraction is increasingly regulated through provisions in other legislation, *i.e.*, environmental protection, forestry and water legislation. Many of these provisions are of a prohibitive nature, which means that mineral extraction can be adversely affected.⁶ A mine has no location options, so the choice is between exploiting a deposit or refraining from doing so. The economic outcome of exploration activities is also uncertain, as whether sufficient workable quantities will be found is not determinable.

An important role of mining legislation during recent decades has been to provide a framework of rules and incentives for private investments in mineral exploration and exploitation. Due to the growth of international competition for investments by international mining companies, many countries have reformed their mineral legislation and introduced various incentives to attract international investors. However, as mentioned, international competition for resources as such today can also be detected, which may lead to increased state control.⁷

1.2 Objectives

The objective of this thesis is to examine the legal procedures and systems concerning granting or possessing mineral rights, and how such rights may be exercised, particularly given the diametric interests of land use, ownership and land tenure. The study, comparative in its nature, aims at highlighting the similarities and differences between the countries and states of comparison, and thereby identify interesting solutions of issues relating to the granting and exercising of mineral rights. This study is characterized by the perspective of a land surveyor on how legal

⁵ See *Promoting sustainable development in the EU non-energy extractive industry* (COM) (2000) 265 final.

⁶ See *Study of Minerals Planning Policies in Europe Draft: Extended Summary*, Contract n ETD/FIF 20030781, Department of Mining and Tunnelling of the University of Leoben in Austria.

⁷ See for instance Radetzki (2007) pp. 32-33.

systems can be used and compared. This entails thinking in terms of processes in connection with land use development in a broader sense, as well as looking at aspects in a functional or problem-orientated way.

The legal systems for mineral exploration and exploitation taken up here are those of the countries of Sweden and Finland, and the states of Ontario and Western Australia. The criteria for selecting these countries and states are connected with the choice of methods below as further addressed in chapter three concerning legal systems and their comparison. As mentioned in the preface, the origin of this study is in certain problems relating to prospecting minerals in Sweden and the former Minerals Act, which was not appropriately framed as regards the rights of landowners. Even so, the intention in this study is to examine all four countries and states in order to shed light on certain issues. Due to the author's personal experience of the Swedish legal system and lesser familiarity with the other systems, this work may unavoidably carry many footprints from the Swedish experience.

As for the examination of the legal systems, as mentioned the focus is on mining legislation. Important environmental and land use legislation is also addressed as it often has an effect on whether and how mineral rights can be exercised. The integration of environmental land legislation and mining legislation is of special relevance. Essential for this study as a consequence of environmental legislation is identifying whether land is open for exploration and mining, if mineral rights can be granted even if environmental permits have not been granted, or if mineral rights are made conditional due to environmental regulations. Some attention is given here to property and land law in order to clarify the relation between mineral rights and land ownership. This legislation is important when it comes to minerals held in private ownership.

Finding an institutional system capable of generating mineral legislation that can strike a judicious balance between the rights of landowners and other interested parties, the prospectors or miners and the State, while at the same time putting the environment in focus, should be a matter of urgent concern for mining countries. Due to several aspects, economical, ecological and social, it is important clarify upon what conditions exploration and exploitation can take place. One interesting and overarching issue is whether the growth of competition and internationalisation in the mining industry, and global requirements concerning the environment and human rights, are leading towards a swifter convergence of regulations between mining countries than has occurred in previous decades.

1.3 Limitations as to this Study

Case law has not been included in this study. The reason for this is that the study has a macro perspective looking at the different processes and rules connected to the granting of mineral rights rather than on solving specific legal problems. In addition, there always is a trade-off when it comes to research material even if the ambition has been to delve as deep as possible into the chosen systems. Mining agreements between states and mining companies are dealt with only on a cursory basis and have

relevance only for Western Australia. Safety and labour regulations have not been studied.

Economic means of control in mineral development in the form of fees, royalties and taxes are only taken up in a limited manner, namely as mentioned obligations in order to obtain mineral rights. This study centers on the earlier stages of the mineral process, that is, exploration and development rather than production or mining. These are the phases normally covered by mining legislation. With regards to land use, initial exploration activity requires access to a large area of land as opposed to exploitation itself. The focus here is more on the exploration phase as it affects landowners more.

The term “mineral” is inherently ambiguous since the word has different definitions technically or physically, economically and legally which can be confusing. A mineral can be defined as a naturally occurring inorganic substance having a definite chemical composition and physical structure. Traditional definitions have excluded organically derived material. A valuable mineral is often a mineral for legal purposes while the economic value of a particular substance or deposit is a different matter.⁸ Of importance for this thesis has been how minerals are defined in mining legislation. As for minerals, the main emphasis has been on hardrock minerals, such as metallic minerals, rather than on coal, oil and gas. Rights to oil and gas are often treated specifically, but not always, regulated by certain statutes in addition to mining legislation. This may also be the case for uranium and other radioactive metals. Some types of minerals, such as sand, clay and stone, or aggregates, commonly are not regulated by mining legislation. Rights to these minerals often come with the ownership of the land or by agreements with the landowner. These minerals, in addition to coal, oil, gas and uranium, are not a focus of this study.

1.4 Methodology

Methods of comparative law have been used in this study as further described in chapter three concerning legal systems and their comparison. Of importance for comparative studies is the choice of countries. The overall criteria for their selection have been the occurrence of mining and the country’s status as a mineral (mainly metal) producer. The use of mining or mineral legislation as a main instrument for regulating access to certain minerals is thereby essential. Other important criteria have been that the countries are democratic with long practical experiences of mining and well-developed institutions, as well as sharing similar problems. The ambition here has been to select countries and states in such a way that each provides interesting topics of inquiry and solutions differing from those in Sweden. The selection of Sweden is natural since this study has developed from the situation in Sweden. Finland shares a long common history with Sweden and despite this, interesting differences arise between these countries on how to deal with certain issues in mining legislation, which was the main reason for selecting Finland. Both

⁸ See Hayes (2004) p. 298.

Sweden and Finland are significant mineral producers in the EU. Valuable insights into the mineral systems in several different common law jurisdictions were gained through supervising several theses at the Royal Institute of Technology in Stockholm, Sweden. These studies covered Ireland, Victoria and British Columbia, becoming in a way a sort of pilot study for this project and providing support and encouragement for further studies of the systems in Canada and Australia. Both Ontario and Western Australia are main mineral producers in their respective countries. As a matter of coincidence, the selected countries and states all share similarities in their bedrock, a fact not apparent when the selection was made.

Both primary and secondary sources of law have been used in this study. As for primary sources, the focus has been on legislation and regulations. I have also to some extent studied legislative preparatory works in different stages of proposed mining amendment bills in Ontario and Western Australia.⁹ Corresponding sources in Sweden and Finland have been examined, government bills (*propositioner*) and commission reports (*betänkanden*). These are relevant to this study as the ideas underlying proposed legislation often are discussed in more detail in these legislative preparatory works. In order to assess that which is significant to compare, a considerable amount of textbooks, journal articles, reports etc. have been studied in addition to the literature directly related to the chosen countries or states. This has been essential in order to gain an understanding of the purpose or meaning (function) of the different legal instruments used in mineral development, such as claims and different types of licences, concessions or leases. On the detailed level, however, the main information has been found in the mining legislation and regulations from the respective countries and states, with support from commentaries and guidelines available. Interviews with professionals and academics during study visits have been conducted in order to clarify how the studied systems are applied practically and to strengthen my own understanding of various systems.¹⁰

The legislation in the countries and states of comparison has continually changed during this project, an indication of the complexity of the topic. As for

⁹ Introduction of Bills, Second Readings and debates are here of interest. See Legislative Assembly of Ontario and Legislative Assembly of Western Australia. In Western Australia, the State Hansards contain this type of information.

¹⁰ The author visited Ontario and the Ministry of Northern Development, Mines and Forestry in Sudbury in June 2004 and, in June 2005, Western Australia and the Department of Mines and Petroleum in Perth. During these visits I also got the opportunity to meet representatives from mining companies and mining associations as well as officials responsible for environmental issues linked to mining activities. Finland and the Ministry of Employment and the Economy and the Geological Survey of Finland in Helsinki were visited on several occasions between 2003 and 2008. In Sweden, contacts were made with the Mining Inspectorate in Luleå and the Geological Survey of Sweden in Uppsala, and several meetings held with the Raw Materials Group and the Swedish Association of Mines, Mineral and Metal Producers, SveMin. Early in this study the author visited the University of Dundee and the Centre for Energy Petroleum & Mineral Law & Policy (CEPMLP). Membership in the Rocky Mountain Mineral Law Foundation made it possible to access practical and scholarly articles as well as receive information of different types. The Rocky Mountain Mineral Law Foundation is an educational organization dedicated to the study of the legal system and issues affecting natural resources law.

Ontario and Western Australia, only minor updates have been made since the study visits. However, some of the most important changes that gained legal force in Western Australia in 2006 are included here. Amendments to legislation in Sweden in 2005 are also addressed. Significant changes came partly into force in Ontario in October 2009. A new mining act will likely come into force in Finland in January 2011. Some of the amendments and proposals in Ontario and Finland have been discussed in this thesis. No new information has been added after June 2009 except from some references related to the mentioned amendments and proposals in Ontario and Finland.¹¹ Despite the intention of describing and comparing the legislation in force, it has been difficult and even impossible to keep up with all the changes, which means that some of the rules referred to may have changed without my knowledge during the process of this study. Similar problems have also arisen with respect to reorganizations and name changes for responsible authorities, etc.

The term “legislation” has been used consistently throughout this thesis, encompassing “act”, “law”, “code”, and “statute”, the latter used primarily when part of a specific name. Definitions and terms for legal concepts are often given in their original language along with translations into English. For Sweden and Finland, the Swedish names can be found in brackets.¹² Even if there are two national languages in Finland, Finnish and Swedish, most statutes are drafted in Finnish. However, all reports of law-drafting committees must contain summaries in Swedish as well as a Swedish text of the proposed legal provisions. The current Mining Act and regulations fortunately are available in Swedish and they have been used together with unofficial English translations. Government publications, documents and legal textbooks nowadays are mainly written in Finnish, posing a problem as this author is not fluent in Finnish, but rather in Swedish. My knowledge of the Swedish legal systems concerning land law, land use and environmental legislation has been useful in order to grasp the Finnish system, as many things are similar. On the other hand, the author lacks a deeper knowledge of the legal systems in Ontario and Western Australia, entailing a risk for misinterpretation of information. I also have limited knowledge of how certain rules are applied in practise, which also is true for the system in Finland.

Several legal studies concerning mineral law with comparative elements have provided me with inspiration. Otto and Cordes (2002) in their book, *The Regulation of Mineral Enterprises: A Global Perspective on Economics, Law and Policy*, comprehensively addresses information in the areas of mineral law. The authors present sample questions on regulatory matters governed within and outside mineral

¹¹ The legislative bill (273/2009) presented in Finland on the 22nd of December 2009 has not been discussed in this study. Mining Amendment Act, Bill 173 which received Royal Assent on the 28th of October 2009 in Ontario has not been considered in the chapter of comparison. Only legislation in force (June 2009) was compared.

¹² When translating the Swedish legislation into English, the unofficial translation of the Minerals Act, “Minerallagen” SFS 1991:45 and the Minerals Regulation, “Mineralförordningen” SFS 1992:285 including amendments up to 1st of June 2007, SGU-rapport 2007:26 have been used. When translating the Finnish legislation into English, the unofficial translation of the Mining Act Statute, 17.9.1965/503, updated with the amendments of 15 July 1997, Ministry of Trade and Industry, has been used.

legislation, giving examples from different countries around the world. Another inspiration has been a publication by Naito, Remy and Williams (2001), *Review of Legal and Fiscal Frameworks for Exploration and Mining*. These authors explain what can be considered to be current best practices in mining law among several developing countries in Latin America, Asia and Pacific and Africa. The book *International and Comparative Mineral Law and Policy Trends and Prospects* edited by Bastida, Wälde and Warden-Fernandez (2005), has been a valuable source when it comes to understanding trends and developments in mineral law. Both developed and developing countries are covered in this book as well as specific topics useful for this study.

1.5 Mineral Exploration and Exploitation

It can be appropriate here to mention some basics about the economic and technical conditions associated with exploration and mining activities as mining legislation is shaped with regards to these circumstances.

Mining companies explore for mineral deposits and develop mines in the expectation of making profits.¹³ Consequently, several assessments must be made before deciding where and when to carry out activities and invest. In a survey conducted by Otto for the United Nations, a ranking was made of sixty investment criteria used by mining companies.¹⁴ In addition to the most important criteria concerning geological potential for target minerals, of the top ranked twenty criteria, ten percent related to government policies and regulatory systems. From the perspectives of miners and mining companies, predictable systems which reduce uncertainty are important.¹⁵ This is, in fact, the main goal of institutions as emphasized by North.¹⁶

Typical characteristics of metallic mining include that it is extremely capital intensive, particularly in remote locations with poor infrastructures. Pre-production periods can be long, *e.g.*, it can take a number of years before production from a mine can start. Metallic mining is associated with high risks of different kinds (geological, engineering, economic, political etc).¹⁷ The sequence of activities involved in mining can be compared with the stages in the life of a mine. Somewhat simplified, these stages can be seen as the following; prospecting, exploration, development and exploitation.

¹³ Crowson (1998) p. 3.

¹⁴ See Otto "A Global Survey of Mineral Company Investment Preferences", Mineral Investment Conditions in Selected Countries of the Asia-Pacific Region, United Nations ST/ESCAP/1197, 1992, pp. 330-342.

¹⁵ Since 1997, The Fraser Institute has conducted an annual survey of metal mining and exploration companies to assess how mineral endowments and policy factors such as taxation and regulation affect exploration investment. The latest mining survey from 2008/2009 includes data on 71 jurisdictions around the world.

¹⁶ See North (1990). North defines institutions as the rules of the game in a society.

¹⁷ Gentry and O'Neal (1984) chapter 1.

Prospecting involves searching a district for minerals with a view to further operations. The activity of exploration, supported by mining legislation, means improving knowledge about the bedrock with the ultimate objective of increasing the known stock of mineral resources that are amenable to economic exploitation.¹⁸ Exploration is the term used for the systematic examination of a deposit. It is difficult to define the point where prospecting turns into exploration.¹⁹ No distinction is made between the terms prospecting and exploration in this thesis.

Information and knowledge of the bedrock is of vital importance in order to be able to find and define a mineral resource. A mineral resource refers to the geologic endowment of minerals in the earth's crust in such a concentration that commercial extraction is either presently or potentially feasible. A mineral reserve is that part of a mineral resource that can presently be mined profitably. A reserve is measured or indicated by a feasibility study. Ore, orebody and ore deposits are other economic terms used in this context.²⁰ Many new resources are found close to existing operations. Therefore exploration activities tend to concentrate around the same areas. This type of exploration activity is sometimes referred as brownfield operations, as opposed to greenfield operations.

An essential prerequisite for most mineral exploration is basic geological surveying and mapping of an entire region or country. Of importance are here the technologies of satellite imagery and remote sensing.²¹ The prospector makes ocular inspections and searches for surface exposure of minerals. Different geophysical methods are used to explore the bedrock such as magnetism, gravity, electrical conductivity, radioactivity and sound velocity (seismic). Geochemical methods are used in order to investigate the presence of various metals in the topsoil cover by taking and analyzing samples.²² Core drilling, such as diamond and wire line drilling, taking place after surface sampling, indicates possible concentrations of valuable minerals. The information gathered in the form of core samples is important in order to gain proof of what minerals are there, their metal grades, and confirmation that volumes of mineralized rock are large enough to continue the search.²³ The relation between exploration, resources and reserves is shown in Figure 1.

¹⁸ Crowson (2003) p. 67.

¹⁹ See Atlas Copco *Underground Mining Methods* p. 7.

²⁰ See the widely accepted definition of resources adopted by the US Geological Survey, Circular No. 831, 1980, "Principles for a Resource/Reserve Classification for Minerals" and "Denver Accord" Mineral Resources and Ore Reserves in article "International Reserve Initiative" in the CIM Bulletin February 1998, Vol 90, No 1017 pp. 44-45.

²¹ Crowson (2003) p. 59.

²² Atlas Copco *Underground Mining Methods* p. 13.

²³ Ibid at p. 14.

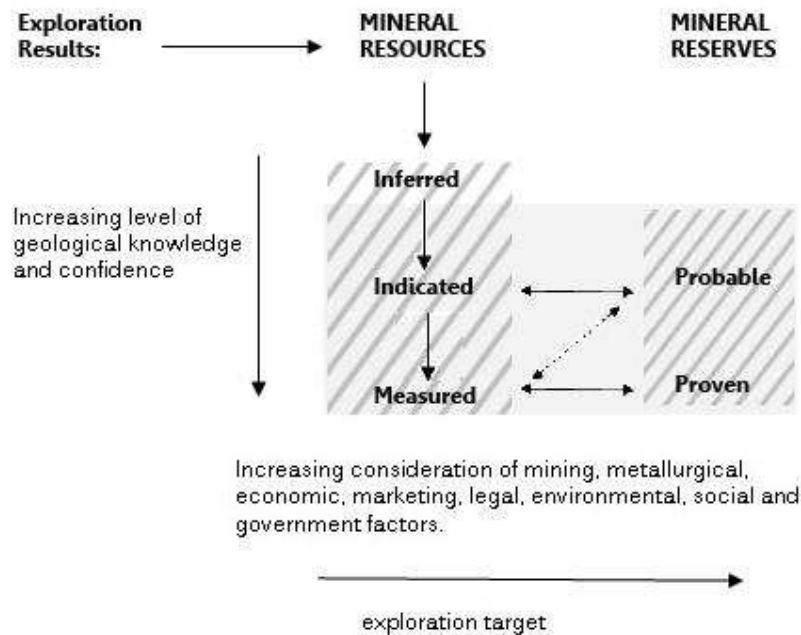


Figure 1: Relation between exploration, mineral resources and mineral reserves. Based on Mell (2008).

Mining development and exploitation involves many things, such as selecting mining methods and obtaining initial approvals, constructing infrastructure and facilities before large-scale production can take place. No distinction is made between mining development and exploitation in this thesis.

Surface mining is the predominant exploitation method globally. Open pit mining is usually used to exploit a deposit near the earth's surface. The waste rock can here be separated by loading and trucked to the waste dump. Underground mining is more complex with the mining method adapted to the rock conditions and the shape, dimensions, strength and stability of the ore body. A major difference between surface and underground mining is the requirement for ventilation in underground mines. After the production stage, mine closure needs to be performed involving demolishing and removing structures, clean up, etc.

It is generally believed that tomorrow's mineral discoveries will likely be at greater depths than those ore bodies known today. Finding these deeper deposits requires more sophisticated technology than traditional prospecting methods. However, new available and more effective technology has made it possible to extract more metal out of lower grade material and at lower costs. This has been shown to be of importance in times of high metal prices and metal booms. The development of technology has also affected the development of mining legislation. For instance, the sizes of claims or exploration permits today are bigger than they

were historically. More types of minerals can be technically identified today which fact can also be detected in mineral legislation.

1.6 The Structure of the Study

This thesis is divided into nine chapters. Chapter One and this section provide the background to the study, objectives, limitations and methodology of the study. This chapter also deals with some generalities concerning technical and economical aspects of minerals and mineral development. The second chapter provides a theoretical background as to the legal systems addressed for regulating mineral rights. The principles and procedures for acquiring and holding mineral rights are dealt with as well as the exercise of these rights given the opposing interests as to land use and the legally-interested parties. Chapter Three gives an insight into problems associated with comparative law studies such as this present one. Chapters Four to Seven constitute more detailed descriptions of the legal systems for mineral exploration and exploitation as used in the countries or states of comparison. Chapter Four deals with Sweden and Chapter Five Finland. Chapter Six describes Ontario and Chapter Seven Western Australia. A comparison is done in Chapter Eight, presenting the similarities and differences between the countries and states of comparison. The final Chapter Nine includes reflections on the study as a whole, including trends as detected and interesting solutions as identified.

The reference list at the end of this thesis has been divided into two different categories: “books, articles and papers” and “governmental publications, other documents and websites”. The references belonging to the latter category have been sorted under each country or state of comparison to which they belong in order to facilitate for reader. It also means, however, that when searching for a specific reference from the footnotes, it may be necessary to look below several headings.

2. Framework for Analysing Rights Related to Mineral Exploration and Exploitation

2.1 Introduction

This chapter examines basic legal systems regulating mineral rights and methods of granting such rights. The focus is on mineral legislation as one of the major tools for mineral development, defining the framework within which exploration and mining occur.²⁴ However, land use and environmental legislation linked to such specific mineral legislation are also important components of any legal system with respect to mineral development as these also affect if and how mineral rights can be utilized. Mining as a land use is therefore dealt with in connection with land use restrictions and environmental regulations. The laws governing the mineral sector seek to achieve a balance between competing interests, for instance, between the miner and the property owner. The last part of this chapter takes up the interested parties as legally defined in mining and other related legislation. This introductory part is to give an insight into the different systems for regulating mineral rights, in addition to the important legal instruments and methods for their granting as found in mining legislation and state mining agreements.

2.1.1 Ownership of Mineral Resources and Regulatory Approaches

The right to mineral assets is governed by specific legislation in many countries. Depending on ownership or the right of disposal and control, three fundamental systems of regulatory approaches can be distinguished on which the legislation for mineral rights is based; namely the land ownership system, the concession system and the claim system.²⁵ In the land ownership system, the right to use and exploit minerals runs with the ownership of land. In the two other systems, the State either grants or confers rights to mineral resources, or the right is “taken” through occupation by the discoverer. These three systems are briefly discussed below.

The basic principle in a land ownership system is that any minerals belong to the owner of the land where the deposits are found. This system is derived from Roman law, and is also referred to as an accession system. The minerals are accessories to the land, and therefore from the beginning are owned by the landowner. Prior to the French Revolution, France followed the accession system to such an extent that the system is sometimes also referred to as the “French” system.²⁶ A land ownership system characterized the mining law, for example, of medieval

²⁴ The term “legislation” as used here encompasses acts, statutes, laws and codes.

²⁵ Government Inquiry 1969:10, p. 41. Liedholm Johnson (2001), p. 280.

²⁶ Campbell in Mc Dade, p. [J1-05].

Sweden. The land ownership system has also traditionally been used in the Anglo-American common law countries due to the principle that the owner of the surface is likewise the owner of the subsurface and all that it contains with certain exceptions. In England, for example, gold and silver belonged to the Crown as part of its royal prerogative. The modern approach is that the rights to a number of minerals are owned or vested in either the Crown or State by common law or statute, or by mineral severance. Mineral severance means that the land interests have been separated, or severed, by deed (contract) leading to separate ownership and rights to surface and underlying minerals.²⁷ Mineral rights in South Africa up until 2002 were based on land ownership and could be privately owned. This meant that the acquisition of these rights could occur between individuals without State intervention. Today, the new mineral development legislation provides that mineral resources are the common heritage of all the people of South Africa.²⁸ The United States has retained the system of land ownership on private lands.

It is important to stress that land ownership systems in many countries today also apply to certain non-metallic minerals, often basic construction materials such as stone, sand and gravel. In Sweden, for example, minerals not encompassed by the Minerals Act constitute what are termed “landowner minerals”, for example, limestone, feldspar, sand and gravel. In Ireland, “non-scheduled” minerals such as stone, sand and gravel are not covered by any specific mineral development legislation and belong to the landowner. In Portugal, the rights to “mineral masses” fall to the landowner.²⁹ In Finland, “non-claimable” minerals belong to the landowner. In Germany, the Federal Mining Act distinguishes “land-owned mineral resources” from a list of “free minerals”.³⁰

Some form of private agreement is usually invoked to obtain mineral rights owned by a landowner, unless the land is bought outright. It should be mentioned that a system of land ownership of certain minerals or minerals on certain lands does not mean that the resources can be developed without any interference from authorities, as can arise due to land use and environmental legislation. For instance, in order to extract sand and gravel in Sweden and Finland, permits are needed according to the Environmental Code (Sweden) and the Land Extraction Act (Finland).

Under a concession system, the right to search for and process mineral deposits is conferred after an assessment by a national authority. This system originated on the premise, proclaimed during the French Revolution, that all mines should be at the disposal of the nation, in the sense that they should not be operated without the consent of the nation.³¹ The concession system is built on the assumption that the State or nation holds rights and can dispose over mineral resources. The system gives the State power as exercised in a discretionary assessment as to whether mineral rights should be granted and to whom. For instance, preference can be given to a

²⁷ Morgan (2005), p. 1083.

²⁸ Dale (2005), pp. 823, 827.

²⁹ The Royal Institution of Chartered Surveyors (1996), p. 11.

³⁰ Pielow (2005), p. 1037.

³¹ Government Inquiry 1969:10, p. 41. Liedholm Johnson (2001), p. 280.

person (or several) deemed most suitable according to the State/authority. The discoverer might be compensated if not selected. The degree of impartiality in the assessments may vary due to any discretionary elements within the system. France, Belgium and Portugal are “classical” examples of countries where the concession system has influenced the legislation dealing with mineral rights.³² In many countries, certain types of deposits, such as coal, oil and gas, are regulated through a concession or similar system.

The third alternative, the claim system, means that any party discovering mineral deposits can, subject to certain formalities, acquire the sole right of exploitation. This system originated in Germany, where it appeared in the Saxon and Bohemian “Mining Order” during the late 15th and early 16th centuries.³³ Two ways of perceiving “original” ownership can be discerned in connection to this system, namely the Regalian and Res-nullius theories. According to the Regalian theory, prevalent during medieval times and from which the system originates, the State grants mineral rights to the claimant.³⁴ According to the Res-nullius theory, the minerals belong to no one until they have been found, which can be categorized as a kind of right of occupation.³⁵ The claim system is argued to stimulate prospecting and the exploration for new mineral deposits. The claim system is associated with little or no discretionary consideration. Mineral rights are granted to whoever has discovered the minerals first (first-come, first-served). The fundamental principle of the claim system is that the right of precedence is given to the discoverer of the deposit. The free entry system, a common heritage for the United States, Canada, New Zealand and Australia, has strong elements of the claim system. The free entry system comprises the right to enter and explore public lands and acquire title to minerals by staking a claim. It also comprises the right of the miner to obtain a lease or grant in order to extract minerals.³⁶

The differences between the concession and claim systems in practice should not be over exaggerated. The concession system has been alleged to achieve a better control from the societal point of view than the claims system. However, discretionary elements can be increased in a claim system and decreased in a concession system.³⁷ The systems can also be mixed, as in Sweden, where the Minerals Act is based on the concession system but with strong claim elements. Historical traditions, economic policy, and legal considerations may influence what system or mixture of systems governs a country’s mineral legislation. Also of importance are the types and nature of the deposits found and their occurrence in the ground.³⁸

³² Government Inquiry 1969:10, pp. 41, 61.

³³ Government Inquiry 1969:10, p. 41. Liedholm Johnson (2001), p. 280.

³⁴ In Sweden, primarily during the 16th and 17th centuries, the Crown asserted Regalian rights in mines. However, these rights were abolished in 1723 with a new mining ordinance. Digman (1953), p. 26.

³⁵ Government Inquiry 1969:10, p. 41.

³⁶ Barton (2005b), p. 644.

³⁷ Government Inquiry 1969:10, pp. 41-42, Legislative Bill 1988/89:92, p. 40.

³⁸ Government Inquiry 1969:10, p. 60.

Strictly linking the systems of landownership, claim and concession with the more theoretical question of mineral ownership can be confusing since such a connection might not always be clear. If the State is the owner of the minerals, the State, in addition to mining itself, can lease out the mining rights or choose a system of concessions or claims for distribution. If the landowner is the owner of the minerals, his or her disposal can also be circumscribed and replaced by a claim or concession system.³⁹ For instance, landowner minerals can be made claimable or vice versa.⁴⁰ According to Campbell, in the civil law, unlike the common law, it is impossible to state the systems of mineral ownership in a single definition since the systems in the various jurisdictions have been divergent rather than parallel.⁴¹ To complicate the issue, it should in this context be mentioned that State-ownership of minerals is not always clearly defined. In addition to the Regalian theory as mentioned earlier about State ownership in some civil law countries, the State can have an absolute ownership over minerals in the subsoil. This system is sometimes designated the Dominal theory of the State's right.⁴² Mineral resources might be the common heritage of the people in a nation or of a relevant body, i.e. the State, Crown or Government. Sometimes legal provisions might be silent as to the issue of ownership. Even so, the power of the State to control, administer and decide as to disposals of mineral resources is nonetheless recognized. Due to the principle of permanent sovereignty over natural resources, every State has the right to freely dispose over its natural resources and wealth within the limits of its jurisdiction.⁴³

In conclusion, the ownership of rights to extract certain minerals may vary from country to country. A distinction is generally made between those minerals considered to be of national/strategic importance, and therefore the rights are owned or disposed by the State or nation, and other minerals where the rights are owned by the landowner. A legal distinction can also be made between land and subsoil rights, with the State usually owning or controlling minerals in the subsoil. As mentioned earlier, there are no formal procedures for obtaining the rights to minerals owned by a landowner and therefore this is usually done through a private agreement. In contrast, there are formal procedures laid down in many mining countries in relation to state-owned or state-controlled mineral rights, mainly through mineral legislation but also in some countries through mining agreements. To sum up, the importance of the view of original ownership lies in the legal consequences as it may determine the method of access to mineral rights.⁴⁴

³⁹ Government Inquiry 1924:16, pp. 53, 55-57.

⁴⁰ The amount of claimable or concession minerals has differed in the Swedish mining legislation. During the 19th century, the right of claim became more circumscribed entailing that more minerals accrued to the landowner. The technical developments with possibilities to identify more elements also led to a more narrow definition in the legislation. Liedholm Johnson (2001), p. 282.

⁴¹ Campbell in Mc Dade p. [J1-04].

⁴² Campbell in Mc Dade pp. [J1-04], [J1-07], [J1-08].

⁴³ The principle was introduced in United Nations' debates in order to underscore the claim of colonial peoples and developing countries to enjoy the benefits of resource exploitation, Schrijver (1997) pp. 1, 260.

⁴⁴ Bastida (2004), p. 39.

2.1.2 Legal Instruments and Methods for Granting Mineral Rights

When minerals are state-owned or similarly controlled, there seems to be three main means of granting mineral rights adopted by governments; the first is based on mining legislation, the second is the use of Mining Agreements, and the third is a mixed or hybrid system where both of these apply, either simultaneously or by turns.⁴⁵

Mining legislation (in a broader sense) and its legal framework historically have been implemented through four approaches: By an administrative regime (a mining law administered by an administrative agency), an adjudicative approach (where a judicial officer grants or extinguishes mineral titles), state contractual approaches (mainly used for very large deposits), and private contractual approaches (where the mineral endowment is privately owned).⁴⁶

Mining legislation is one of the major tools for mineral development, defining the basic framework within which exploration and mining occur. The key issues dealt with or defined include how rights are obtained, the nature of the rights that can be obtained, the obligations that are imposed, how the rights can be forfeited, etc.⁴⁷ Using mining legislation together with other related laws is the favoured approach mainly in developed countries, for instance in the United States, Canada, Australia, Germany and France.⁴⁸ A major function of any mining legislation is to articulate what the government's policies towards this sector of industry are.⁴⁹ According to Otto and Cordes, most national mining laws historically have had four primary purposes: 1) to authorize lawful entry upon the land and grant specific rights to a party for the purpose of exploration and mining, 2) to levy special taxes and impose obligations on parties authorized to undertake mineral activity, 3) to provide for the safe conduct of mineral activities and 4) to empower specified government agencies or officers to implement and enforce the act.⁵⁰ Wälde maintains that:

The traditional and classical function of any mining code was to establish clear conditions under which mining rights (titles) could be acquired, transferred and terminated, to define in legal terms what the rights of the holder of a mining right were in respect of the mineral at issue, the land required for use and the administration and to determine the obligations any miner would be subject to other miners, government, land-users and landowners.⁵¹

⁴⁵ Wälde and Warden Fernandez (2000), p.11 and Omalu, Wälde, CEPMLP Internet Journal Volume 3-13 p. 3.

⁴⁶ Otto and Cordes (2002), p. [2-16].

⁴⁷ Omalu, Wälde, CEPMLP Internet Journal Volume 3-13 p. 3.

⁴⁸ Wälde and Warden-Fernandez (2000), p. 11.

⁴⁹ Wälde (1988), p. 176.

⁵⁰ Otto and Cordes (2002), p. [3-8].

⁵¹ Wälde (1988), p. 177.

Issues of land-use and environment today might be regulated within mining legislation or by separate statutes or both. Safety and health issues have increasingly been regulated by separate statutes.⁵²

Mining legislation in a broad sense can comprise the legal framework connected to mineral development, covering not only the granting of mineral rights but also land-use planning, safety regulations, fiscal terms, etc. However, mining legislation is also commonly associated with the more narrow definition connected to the granting of mineral rights.⁵³ In this context, it is interesting to mention that the former 1991 Minerals Act in South Africa had no proprietary function (titles) since mineral rights were private law matters between individuals. The main objective of the Act was to “regulate the prospecting for and optimal exploitation processing and utilisation of minerals and the orderly utilisation and rehabilitation of surface of the land”.⁵⁴ In order to exercise rights of possession, it was necessary to require prospecting permits and other approvals from the State. In other words, the State wished to exercise a regulatory function in respect to what otherwise was a private law situation.⁵⁵ Using former and current South African mining legislation as examples, Dale classified and sub-classified mining legislation on different degrees and extents of regulatory power and State interference.⁵⁶ He identifies private systems on two levels; namely completely private systems with no State intervention, and private systems with a licensing requirement. He further identifies state systems of two kinds, namely automatic non-discretionary systems and discretionary systems relying on administrative decision-making.

In summary, mining legislation in its commonly understood definition plays a central but not exclusive role in mineral sector regulation. When analysing a national regulatory regime, it therefore is important to understand how the system works as a whole.⁵⁷ However, it should be mentioned that a country’s mining legislation can be more or less comprehensive and deal with many things in addition to how rights are obtained. It has been argued that from an investor’s point of view, mining legislation should contain as many as possible of the pertinent regulations – tax, environment, health and safety, import and export regulations, etc. A reason for this is to avoid a wider scope of administrative discretion where several ministries perhaps have jurisdiction.⁵⁸

Mining or Mineral Agreements document the bargain negotiated between the government as resource-owner, and the project developer in relation to the development of the mineral deposit, setting out the details of the parties’ rights and obligations across a wide range of matters”.⁵⁹ According to Fitzgerald, at the heart of each mining agreement is a promise by the State or Territory government to grant the

⁵² Otto and Cordes (2002), p. [3-8].

⁵³ Bastida (2004), p. 21.

⁵⁴ Badenhorst, Pienaar, Mostert (2003) p. 339.

⁵⁵ Dale (2001), p. 3.

⁵⁶ *Ibid* at pp. 1-2.

⁵⁷ Otto, Cordes (2002), p. [3-10]. Otto and Cordes provide a table of issues relating to regulatory matters typically outside mining legislation, see p. [3-11].

⁵⁸ Omalu and Wälde, CEMPLP Internet Journal Volume 3-13 p. 3.

⁵⁹ Fitzgerald (2005), p. 686.

developer exclusive rights to exploit the resource in return for the developer's undertakings to finance develop and operate the project.⁶⁰ Fitzgerald claims that a common feature of mining agreements is that they bypass the exercise of ministerial discretion in the granting of exploitation titles, thereby removing uncertainty about whether the State will grant the mining title required for the development to proceed.⁶¹ Mining Agreements have been used for granting exploration and exploitation rights for four main reasons: to compensate for the lack of a comprehensive and updated mining legislation, to tackle issues not provided for in the mining legislation, to provide for large projects that have the potential of making a substantial impact on the overall economy, and to reassure foreign investors.⁶² Indonesia is often mentioned as a good example of where the mineral rights are mainly (but not exclusively) provided through a Contract of Work.⁶³ The Indonesian contract of work authorises the investor to proceed through the various stages of mineral development to sales. In Western Australia, mining agreements are used to facilitate investments in large-scale mining projects.

A hybrid system combines both contractual and legislative tools, meaning that mining legislation and mining agreements are used simultaneously. This method is used in Chile, for example, where a mining lease (legal title) is granted under the Mining Code while the investment itself must be authorized through an investment contract. The contract thereby serves to provide the investor with state guarantees for the investment.⁶⁴ In Western Australia and Papua New Guinea, small and medium-size projects are dealt with through the administrative system under the general mining code, while important large-scale projects are negotiated through mining agreements. However, in Western Australia, exploration and exploitation rights are usually conferred under the mining legislation, but these rights or titles can be modified in an agreement in order to suit the circumstances of a particular project.⁶⁵

In conclusion, mineral rights are often derived from a grant by a legal authority (due to state ownership or control), which may originate either in mining legislation, a mining agreement or both. The method or methods a country chooses may depend to some degree on the host country's historical background, its level of development, its legal tradition and the state of its mining industry.⁶⁶

A focus in this thesis is on mineral rights regulated by mining or mineral legislation. Mining agreements therefore will not be specifically dealt with other than cursorily in Chapter 7, Country Survey - Western Australia. Neither Sweden, Finland nor Ontario use State Mining Agreements. However, as a clarification it should be mentioned that the term mining agreement can also mean an agreement between partners in a mining project with joint venture arrangements and with land users, landowners, local communities and local government.⁶⁷ In the following, historical

⁶⁰ Fitzgerald (2005), p. 686.

⁶¹ Fitzgerald (2002), p. 147.

⁶² Barberis (1998), pp. 18-19.

⁶³ Wälde and Warden-Fernandez (2000), p. 12, Omalu and Zamora (1999), p. 23.

⁶⁴ Wälde and Warden-Fernandez (2000), p. 12.

⁶⁵ Fitzgerald (2002), p. 145.

⁶⁶ Barberis (1998), p. 13.

⁶⁷ Otto and Cordes (2002), p. [4-2].

aspects of mining legislation will be dealt with as well as the basic frameworks and connections between mineral rights and land ownership.

2.2 Mining or Mineral Legislation

In this main section regarding mining legislation, the development of mineral legislation is dealt with as well as the allocation and designation of mineral rights. An overview is given concerning the basic framework and principles of mining legislation. Finally, some reflections are made about the connection between mineral rights and land ownership.

2.2.1 The Evolution of Mineral Legislation – The Interaction of Several Groups

The importance of mineral legislation to mineral operations has long been acknowledged. According to Wälde, there has been mineral legislation since there have been structures of public government, economic interest in minerals and the technical ability to extract them.⁶⁸ An early glimpse of a serious right on the subject of mines can be found among some of the Greek States.⁶⁹ Despite the systematic law of property evolved by the Romans, the Roman codes contain but little reference to mines. This in itself is seen as indirect evidence of the concept that they were the property of the State.⁷⁰ In the mining laws of a copper and silver mining district in southern Portugal dating from the 2nd century AD, the Roman Empire established regulations by which individuals could obtain mining rights to work the ground through a combination of possession and payment to the local administrator.⁷¹

Much later in mediaeval Europe, mining communities had grown up and certain privileges were given to them according to several well-known charters (for instance, by the Bishop of Trent in 1185), later elaborated into practical codes of mining laws.⁷² The tradition of free mining (also called free entry) has its roots in medieval Europe and especially Germany.⁷³ The law varied in England, with special mining communities such as in Cornwall and Devon. These very ancient districts manifested the free mining concept. This emphasised the liberties of the communities of miners, their freedom from local courts and their right to regulate their own affairs. A similar concept of free mining appeared in the mining law that emerged in the great gold rushes that swept through the Western world in the second half of the 19th century. Free mining meant that a miner had a distinctive right to enter land and mine. This right was independent of the rights of the owner of the surface of the land.⁷⁴ The

⁶⁸ Wälde (1988) quoted by Bastida (2005), p. 411.

⁶⁹ Hoover (1912), footnotes in Agricola (1556), pp. 83-84.

⁷⁰ Ibid.

⁷¹ Lacy (1995) quoted by Williams (2005), p. 41.

⁷² Hoover (1912), footnotes in Agricola (1556), p. 84.

⁷³ Barton (2005b), p. 644.

⁷⁴ Barton (1993), p. 115.

California gold rush was remarkable for the complete lack of any governmental authority or mining law until well after the gold rush had peaked. The legal vacuum was left to the miners themselves to fill by self-regulation.⁷⁵ Certainly miners from Europe brought with them the traditions of their homelands; however the codes bore a marked resemblance to the ancient Spanish codes used in Mexico.⁷⁶ When gold was discovered, California was under the control of the U.S. Army. The territory was still technically a part of Mexico. A general mining law was adopted in the United States in 1872, which remarkably enough, according to Barton, is still in force.⁷⁷

The history of mining law, according to Barton, is “intriguing but it should not be studied for that reason alone – it holds great significance for present land and policy”.⁷⁸ According to Hoover and Hoover, there is no branch of the law of property in which the development is more interesting from a social point of view than that relating to minerals: “Four principal claimants can be identified; the overlord, as represented by the King, Prince, Bishop, or what not; the Community or the State, as distinguished from the Ruler; the Landowner; and the Mine Operator; to which class belongs the Discoverer”.⁷⁹ According to Hunt, the history of mining legislation reflects the interaction between the interests of the landowner, the owner of the minerals, the miner and the State, and the relative importance from time to time of the mining industry compared to the interests of the other three groups.⁸⁰ The laws that apply to the mineral sector seek to achieve a balance between competing interests.⁸¹ Many of the key issues arising in the preparation, drafting and interpretation of mineral legislation concern the resolution of conflicts between the miner, owner of the mineral resource, owner of the land on which the minerals are located and the State.⁸² The interests and priorities of these different stakeholders evolve over time, and the path that any one country takes in its regulatory evaluation is unique.⁸³ More recent stakeholders, such as local non-governmental organizations and global NGOs, have also entered the arena.⁸⁴

Historically, mining law reform has alternated between strengthening sovereign rights of ownership and control on the one hand, and fostering private initiative to transform the mineral content of the earth into wealth on the other.⁸⁵ Different or diverse economic ideas during history have affected the evolution of mineral legislation and its underlying policies. More recently, cultural and social concerns have begun to impact decisions.⁸⁶ To take Sweden as an example during the 19th century, liberalism with its emphasis on the role of markets caused the State to adopt

⁷⁵ Klyza (1996), p. 28.

⁷⁶ Barton (1993), p. 116.

⁷⁷ Barton (2005b), p. 645.

⁷⁸ Ibid at p. 644.

⁷⁹ Hoover (1912), footnotes in *Agricola* (1556), p. 82.

⁸⁰ Hunt (1988), p. 846.

⁸¹ Otto and Cordes (2002), p. [3-1].

⁸² Frecker (1981) quoted by Otto and Cordes (2002), p. [3-1].

⁸³ Otto and Cordes (2002), p. [3-2].

⁸⁴ Otto and Cordes (2002), pp. [3-1], [3-2].

⁸⁵ Williams (2005), p. 68.

⁸⁶ Otto and Cordes (2002), p. [1-32].

a more passive attitude in deference to the landowner regarding the will to own and economically profit from the minerals concerned. Early in the 20th century, Sweden took a socialist approach with discussions concerning the nationalisation of natural resources, which had a significant impact on mining legislation. For instance, certain national mining districts were consequently formed in parts of northern Sweden.⁸⁷

Mining law reforms of the post-World War II era globally focused on greater State ownership and control. It was argued that every country should have its own iron and steel industries. The growing competition between mining countries, especially after the 1970s, had an impact on governmental mineral policy and laws. During the 1990s, with the transition to a global market economy, mineral law reforms were concerned with encouraging the growth of prospecting and private investments. According to Williams, the elements of a good mining legislation and regulatory regime for the promotion and regulation of private sector minerals exploration and mining are now well defined.⁸⁸

If the pendulum has swung in favour of investors or miners during recent decades as stated, according to several scholars it is now swinging, or starting to swing, in favour of local interests and new stakeholders. An important driving force for future or upcoming mineral law is the overall guiding principle of sustainable development (ecological, social and economic). Due to the growing demands for mineral products in Asia, the mining law reforms will according to Williams in the near future also reflect this reality. Some countries will strengthen their positions on the market while others will be wary of becoming overly dependent on those markets.⁸⁹

2.2.2 Allocation and Designation of Mineral Rights

There are different systems or ways of dispensing rights to publicly owned or controlled minerals to individuals or companies given the framework of mining legislation. Ground staking of mining claims is one, with a subsequent recording of the claim. Alternatively, a license-based system can be used which follows an administrative procedure where the department or minister issues a license or by map designation.⁹⁰ Ground staking from a historical point of view is based on the principle of a possessory right compared with a granted right.⁹¹ A license-based system can use a simple license with general conditions for all mining operations as opposed to contract-based systems (like mining agreements) where more complex and all-inclusive contracts, normally on a case-by case basis, are used.⁹²

There are many ways of designating an area concerning mineral exploration and exploitation applications. Governments can facilitate applications by providing different reference frames. Of importance for designation is whether certain rules

⁸⁷ Liedholm Johnson (2001), p. 283.

⁸⁸ Williams (2005), p. 69.

⁸⁹ Williams (2005), pp. 38, 69, 70, Bastida (2005), p. 422.

⁹⁰ Barton (2005a), p. 376.

⁹¹ Forbes (1987), p. 2.

⁹² Zamora (1999), p. 6.

apply in mining legislation concerning the size and shape of areas possible to claim. Some examples of designation systems according to Otto and Cordes are old-fashioned staking systems (using stakes or pegs to identify the area in the field), map-based block application systems, geographical coordinate block application systems, geographical coordinate based application systems or a simple block system.⁹³ In addition to the explicit use of coordinates, longitudes and latitudes and variations of grid systems, and “simple” orientation systems (astronomic north-south, etc.), different demands in mining legislation or regulations might be placed on the scale and type of map. If not, certain map databases can be retrieved directly from the authorities involved.

A main issue is to define who will have the right to explore and exploit mineral resources owned or controlled by the State or nation. A fundamental concept of mining legislation is to give priority based on the date of filing of a valid application. This is known as the first-come, first-served, or first-come, first-considered, approach. This approach is rooted in the free miners’ tradition.⁹⁴ Mineral rights are granted to whoever has discovered minerals first as an underlying concept in a claim system. In a pure first-come, first-served system, the exploration rights are granted to the first applicant who fulfils the mandated statutory requirements. According to a first-come, first considered system, the first application received has absolute priority over all later applications, provided that the applicant meets certain subjective criteria such as technical and economic qualifications. Discretionary approval is more evident if an approach of the best-qualified applicant is used. Also, it might be that mining legislation does not mention the issue of priority at all, giving the granting authority complete discretion.⁹⁵

Other systems of allocating mineral rights can be through a bidding or auction system. With a bidding system, the allocation of mineral rights is done on the basis of proposed operations or work programs (proposed activities on ground). It has been argued from the experiences in Australia that bidding systems might force companies to bring forward programs or to spend more on them than they can justify.⁹⁶ With an auction method, a form of cash bidding is used. It might, however, be difficult to assign a value to mineral assets of an uncertain value.⁹⁷ However, more or less explored properties might be auctioned for further development. For instance, properties that have been successfully explored by state-owned companies that have added value through their exploration programmes can be auctioned off to the private sector.⁹⁸ This system applies partly in Finland.

Even if mineral acts do not prevent states from applying for mineral rights, the role of the state has very much changed from owner-operator to lessor-regulator. According to Naito, Remy, et al., national governments now focus their mining

⁹³ Otto and Cordes (2002), pp. [3-21], [3-22].

⁹⁴ Bastida (2005), p. 421.

⁹⁵ Otto and Cordes (2002), p. [3-23].

⁹⁶ Industry Commission (1991b), p. 43.

⁹⁷ Ibid at p. 47.

⁹⁸ Naito, Remy and Williams (2001), pp. 26-27.

sector policies not on how they can acquire control of mineral deposits but rather on how they can attract investments.⁹⁹

2.2.3 Basic Frameworks and Principles

Besides being the main instrument for expressing a country's mining policy as earlier mentioned, several functions or objectives can be traced in mining or mineral legislation. One of the main reasons for having mineral legislation that is often expressed is to encourage and facilitate exploration and mining for certain minerals of value for the society. Given the perspective of the balance of competing interests and concepts of sustainability, a long list of further different objectives in mineral legislation has been identified by Hunt given the situation in Australia. Some of the objectives Hunt mentions, including the one above, as often expressed are as follows¹⁰⁰:

- * To avoid or resolve land use conflict and to provide just compensation to the owners or occupiers of land for any loss occasioned by exploration of mining;
- * To protect the environment from the adverse impacts of exploration, mining and mineral processing;
- * To provide a benefit for local communities and to preserve the life style;
- * To ensure an appropriate financial return to the State for the use of the mineral resources owned by the State;
- * To provide positive incentive for private sector investment for exploration and mining;
- * To encourage certainty so that all parties know "the rules of the game in advance";
- * To confer a secure title on explorers and miners provided they comply with those rules; and
- * To enhance knowledge of the mineral resources of a State.

As can easily be seen, these objectives can be further categorized into interests in favour of the State or public, the investor or miner, the landowner and the local community, etc. Naito, Remy and Williams have expressed that the modern legal framework for exploration and mining typically addresses the topics of government authority, conditions of access to mineral-holdings land, exploration and mining rights and obligations, protection of the environment and fiscal terms.¹⁰¹

Most countries or jurisdictions structure their mining legislation to distinguish between exploration and extraction.¹⁰² Mining legislation often adopts two main categories of mineral rights connected to the process of mineral development. The different rights conferred are often dealt with in a chronological order following the development phase of a mine, starting with minor or weaker rights and ending up with stronger rights connected to production. In some countries, there is an

⁹⁹ Naito, Remy and Williams (2001), p. 19.

¹⁰⁰ Hunt (1996), p. 3.

¹⁰¹ Naito, Remy and Williams (2001), pp. 18-19.

¹⁰² Otto and Cordes (2002), p. [3-13].

exploration concession and a mining concession. In others, there can be an exploration permit leading to a mining concession.¹⁰³ Other countries have exploration licenses and mining licenses. Other nomenclature used is claims and leases. It is also possible to have a single license system, sometimes referred to as a unified concession, where the holder has the right to explore and extract. Some countries in Latin America have adopted such a system.¹⁰⁴

In general, the stronger the nature of the mineral right, the more valuable it is to the investor. This applies to exploration rights as well as production rights.¹⁰⁵ Of initial importance is whether the mineral rights are exclusive or not in the sense that the holder can exclude others. Non-exclusive rights might be available as well early in the process of recognizing areas for prospecting and exploration activities. These non-exclusive rights are often given with little or less formalia at low costs for the investor and only minor activities might be permitted. In Ontario and Western Australia, non-exclusive rights are given to a person wanting to enter and search for minerals on Crown land. However, without the right, the person may not enter the land in question. Some countries such as Botswana and Tanzania have systems of certain reconnaissance licences that permit access to a prospective area but do not provide any clearly defined rights to proceed to detailed exploration.¹⁰⁶

Security of tenure, according to Naito, Otto, et al., is arguably the most important issue to be addressed by mining legislation.¹⁰⁷ According to Dale, security of tenure has been defined as referring to the length of time for which a company will have a particular mining right.¹⁰⁸ Security of tenure as applied to the mining industry also relates to the stability of rights granted to implement different phases of the mining sequence. According to a study conducted by Otto, many medium and large-scale mining projects take upwards of ten years on the average to explore and develop, and mining legislation must take this into consideration.¹⁰⁹ In trying to balance the practical time requirements of companies against the need by governments to prevent delay, policy makers are faced with a number of problems affecting the time duration issue. Otto has described this issue as the regulatory dilemma.¹¹⁰ The regulatory challenge for policy makers in jurisdictions imposing time limits, according to Otto, is how to set those limits to take into account factors such as the scale of the project, the type of target (deposit) and geological variability.¹¹¹

With regards to exploration activities, a limited or specified duration for the mineral right is often imposed. Older mining legislation, according to Otto and

¹⁰³ Otto and Cordes (2002), p. [3-13].

¹⁰⁴ Ibid.

¹⁰⁵ Naito, Remy and Williams (2001), p. 23.

¹⁰⁶ World Bank (1996), p. 23.

¹⁰⁷ Naito, Otto, Smith and Myoi (1999), p. 4.

¹⁰⁸ Dale 1996 quoted by Otto and Cordes (2002), p. [1-51].

¹⁰⁹ Otto (1995), p. 5.

¹¹⁰ Otto (1995) and Otto (2005). According to Otto, most governments have an interest in their mineral endowment being explored, assessed and developed sooner rather than later (1995 summary).

¹¹¹ Otto (1995), p. 8.

Cordes, often provided a relatively short exploration time period, typically 2 to 4 years, with the possibility of an extension.¹¹² Some mining legislation has no explicit time limits, or it might be up to the granting authority to decide on duration. More recent mining legislation often provides a long duration for exploration but obliges the holder to carry out prescribed work or other obligations.¹¹³ The possibilities of renewals or extensions of an exploration right might be automatic in terms of fixed periods, as in some countries in Latin America, like Chile, or can be discretionary subject to statutory constraints. An exploration right might be extended, for instance, if exceptional circumstances are fulfilled.¹¹⁴ Some mining legislation also contains regulations where renewal is only possible with respect to a certain percentage of the original area applied for.

Security of tenure has usually been associated with the linkage between the exploration and exploitation stages.¹¹⁵ This link, according to Naito, Remy and Williams, is the most important issue for investors in exploration. Given the risk of uncertainty connected to exploration activities, and the general scarcity of risk capital for mineral exploration, mining companies according to these authors cannot afford to invest in countries where the legal framework does not assure them that they will have the right to mine a commercially valuable mineral deposit that they identify through their exploration work.¹¹⁶ The most attractive regimes for the investor, according to Warden-Fernandez and Wälde, are those that allow an automatic right to exploit the mine. Other solutions are to stipulate a right of priority for the holder of the exploration right to continue with the development stage.¹¹⁷ However, even if the right to convert an exploration right into a mining right may be regulated in mining legislation, other statutes such as land-use and environmental legislation may also contain provisions that may act to circumvent or conflict with the apparent right granted in the mining legislation.¹¹⁸

A right held for mining activities, such as a mining concession or mining lease, is typically granted up to a maximum time period of around 20-25 years.¹¹⁹

Of initial importance for a prospector is whether mining legislation has restrictions concerning the extent of the area claimed. Many countries place an upper limit or maximum area for which exploration areas can be granted. Limits may also be put on the number of exploration licenses or permits one person or company can hold. Governments are sometimes concerned that a single company may gain control over too large an area.¹²⁰ According to Otto and Cordes, the open access claim staking system represents an entirely different approach.¹²¹ However, before a claim has been staked and if required, registered, no exclusive rights exist to carry out

¹¹² Otto and Cordes (2002), p. [3-29].

¹¹³ Otto and Cordes (2002), pp. [3-29], [3-30].

¹¹⁴ World Bank (1996), p. 20.

¹¹⁵ Warden-Fernandez and Wälde (2001), p. [1-36].

¹¹⁶ Naito, Remy, Williams (2001), pp. 45- 46.

¹¹⁷ Warden-Fernandez and Wälde (2001), p. [1-37].

¹¹⁸ Otto and Cordes (2002), p. [3-51]. See also land use and environmental concerns below.

¹¹⁹ Otto and Cordes (2002), p. [3-57].

¹²⁰ Ibid at p. [3-27].

¹²¹ Ibid.

exploration activities. Claim staking regimes place demands on how claims are to be staked in order to be valid, and this also regards the size. With respect to mining activities, and the area needed for a mining concession or lease, most modern mining legislation allows the applicant to apply for an area suitable for the deposit.¹²²

A mineral title in itself may not confer many rights.¹²³ A distinction can be made between the title as such and the right to carry out certain work activities. The rights conferred may be explicitly described in the mining legislation, or its regulations, or indirectly set out in definitions of exploration and mining.¹²⁴ The rights, and also in this respect, the obligations, can also be put in ancillary or authorization documents such as a lease document. In some countries, mining rights can be restricted to certain minerals as defined in the granting instrument, while in others, all minerals can be mined in the area granted.¹²⁵ In this context, the issue of exclusive exploration and mining rights is also of interest. Is it possible, for instance, according to the legislation that one company has the right to mine copper and another gravel and sand in the same area? Overlapping rights concerning the same area sometimes are the case when different types of licences regarding size, area and mineral have been granted, as can be done, for instance, in Western Australia. Of importance is whether the granted rights can be exercised at the same time (co-exist). Essential for the mining stage is whether conferred rights include rights to build roads and other infrastructures such as pipelines on the granted area or on adjacent lands. If not, ancillary rights are needed through certain titles, easements or permits. The key question of what rights can be obtained through specific mineral or mining legislation may need to be assessed and can require a thorough investigation.

Requirements and obligations are imposed on the title-holder in order to keep and maintain mineral rights. It is generally of importance for governments to make sure that the regulations encourage holders of mineral rights to actively explore or develop the land or return the rights so that they are accessible to others. This can be accomplished by “use it or lose it” provisions, for example, by setting time periods for exploration work as mentioned earlier or by having significant work requirements.¹²⁶ Obligations can be imposed both in the mining legislation and in the authorization instrument.¹²⁷ The obligations can be of different kinds, for instance, fee payments or reporting requirements. Historically, the “classical” condition for holding mineral rights was to work the mine and the ground. This is known as the labour or work principle. In Sweden, for example, this condition prevailed from medieval times until the 19th century, when paying a yearly fee was instead made optional. Gradually work conditions have been replaced by expenditure conditions or minimum investment requirements in many countries. Other systems used, for example, are annual fees that increase over time, related to surface area or per hectare. The fee can also be related to types of minerals. Other demands that can be

¹²² Otto and Cordes p. [3-56].

¹²³ Fardon (1996), p. 4.

¹²⁴ Otto and Cordes (2002), p. [3-64].

¹²⁵ Ibid.

¹²⁶ World Bank (1996), p. 23, Otto (1995), p. 1.

¹²⁷ Otto and Cordes (2002), p. [3-31].

put on the title holder are reporting requirements concerning activities as carried out and information about achieved results. However, due to issues of confidentiality, it might be that a result needs not be revealed until the title holder has perfected his rights. A work plan might be needed in order to commence exploration activities. In order to respect the interests of landowners, a security deposit may also be imposed both in the exploration and in the mining phases. When it comes to mining and development, many obligations and conditions might be imposed, not in the least due to conflicting land use interests and environmental demands. However, many of these obligations might be more connected to how the rights should be carried out and not as to how the rights can be kept and maintained. In this context, it is also however important to mention that there are countries that require an approved environmental plan as a prerequisite to obtaining the mining right or the title as such.¹²⁸ For the title holder, it is vital to know the consequences if certain obligations are not fulfilled.

An interesting question is whether the mining legislation has requirements as to when extraction must start. Some mining laws provide certain retention licences specifically to cover the period between exploration and mining. Through these licences, exclusive rights to the deposit can be maintained even if the work to develop the mine is delayed. According to Otto, the most difficult policy question for governments perhaps is in the event mining and thereby production stops during a price downturn, should mining rights be terminated?¹²⁹ The key question as to what obligations to impose may require more than one reply to answer. It should also be mentioned that many nations impose royalty taxes that are unique to natural resources. The royalty is a payment to the owner of the mineral resource in return for the removal of the minerals from the land.¹³⁰ According to Fitzgerald, ownership of the resource does not pass automatically with the granting of the exploitation rights, given the situation in Australia, but is deferred until the payment of royalties on the extracted minerals.¹³¹ According to Otto, Andrews, Cawood et al., the legal basis for a royalty paid to the state in some civil law nations is for a continued right to mine with no actual or implied mineral ownership by the state.¹³²

Mining legislation also contains, in addition to regulations on how to acquire mineral rights from the State, provisions about the transfer of such rights to third parties. It is generally desirable that mining rights be freely transferable so that they can find their way into the hands of the party who can best maximize their value.¹³³ The value of a mineral property may be reduced where transferability is restricted. Many junior exploration companies do not intend to mine, with their goal being to discover a deposit and then transfer their interest in that deposit for cash payment to a company that specializes in mining.¹³⁴ Transferability is a key driving force for

¹²⁸ Naito, Remy and Williams (2001), p. 60.

¹²⁹ Otto (1995), pp. 6-7.

¹³⁰ Otto, Andrews, Cawood et al (2006), p 41.

¹³¹ Fitzgerald (2002), p. 340.

¹³² Otto, Andrews, Cawood et al (2006), p. 42.

¹³³ Barton (2005a), p. 378.

¹³⁴ Otto and Cordes (2002), p. [3-41].

high risk exploration worldwide.¹³⁵ Many mining laws allow a transfer of rights only after government review and approval.

2.2.4 Mineral Rights and Land Ownership

Mineral rights have many connections to land ownership as partly discussed in the introduction to this chapter. For instance, in Western Australia, the original mining legislation historically was simply part of real property law. Freeholders (with full private ownership) owned any minerals in their lands subject to the rule that gold and silver were the Crown's.¹³⁶ In the early gold-rush in California, with self-regulation on public lands, the gold went with the land a miner controlled or by exclusive land allotments.¹³⁷ Wälde claims that "the role of mining law was more important in countries following the dominial/regalian system, where the ownership of land does not cover subsurface minerals (except, as often quarry materials) and where title in such minerals is vested in the state". According to Wälde, mining legislation here describes the conditions under which the state will, through its discretion or by law, grant mining rights to private applicants. Wälde continues:

In Common Law countries at least traditionally land ownership included subsurface minerals and the mining lease is therefore not an administrative act but an agreement between landowner and miner. However given the increasing importance of public concerns in mining and the large tracts of land held in public ownership in Common Law countries mining legislation has become a major source for regulating mining leases over public lands, in addition to imposing obligations of public concern on mining operations.¹³⁸

In many Common Law jurisdictions, minerals have come to be excluded from Crown grants (granted land to private) and therefore retained by the Crown. To allow the severance of the surface estate from the mineral estate means that many surface owners do not own the minerals underneath their own land. This severance can lead to many problems, as the surface owner's use is often inconsistent with either mineral exploration or production activities.¹³⁹ However, depending on the activities and effects on current land use, different rights to land can co-exist. With regards to extinguishing certain rights, the High Court of Australia has made the following statement: "Two rights are inconsistent or they are not. If they are inconsistent, there will be extinguishment to the extent of the inconsistency, if they are not there will not be extinguishment".¹⁴⁰

Land use conflicts between miners and private landholders reflect problems with the way property rights to land and minerals are specified. Land ownership may

¹³⁵ Naito, Remy and Williams (2001), p. 37.

¹³⁶ Forbes (1996), p. 2.

¹³⁷ Klyza (1996), p. 29.

¹³⁸ Wälde (1988), p. 177.

¹³⁹ Davis (2004), p. 93.

¹⁴⁰ High Court of Australia quoted by Storey (2005), p. 75.

theoretically assume absolute title, i.e., the right of the owner to do with the land as he pleases or sees fit, including excluding others from its use or transferring it to a new owner. In practice though, absolute ownership rarely exists due to restrictions of various kinds.¹⁴¹ Several limitations may apply such as that the ownership of land does not include a right to mineral resources in the soil, the ownership of land may not extend below a certain level under the ground surface, or that the ownership of land does not confer a right to control the space above a certain level.¹⁴² In addition to the ownership of land, there are also rights of other kinds such as leases and other user rights, for example. Explorers and miners may have certain rights of access to private land under state mining legislation. Mineral rights are per definition more limited than ownership to land since the holder is entitled to use them for the purposes for which they are granted, namely to explore and extract minerals.¹⁴³

Western law recognizes two basic kinds of property. One is real/immovable property. This is property in land and attachments to land like trees or buildings. The second is personal/movable property, that is all other types of property. Property is said to be a bundle of rights since it can have multiple rights belonging to several different persons or groups. However, in systems where the right to property is conceived of a single whole, this view in principle is not tolerated.¹⁴⁴ It has been argued by Otto and Cordes that one of the most difficult aspects of understanding mining legislation is being able to distinguish how the rights granted to different parties under different laws apply with respect to each other. For instance, one party may have been granted timber rights, another hunting rights and another a mining lease.¹⁴⁵

Ownership to land can be registered in a land register or in a real property register. There are two distinct types of registers depending on the legal system; a register of deeds or a register of titles. Under the system based on the registration of deeds, it is the deed or transaction itself that is registered. Under the title system, the title registration itself is proof of ownership. The title system is also known as the Torrens system.¹⁴⁶ These two systems are the extreme ends of a spectrum, and a combination or something in between in practice is often used in many countries.¹⁴⁷ Other interests in land such as leases, servitudes etc., might also be registered in the land or real property registry.

The mining legislation in most countries includes a system for the registration or recording of mineral titles.¹⁴⁸ The main role played by mining registries is to confirm whether exploration and exploitation rights exist and determine their legal status.¹⁴⁹ A modern title registry, according to Naito, Remy and Williams, should be

¹⁴¹ Mattsson (2004), p. 143.

¹⁴² Victorin (1997), p. 22.

¹⁴³ Bastida (2004), p. 64.

¹⁴⁴ Mattsson (2003), p. 29. An example here is Sweden where one person cannot own the forest and another the land or the ground.

¹⁴⁵ Otto and Cordes (2002), p. [3-66].

¹⁴⁶ Larsson (1991).

¹⁴⁷ Zevenbergen (2002), p. 48, Enemark (2000), p. 372.

¹⁴⁸ Barton (2005a), p. 375.

¹⁴⁹ Siac (2005), p. 392.

open to the public and be based on a mining cadaster or system of location of exploration and mining claim areas. A reliable mining cadastre, according to these authors, is of fundamental importance in facilitating access to mineral resources for investors, as it enables them to quickly find out what areas are taken and by whom and accordingly what areas are available for grant by the state.¹⁵⁰

In Common Law jurisdictions, it might be that the underlying title to minerals still remains with the Crown when a mining lease is granted (as opposed to a patent).¹⁵¹ Depending on whether a mining lease is regarded to be an interest in real property, the lease can be governed by property law once granted under the mining legislation.¹⁵² In Ontario, for instance, the mining lease as such is registered in the land registry. However, the mining leases are also recorded in the mining register. In Sweden, for example, mining concessions are registered in a certain mining register (primary register), and also in the national real property register. Besides the issue of in what register the registration of mineral rights takes place, a more important question is the legal effects of registration. Barton claims that mining legislation (in common law jurisdictions) often leaves unnecessary levels of uncertainty about these issues.¹⁵³ Wabnitz claims that in civil law countries, a grant of a mineral right is not valid until it has been registered, which according to him is different from common law countries.¹⁵⁴

In conclusion, an interesting issue about mineral ownership was raised by the Industry Commission in Australia concerning recommendations as to changing the system of Crown ownership of minerals to private ownership instead so that sub-surface rights would be assigned to the owners of surface rights. It was argued that private owners of valuable assets had a powerful incentive to manage their property to the greatest advantage, since any decline in the value of an asset represents a personal loss. However, the greatest practical problem with change in the system according to the commission would be “managing the transition from a situation where these rights are only defined in a most general way (i.e., mineral deposits, wherever they occur, are owned by the Crown) to a situation where a regime akin to the Torrens system of land ownership may have to be established from scratch – a daunting task”.¹⁵⁵

2.3 Land Use and the Environment

With the growth of environmental interests, the extraction of minerals is less firmly assured. Today, a mineral deposit can be economic and geologically proven but it may be regarded as an unusable resource as it is inaccessible due to socio-political rather than economic reasons. Before, the doctrine of “highest valued economic use”

¹⁵⁰ Naito, Remy and Williams (2001), p. 27.

¹⁵¹ Barton (2005a), pp. 376- 377.

¹⁵² Harries (2003), p. 148.

¹⁵³ Barton (2005a), p. 375.

¹⁵⁴ Wabnitz (2005), p. 400.

¹⁵⁵ Industry Commission (1991a), p. XVI.

generally prevailed and favoured mining.¹⁵⁶ Mining no longer is automatically assigned precedence, which means that environmentally, socially and culturally important land is no longer available for mining.¹⁵⁷

2.3.1 Status of Mining as a Land Use

Mining legislation is a central instrument for implementing a country's mining or mineral policies. A key part of any mining policy, according to Otto and Cordes, is the priority status of mining as a land use. One of the main issues in the context of land use legislation linked to mining legislation is whether mining is considered one of the fundamental activities of society or an optional "add on" to other situations and activities.¹⁵⁸ According to Otto and Cordes, there is a trend in many countries to "sterilize" lands from mineral activities because such lands are designated for other higher priority uses such as for a national forest reserve, a protected watershed, or industrial, agricultural or urban growth that has already been built on the site.¹⁵⁹

In order to judge how mining is looked upon as a land use activity in a country or jurisdiction, different issues can be studied such as the relative priority of mining, areas closed to mineral activities, the resolution of competing uses, landowner/land user rights and compensation, land access, indigenous peoples' use, etc.¹⁶⁰

Exploration activity is usually a temporary minimal land use activity although it may leave visible traces, for instance, if drilling activities take place. Prospecting and exploration do not constitute a land use but the extraction of minerals does. Mining often has a dramatic and highly visual impact on the landscape and leaves footprints. An important feature of mining is that it has to take place where the mineral deposits are. If a deposit happens to be in an area that all concerned agree should be protected, it will not be mined. According to Östensson, such decisions carry a cost. Another deposit probably with lower ore grades will be mined instead.¹⁶¹ Another aspect is remoteness from population areas. When it comes to the surface mining of certain minerals, mainly aggregates, according to Aston, acceptance by the public of higher transportation costs for low-cost bulk construction minerals is gaining momentum in order to prevent the "scenic intrusion" caused by excavation in an area. However, as Aston claims, re-location of a mine or quarry is dependent upon the local geology, and all rock and sands are not suitable for making aggregates.¹⁶²

According to Otto and Cordes, it has increasingly become more difficult to mine in most developed countries. The primary difficulty, according to them, is that the interaction of the mining legislation and other laws in several countries does not

¹⁵⁶ Otto and Cordes (2002), p. [2-13].

¹⁵⁷ Blinker p. 6 referring to Cook (1997) and Wälde (1992).

¹⁵⁸ Fardon (1996), p. 1.

¹⁵⁹ Otto and Cordes (2002), p. [2-13].

¹⁶⁰ Otto and Cordes (2002) have given examples on what land use policy issues should include in light of mining activities, p. [2-13].

¹⁶¹ Östensson (2000a), p. 44.

¹⁶² Aston (1999), pp. 312-313.

provide an efficient way to undertake exploration and mining activities.¹⁶³ Wälde also claims that mining legislation often lacks consistency in its provisions; contradictory rules are found, e.g., in land-use and environmental laws on one hand, and mining legislation on the other. The reason is most likely, according to Wälde, that the effects of such laws on mining activities have not been considered during the drafting process.¹⁶⁴ Linking the right to mine to the right to explore may, according to Otto and Cordes, be strongly worded in mining legislation, while other acts may also contain provisions that circumvent or conflict with the apparent right granted in the mining legislation. Most new mining legislation does not, according to these authors, specifically define a hierarchy of land uses, but there are exceptions. One is the Mexican mining legislation (1992), where the exploration and exploitation of minerals of public use is to be preferred over any other use or utilization of land.¹⁶⁵ It should also in this context be mentioned that the idea of key policy significance about the free entry system earlier dealt with is that it assumes that mining is the highest and best use of any land where minerals are found.¹⁶⁶ Another thing is that the system has been subject to steady erosion, for instance in the United States, due to land withdrawals from mineral access land and environmental and land use restrictions.¹⁶⁷

2.3.2 Land Use Restrictions and Environmental Regulations

Most mining legislation contains “classical restrictions”, where exploration rights may be granted only after exemptions or further permissions from authorities, landowners or other right holders. Land used for cemeteries, churchyards, religious sites, military installations, areas within x metres (horizontal) from railways or highways will commonly be excluded from a grant. Other land use restrictions often mentioned in mining legislation are areas close to dwellings, agriculture lands or crops, wine yards, etc. Many of the protected or preserved areas connected to environmental protection are regulated outside mining or mineral legislation. Many countries have developed national laws to protect parks, wilderness, wetlands as well as areas valued for historical, cultural or other reasons. Certain nationally important protected areas are considered of such global importance that they are also recognized under international agreements or treaties. Some of the most important agreements which deal with special area preservation and biological protection are the World Heritage Convention, the Ramsar Convention on Wetlands, the Convention on Biological Diversity and the Convention on the Conservation of Migratory Species of Wild Animals. The World Conservation Union – IUCN has developed a system of categorizing protected areas. The six categories are: Strict Nature Reserve or Wilderness Areas, National Parks, Natural Monuments, Habitat or

¹⁶³ Otto and Cordes (2002), p. [3-3].

¹⁶⁴ Wälde (1988), p. 180.

¹⁶⁵ Otto and Cordes (2002), p. [3-51].

¹⁶⁶ Barton (2005b), p. 646.

¹⁶⁷ Leshy (1987) quoted by Barton (2005b), p. 647.

Species Management Areas, Protected Landscapes or Seascapes and Managed Resource Protected Areas.¹⁶⁸

National legislation on protected areas or nature conservancy has a long history. The concept of environmental protection started in the United States with the first National Park, Yellowstone, in 1872. Legislation within the individual countries of Europe began appearing in the early 1900s.¹⁶⁹ However, the number, type and extent of protected areas has expanded rapidly during recent decades. Many countries have set concrete targets on protected land areas in percentage of total land areas. In the European Union, a biological network for the preservation of biodiversity, Natura 2000, is applicable and more and more areas are protected under this network. Certain restrictions also apply on lands adjacent to such areas. A highly relevant question when it comes to exploration and mining activities is whether national parks and other protected areas have been declared such with or without an assessment being made of the area's mineral potential.

The party responsible for determining whether applied for ground contains out-of-bounds areas varies according to Otto and Cordes. In some cases, the issuing authority grants the exploration right over an area in general and in the event any types of excluded land are encompassed within the granted area, the exploration right as to such areas is deemed to not be included. In other cases, according to Otto and Cordes, the granting authority is responsible for identifying any such closed areas before granting the exploration right and the resulting grant of exploration rights covers the entirety of the area granted.¹⁷⁰ In this context, it is also important to consider whether a distinction is made in mining legislation between the mineral rights as such and their operations. In United Kingdom (UK), where there is no one single mining legislation, the acquisition of property rights applicable to minerals and their operations or development rights are two separate procedures. Acquisition from the owner – State or private – according to Morgan is arranged through a purchase, licence or usually a lease from the mineral owner. The development rights for mining are obtained by means of a grant of planning permission according to the Town and Country Planning legislation and the Mineral Planning Guidance (MPG) connected to it.¹⁷¹

Besides the sovereign right to exploit their own resources, states also have a responsibility to preserve the environment and to pursue their own environmental policies. This is reflected in Principle 21 of the 1972 Stockholm Declaration on the Human Environment and also in Principle 2 of the 1992 Rio Declaration on Environment and Development (Agenda 21).¹⁷² It was not until the latter conference that sustainable development received general support as a leading concept of international environmental policy.¹⁷³ States are required by the Rio Declaration to enact effective environmental legislation, to undertake environmental impact

¹⁶⁸ MMSD report (2002), p. 162.

¹⁶⁹ Bromley (1997), pp. 17-18, 20.

¹⁷⁰ Otto and Cordes (2002), p. [3-20].

¹⁷¹ Morgan (2005), pp. 1082, 1090-1091

¹⁷² Schrijver (1997), p. 274.

¹⁷³ Birnie and Boyle (2002), p. 41.

assessments as a national instrument and to facilitate access for individuals to information and decision-making processes.¹⁷⁴

A key issue to be decided in national environmental management is whether to use the integral versus sectoral approach. The integral approach means that environmental legislation and enforcement institutions such as environmental agencies are common to all economic sectors (all kind of operations). The alternative sectoral approach means, for instance with regards to the mining sector, leaving environmental responsibility with the ministry of mining. It has been argued in the 1996 World Bank report that the integral approach through an environmental government institution not tied to any sector is the most preferred solution, at least in countries with well-developed environmental management organisations. The mining sector and environmental agencies should be viewed as “complements rather than antagonists or alternates in attempts to improve environmental quality”.¹⁷⁵ However, environmental protection is increasingly being included in mining legislation and so has to be viewed as part of the mining operation. This often creates conflicts between the mining and environment ministries or departments regarding which one should be responsible for implementation. As claimed by the 2001 UNEP report “Guidelines for Mining and Sustainable Development”, the environmental agency does not necessarily have the expertise in mining, while the mining department does not always have a background in environmental issues and can suffer from a conflict of interest. In Western Australia, responsibilities are shared between the two departments.¹⁷⁶ The approach of a “one-stop shop” is also linked to organizational issues, where a party can go to a single lead agency with specialist knowledge.¹⁷⁷ Connected to the above issues is also the concept of a streamlined approval process. Both approaches aim to reduce the development period before a mine can start up commercial production.

When it comes to instruments for the implementation of environmental legislation, a command-and-control (comply or penalised) or a prescriptive system may be used as opposed to market-based instruments (self-regulation) or a non-prescriptive system. Prescriptive legislation provides absolute values or standards, set by the relevant government department or agency, which have to be met at all times. In contrast, non-prescriptive legislation relies on the operator identifying the issues and making the management commitments to deal with them.¹⁷⁸ It has been argued that the command-and-control system is not flexible enough. For instance, in cases of mining, certain standardized requirements, which are an integral part of the prescriptive system, may result in under-protection at some mining sites and unnecessary over-protection at others.¹⁷⁹ A non-prescriptive legislation is procedure-oriented rather than focused directly on a prescribed goal.¹⁸⁰ The prescriptive vs. non-prescriptive system is according to the 2001 UNEP report more often than not

¹⁷⁴ Principle 11, Principle 17 and Principle 10, Birnie and Boyle (2002), p. 98.

¹⁷⁵ World Bank (1996), pp. xvii, 70-71.

¹⁷⁶ UNEP (2001), pp. 7, 14. See also *supra* Chapter 7, Country Surveys: Western Australia.

¹⁷⁷ Blinker, p. 25.

¹⁷⁸ UNEP (2001), pp. 9-10, MMSD report (2002), p. 341.

¹⁷⁹ UNEP (2001), pp. 9-10.

¹⁸⁰ Gunningham and Sinclair (2002), p. 192 also quoting Fiorino (1999).

linked to the decision of which government department or agency is responsible for the environmental management of the mining industry. If the Department of the Environment has responsibility, according to the UNEP report it will often impose a highly prescriptive regime with standards, criteria and penalties for every eventuality. In contrast, if the Department of Minerals and Energy is in control, usually a more non-prescriptive approach might take place, preferring negotiations with the operator and taking economic as well as environmental aspects into consideration. For this reason, according to the report, a mixture of regulatory agencies is likely to be the optimal option.¹⁸¹ When it comes to legislation versus self-regulation, it might be claimed as done by Gipperth, that legislated self-regulation is the way forward.¹⁸²

Environmental Impact Assessments (EIA), according to the MMSD report, “Breaking New Ground”, is perhaps the most widely used tool of environmental management in the minerals sector.¹⁸³ An EIA is a procedure for evaluating the likely impact of a proposed activity on the environment. Its function is to provide decision-makers with information about possible environmental effects when deciding whether to authorize the activity.¹⁸⁴ The concept of EIA has its roots in the US National Environmental Policy Act of 1969 (NEPA).¹⁸⁵ An EIA is to describe the direct and indirect effects of a planned activity on human beings, flora and fauna, soil, water, the landscape and the heritage. An EIA is to present alternative locations where possible to avoid sensitive areas. As a rule, however, there are no alternative locations for mineral extraction as such, but any facilities connected to the mine can, of course, have optimal locations. There are also other instruments besides the EIA to control impacts on the environment, such as for example, the Mine Closure Plan and Financial Surety connected to it.

A key question is the extent to which environmental regulations will be woven into the process for obtaining mineral rights or whether they should be completely independent. It has been claimed by Naito, Remy and Williams that countries requiring approval of an environmental plan as a prerequisite to obtaining a mining right thereby introduce an element of uncertainty and lengthen the approval process. These authors argue that best practice is an environmental approval process separate from the licensing function even when an EIA must be submitted together with an application for a mining permit. With this, investors get the certainty that they have exclusive mineral rights independent of whether they must do additional work to obtain approval of their environmental plan in order to use the mining rights.¹⁸⁶ An EIA is often not required in the early phases of exploration where impacts on the environment are low. According to the 1992 Rio Declaration (Principle 17), an EIA, as a national instrument, is to be undertaken for proposed activities that are likely to have a significant impact on the environment and are subject to a decision of a

¹⁸¹ UNEP (2001), p. 10.

¹⁸² Gipperth (2001), p. 292.

¹⁸³ MMSD report (2002), p. 248.

¹⁸⁴ Birnie and Boyle (2002), p. 130.

¹⁸⁵ *Ibid* at p. 131.

¹⁸⁶ Naito, Remy and Williams (2001), p. 60.

competent national authority. Many states or countries have made provisions for EIA. The most sophisticated legislation is found in the United States, Canada and the European Union.¹⁸⁷

Linked to the procedure of EIA, and also part of the Rio Declaration, is the concept of public participation in decision-making. The main and the most-far reaching environmental treaty on public participation is, however, the 1998 UN/ECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention). The convention consists of three pillars of public participation, namely access to information, public participation in decision-making and access to justice. It commits governments to guarantee public rights to information and participation in government decision-making about new projects and other actions affecting the environment. Projects specifically listed in the annex to the convention are metals production and processing facilities, other mineral industry developments, mining projects etc.¹⁸⁸ Of importance for unlisted projects is whether they have a significant environmental impact. The term “public participation” has no precise definition and it can be understood differently in different geographic regions and cultures.¹⁸⁹ It has been argued by Barton that a comparative analysis of public participation is difficult because the extent to which there should be public participation and how it should occur, go straight to the heart of a nation’s political values, its concept of the state and the state’s relationship with its citizens, and its concept of how public business is properly carried out.¹⁹⁰

Within the mining industry, several voluntary approaches towards environmental protection apply. Some are, for instance, voluntary agreements that generally seek to achieve environmental standards beyond those which the law, mineral industry codes for environmental management or international environmental guidelines require. A relevant question asked by Gunningham and Sinclair is why the mining industry is increasingly attracted to voluntary instruments and what purposes they serve. There is a need, according to these authors, for the industry to improve its reputation and maintain its environmental credibility and thus gain and maintain legitimacy and social acceptance.¹⁹¹ An advanced example of a mining industry code proposed as the model for self-regulation internationally is the 1996 Australian Minerals Industry Code for Environmental Management. Its prime objectives are improved environmental performance and better communication with the community.¹⁹² Many international organisations have produced their own environmental guidelines that are relevant to the mining industry. For instance, the United Nations Environmental Programme (UNEP) has provided “Guidelines for Mining and Sustainable Development”, also called the “Berlin Guidelines”. The first edition was published in 1994 and has since been revised.¹⁹³ Several mining industry

¹⁸⁷ Birnie and Boyle (2002), p. 131.

¹⁸⁸ Pring, Otto, Naito (1999a), p. 55.

¹⁸⁹ Pring and Noé (2002), p. 15.

¹⁹⁰ Barton (2002), p. 77.

¹⁹¹ Gunningham and Sinclair (2002), p. 135 and Gunningham (2002), p. 160.

¹⁹² Blinker, p. 29.

¹⁹³ Berlin II 2002.

initiatives can also be mentioned, such as the Whitehorse Mining Initiative in Canada with its final 1994 report dealing with land access, environmental management and regulations on several topics. The Global Mining Initiative commissioned a study seeking to analyse the factors that could help the mining sector better contribute to sustainable development. This later initiative formed the basis for the Mining, Minerals and Sustainable Development project (Breaking New Ground), finally reported in 2002 (MMSD report).

2.4 Legally Interested Parties

Mining legislation defines or mentions different legally interested parties such as landowners or leaseholders. These are a narrow group of interest holders that legitimately expect to be taken into account when decisions are made, and to be compensated if economic losses occur and to have their claims recognized judicially. A wider and further group of legal interest holders can be found in environmental law, for instance with the concept of public participation discussed earlier. Of importance in this context is also the term “stakeholder”, which is more vague and less precise than alternative concepts used in law and in economics.¹⁹⁴ According to Östensson, stakeholder previously meant a person or group of persons who had an interest, be it economic, legal, political or ethical, in the outcome of a project or process and who therefore “holds a stake” in it. Östensson mentions the following “core” stakeholders materially affected by individual mining projects; mining companies, local communities (which include landowners) and government authorities at different levels. A second group of stakeholders, according to him, consists of those whose objectives are generally of a broader political, ideological or cultural nature, for instance NGOs and intergovernmental organizations (IGOs). Indigenous peoples can be seen as part of the local communities but also as a group distinct from those local communities in general.¹⁹⁵ In this work, the primary attention is paid to the miner and landowner, and only to a certain extent to indigenous peoples.

The right to land may take the form of ownership by a landowner. Land tenure is a legal term that means the right to hold land rather than the simple fact of holding land. Land tenure systems can be characterized as formal (created by statutory law) or informal (unwritten, customary) and indigenous.¹⁹⁶ Private ownership in legal terms is usually linked to freehold in common law countries. Freehold is land held free of obligations to the monarchy or state. Leasehold is when land is rented by someone other than the owner for a specified period.¹⁹⁷ Lease and tenancy are synonyms for leasehold.¹⁹⁸ It was mentioned in the MMSD report (2002) that in many of the common law countries where mining is important, such as the United

¹⁹⁴ Östensson (2000b), p. [3-1].

¹⁹⁵ Östensson (2000b), pp. [3-2], [3-15].

¹⁹⁶ Bruce (1998), pp. 1-2.

¹⁹⁷ Ibid.

¹⁹⁸ Ibid at p. 4.

States, Canada and Australia, a large proportion of mining occurs on lands held by the government, public domain lands or Crown lands. On these lands, private surface occupants, if any, are usually government tenants who can be required to leave in favour of mineral development.¹⁹⁹

“Indigenous peoples” (or “natives”, “aboriginals”, etc.) is a term with no single agreed upon definition in international practice. Many studies have attempted to formulate a definition but with little success.²⁰⁰ The 1989 Convention 169 of the International Labour Organization (ILO) is the strongest international recognition of the participatory rights of indigenous peoples in development issues.²⁰¹ The primary objective of the convention is to ensure that indigenous peoples have the right to control, to the extent possible, their own economic, social and cultural development.²⁰² According to Article 1 of the Convention, indigenous peoples are defined as people who are descended from the populations which inhabited the country at the time when the present state boundaries were established and who have wholly or partially retained their own social, economic, cultural and political institutions. The decisive factor is not that these people historically speaking have inhabited a certain area for a longer period than anyone else. More significant is that their social and cultural situation is special.²⁰³ Article 15(2) is directly concerned with minerals and subsurface minerals. It provides that in cases in which the State retains the ownership of these minerals, governments are to establish or maintain procedures by which they are to consult these peoples before undertaking or permitting any programs for the exploration or exploitation of such resources pertaining to their lands. Many countries have not yet (2008) ratified the ILO Convention, including Australia (Western Australia), Canada (Ontario), Sweden and Finland, all included in this study.²⁰⁴ The UN General Assembly adopted in 2007 the United Nation Declaration for the Right of Indigenous Peoples.²⁰⁵

Of importance is the hierarchy of ways in which those who are affected by a mining project need to be involved. A primary aim of participation is to gain at an early stage fair knowledge of any people’s demands and viewpoints. The informational aspect is essential, but real participation ought to be greater. One model that has wide currency among environmental and land use planners is Arnstein’s ladder of citizen participation, rising from the lowest level of manipulation through bare notice, consultation, into partnership and genuine power-sharing or citizen control.²⁰⁶ Mattsson defines a full right to participation as including both consultation, negotiation and a certain limited right of decision-

¹⁹⁹ MMSD report (2002), p 147.

²⁰⁰ Pring and Noé (2002), p. 59, Warden-Fernandez (2005), p. 398.

²⁰¹ Pring and Noé (2002), pp. 61-62.

²⁰² Triggs (2002), p. 133.

²⁰³ Government Inquiry 1999:25, p. 24.

²⁰⁴ Norway has acceded to the convention and has the largest Sami population of any country besides the populations in Sweden, Finland and Russia.

²⁰⁵ September 13th 2007.

²⁰⁶ Barton (2002), p. 80. See also Arnstein (1969) A ladder of citizen participation in *Journal of American Institute of Planners*. 1969:4.

making.²⁰⁷ The MMSD project, *Breaking New Ground*, highlights the following levels of involvement for interest holders: information, consultation, participation, compensation and right of veto over decisions.²⁰⁸ Participation implies a more formal process that is generally appropriate when some legally recognized interest is likely to be affected by the decision, such as environmental and socio-economic impact assessment processes.

The association with land is fundamental for indigenous peoples and their relationship can be deeply spiritual. As part of the overall movement towards greater recognition of these peoples' rights, there is a clear trend in international and national law and practices of expanding their rights to participate in development-related decision-making.²⁰⁹ Sustainable approaches to resource development must, according to the 2002 MMSD report, allow for the fact that there will be some communities, indigenous ones in particular, that do not want mines on their lands.²¹⁰ It has been argued by Warden-Fernandez that the best way to resolve conflicts arising during the development of natural resources, especially in the mineral sector, could be by signing specific comprehensive agreements between governments, developers and indigenous peoples who have interests in a particular project.²¹¹

²⁰⁷ Mattsson (1985).

²⁰⁸ MMSD report (2002), pp. 142-143.

²⁰⁹ Pring and Noé (2002), p. 61.

²¹⁰ MMSD report (2002), p. 152.

²¹¹ Warden-Fernandez (2005), p. 426.

3. Legal Systems and their Comparison – Methodological Aspects

This study examines legal systems for mineral exploration and exploitation as presented in the previous chapter. This chapter concerns the actual comparison of legal systems and the methods thereby invoked. Certain attention is given to problems relating to methods of comparative law.

3.1 Legal Systems

A legal system can be regarded as a system of rules interconnected in a certain way. According to Hart, a legal system is created by primary rules of obligations or behaviour and secondary rules of authority, on how this ought to be done.²¹² In trying to define law, David maintains that one must realize that the law may only be a more or less comprehensive part of the rules governing human relations.²¹³

A legal system is analyzed at a specific moment, typically the legal rules in force at that point. However, legal systems are in a state of flux, under constant review and change. Consequently, legal systems can be seen to have both static and dynamic dimensions.²¹⁴ It may be difficult to grasp simply the current system, at least when details have to be taken into account.²¹⁵

Also of importance to stress in this context is that the law in a society can only be explained by its history.²¹⁶ As emphasized by several scholars in the comparative field, laws reflect the culture and values of the society to which they belong.²¹⁷ Therefore, according to Samuel, a comparatist must dig below the rules or the surface appearance of the law in order to discover the cultural mentality that these rules express.²¹⁸

Another reason for going beyond mere rule comparison is that law cannot only be observed on paper, it must also be looked at as the law in action, *i.e.*, the application and interpretation of rules and their true force and effect.²¹⁹ Or as claimed by Watson, the core of law is authority. If a law is totally ignored in

²¹² Kelly (1992), p. 405, Wintgens (2004), p. 301 referring to Hart (1961) *The Concept of Law*.

²¹³ David (1974), p. [2-2].

²¹⁴ Hellner (1994), pp. 12-13.

²¹⁵ During the past 20 years, over 110 nations have either replaced or made major amendments to their mining legislation. See Otto et al. (2006) *Mining Royalties A Global Study of Their Impact on Investors, Government, and Civil Society*, p. xiii.

²¹⁶ Watson (2004), p. 1.

²¹⁷ Van Hoecke and Warrington (1998), p. 498.

²¹⁸ Samuel (2004), pp. 60-61.

²¹⁹ Reimann (2002), pp. 679-680.

practice, it scarcely deserves to be called law.²²⁰ For example, the efficacy of mining legislation depends upon the administrative regime in place. Van Hoecke and Warrington also stress the importance of custom, especially in non-western countries where European codes have been imported. In such cultures, the difference between written rules and legal practise must be taken into account.²²¹

3.1.1 Classification and Differences

Legal systems in the world have been classified in the field of comparative law into legal families. David and Brierly classify the systems briefly into three; the Roman-Germanic family (civil law), common law family and family of socialist laws. Civil law systems are found in continental Western European countries and in most of their ex-colonies, in Latin America and parts of Africa. Common law countries include England, Ireland, the United States, Canada (with the exception of Quebec), Australia and most present and former members of the British Commonwealth. Other systems also exist, such as Muslim, Hindu, Jewish and Far East legal systems.²²² However, David and Brierly argue that two laws cannot be considered as belonging to the same family, even though they employ the same concepts and techniques, if they are founded on opposed philosophical, political or economic principles and if they seek to achieve two entirely different types of society.²²³

Zweigert and Kötz have divided the legal families into the Romanistic, Germanic, Anglo-American, Nordic, Far East and Religious (Islamic, Hindu) families. According to these authors, the critical aspect of a legal system or legal family is its style. Crucial are 1) its historical background, 2) its characteristic mode of thought in legal matters, 3) its especially distinctive institutions, 4) the kind of legal sources it acknowledges and the way it handles them and 5) its ideology.²²⁴ Zweigert and Kötz claim that Western laws of procedure are bottomed with a view called the “struggle for law”. As the goal of law is peace, one must struggle to achieve it and it is a duty of a person to fight for his right.²²⁵

Another approach is given by Van Hoecke and Warrington, who make a distinction between different legal cultures. A primary division is made of four large cultural families; African, Asian, Islamic and Western (cultures with European roots, Europe, America, Oceania).²²⁶ The basic differences between these four are as regards the concept of law, the role of law in society, and the way conflicts could and should be handled.²²⁷ Interestingly, as mentioned by Van Hoecke and Warrington, is that law for Europeans is above all a system, a form of logic, a geometry etc. where

²²⁰ Watson (2004), p. 2.

²²¹ Van Hoecke and Warrington (1998), pp. 510-511.

²²² David and Brierley (1985), pp. 22-31.

²²³ Ibid at p. 21.

²²⁴ Zweigert and Kötz (1998), pp. 67-68.

²²⁵ Zweigert and Kötz (1998), p. 70 also referring to Jhering.

²²⁶ Van Hoecke and Warrington (1998), pp. 502, 536.

²²⁷ Van Hoecke and Warrington (1998), p. 508.

everything can be reduced to principles, concepts and categories.²²⁸ In contrast, the individual in the Asian legal culture has no rights but only duties towards others and towards society.²²⁹

Given the classifications above, the countries and states that are the objects of this study belong to the same cultural family, the Western legal culture. Ontario and Western Australia belong to the Anglo-American family or the common law. Sweden and Finland belong to the Nordic family or the Roman-Germanic (civil law) family. According to Zweigert and Kötz, assumptions are often made that legal systems of the Western world belong to either the Common Law or the Civil Law systems.²³⁰ However, starting from a common basis of Germanic legal ideas, according to these authors, the Nordic countries have historically developed on parallel lines. Even with strong influence from continental Europe, the Nordic countries early drafted legislation based on their own traditions, for instance in land law. Despite whether the Nordic countries are placed into a separate legal group, it is correct according to Zweigert and Kötz to allocate the Nordic legal group within the Civil Law.²³¹

Some of the major differences between common law and civil law systems lie in the field of legal sources, judge-made law/case by case versus codified law/codes and statutes. Of importance also are the legal sources used, such as legislative history (*travaux préparatoires*), for example, drafts of acts or governmental bills/official reports. Several authors now argue, however, that these two systems are gradually moving closer together and the differences are no longer of a fundamental nature.²³²

The laws governing common law countries are now mostly in statutory form (legislation).²³³ However, when it comes to legislative drafting, Zweigert and Kötz maintain that there still is a vast difference, and that “English statutes try to be as precise as possible; they go into great detail even on trivial points and often adopt a form of expression so complex, convoluted, and pedantic that the Continental observer recoils in horror”.²³⁴ Legislation can also be less detailed and contain instead aims and guiding principles (framework legislation). More detailed regulations from the government and authorities can then be used as supplements.²³⁵ A main advantage of using framework legislation is its flexibility to societal changes. As raised by several authors in the mining sector, clarity in legislation and a minimum of ministerial discretion are demands that can be placed on mining or mineral legislation. Detailed legislation ought to reduce ministerial discretion. A reflection that can be made is that the mining legislation and related regulations in

²²⁸ Van Hoecke and Warrington (1998), pp. 504-505 referring to Dekkers "Meetkunde en verzoening (1966-67), *Rechtskundig Weekblad* 129.

²²⁹ Van Hoecke and Warrington (1998), p. 506.

²³⁰ Zweigert and Kötz (1998), p. 277.

²³¹ *Ibid* at p. 285.

²³² Zweigert and Kötz (1998), p. 271, Van Hoecke and Warrington (1998), p. 501.

²³³ Bennion (2001), p. 5.

²³⁴ Zweigert and Kötz (1998), p. 267.

²³⁵ This type of drafting technique, for instance, is used in Sweden when it comes to planning and environmental legislation. In addition to related regulations, legislative history in the form of governmental bills and official reports are important guiding material.

Ontario and Western Australia are much more detailed than those of Sweden and Finland.

Some main differences between common law and civil law traditions when it comes to mining are connected to mineral agreements. In civil law jurisdictions, for instance, a mining agreement has to be supported by another specific instrument, a “mining title”, which is not necessary in common law jurisdictions.²³⁶ Agreements in civil law systems also tend to be shorter, and the courts tend to look at the intentions of the parties instead of the wording of the agreement.²³⁷ In specialized areas of law, such as that governing natural resources, the difference between the common law and the civil law lies not so much in technical aspects of the transactions, which are resolved in the same manner everywhere, but in the underlying web of general principles and legal procedures that have remained fundamentally distinct.²³⁸ Or, as stated by Vaughan, it is impossible to put a common law mining model into place in a civil law regime.²³⁹

In most Latin American countries, as highlighted by Siac, the granting of mineral rights takes place through an administrative procedure separate from the normal means of acquiring property. However, in common law countries the government acts as a contractor for its natural resources, according to Siac, and the grantee is allowed to deal with them subject to very few restrictions, or none at all.²⁴⁰ The ownership of surface and subsurface rights may be governed by completely different laws in civil law systems, as opposed to common law systems, where these rights are usually governed by the same laws.²⁴¹ Harries argues that obtaining and dealing with mineral rights in civil law systems can be bureaucratic, often with many departments involved, whereas in common law systems, one ministry often takes the lead with as few bureaucrats as practical.

As to terminology, one difference that may cause confusion is the terms “mineral rights” and “mining rights” as discussed further below.²⁴² In addition, differences between nations and states and the generalities about law and legal systems can often be misleading. However, as argued by Brabant and Montembault-Hévéline, “[w]hatever the legal traditions, the basic problem is the same in all jurisdictions and refers to the question of who holds the right to mine: the state, the owner of the soil (if different), or the miner who found the deposit (if different)”.²⁴³

²³⁶ Brabant and Montembault-Hévéline (1997), p. 57. See also a detailed comparison by Barberies (1998), *Negotiating Mining Agreements: Past, Present and Future Trends*.

²³⁷ Harries (2003), pp. 58-59.

²³⁸ Harries (2003), p. 58 quoting Kensicher (1991).

²³⁹ Vaughan (2003), p. 3.

²⁴⁰ Siac (1999), pp. 456-457.

²⁴¹ Harries (2003), p. 65.

²⁴² Harries (2003), pp. 64-65.

²⁴³ Brabant and Montembault-Hévéline (1997), p. 57.

3.2 Comparative Law

According to Bogdan, there is no official or otherwise generally accepted definition of comparative law. “Making humble attempts to define it”, Bogdan recognizes three aspects: Firstly, comparative law encompasses the comparing of different legal systems with the purpose of ascertaining their similarities and differences. Secondly, comparative law includes the processing of the similarities and differences that have been ascertained by explaining their origins, evaluating solutions in different legal systems, grouping legal systems into families, or searching for a common core to the legal systems. Thirdly, comparative law comprises the treatment of the methodological problems that arise in connection with these tasks.²⁴⁴

In this context, it is relevant to consider what comparative law is not. Zweigert and Kötz argue that reports from different countries as to their own solutions of certain problems with no real comparison of the solutions can at most be called descriptive comparative law.²⁴⁵ However, when it comes to comparison (if any), the purpose as argued by Merryman is primarily an aid to description and that description is impossible without comparison.²⁴⁶

3.2.1 Reasons for Comparing

There might be several reasons for generating comparative legal studies. As stated by Zweigert and Kötz, the primary aim of comparative law, as for all sciences, is knowledge.²⁴⁷ David and Brierley argue that comparative law is useful in gaining a better understanding of one’s own national law and the work of improving it.²⁴⁸ Bogdan argues that the most obvious value of studying foreign legal rules, and comparing those of the comparatist’s own country, is that foreign solutions can provide a source of inspiration, whether as models or as warnings.²⁴⁹ Comparative studies can be used as a means for recognising possibilities for change in one’s own law.²⁵⁰ Or as expressed by Roos; “Legal comparison is a means of improving legal thinking by taking out those elements in the comparison that are sound and using them to develop new concepts and doctrines”.²⁵¹

Olsen mentions three different theories connected to the use of comparative law, linked to problem formulation and choice of methods. One focus might be on the national perspective and the problems connected to a particular country. Comparative law can then be used to solve a legal problem in that country. Another position can be that other legal systems are used as inspiration, such as for legislators and practitioners, as mentioned above. According to Olsen, the focus then is placed

²⁴⁴ Bogdan (2004), pp. 1234-1235.

²⁴⁵ Zweigert and Kötz (1998), p. 6.

²⁴⁶ Legrand (1999), a dialogue with John Henry Merryman 1997, pp. 32, 51.

²⁴⁷ Zweigert and Kötz (1998), p. 15.

²⁴⁸ David and Brierley (1985), p. 6.

²⁴⁹ Bogdan (2004), p. 1235.

²⁵⁰ Karhu (2004), p. 81.

²⁵¹ Roos (2004), p. 217.

on structural differences and anomalies in these systems. It is important to identify suitable and comparable legal systems with this approach. It is also essential to decide what legal rules to compare and to describe the different legal systems in a correct way, often with the help of country surveys. Since these descriptions are to serve as inspiration, according to Olsen, the evaluation of what system is better or worse is of less importance. The third position as mentioned by Olsen is that certain problems in societies are the focus, and the legal comparison is done to reveal different approaches to deal with these problems.²⁵²

The utility of comparative legal studies can be judged from different perspectives, such as that of legislators, practitioners or scholars. The target group for a certain study is thereby of initial importance. As claimed by Lambertz, useful research delivers different kinds of knowledge or insights. However, he argues that a legal science that seeks no contact with the problems of the reality is meaningless.²⁵³

3.2.2 Selection of Countries

Critical for comparative studies is the selection of countries. The researcher's intentions, expectations and ideas often govern this choice due.²⁵⁴ The selection of countries moulds the comparative analysis and the basic study design. In political science, two applications have a prominent roll, namely; most similar systems design (MSSD) and most different systems design (MDSD). In the most similar system design, similar countries are identified and the ambition then is to highlight the differences and differences are explained by differences.²⁵⁵ In this context, it is interesting to refer to the discussion by Bogdan where he claims that when presenting the results of a comparison between the legal rules of two closely-related legal systems, such as the Nordic countries, it typically is more interesting to search for explanations as to the differences found rather than to provide the largely obvious explanations as to the similarities. In the most different system design, different countries (in many aspects) are identified and here similarities are explained by similarities. The approaches of MSSD and MDSD can also be combined.²⁵⁶

In this study, mixing developed and developing countries was never a viable option, in part due to warnings from other researchers working with comparative law. Even if the selected countries and states all belong to the Western legal culture, and cover two or three legal families, the presentation of different legal families has not been the primary priority as to the choice of countries.

²⁵² Olsen (2004), pp. 127-128.

²⁵³ Lambertz (2002), pp. 262, 264

²⁵⁴ Denk (2002), p. 47.

²⁵⁵ Ibid at pp. 62-64.

²⁵⁶ Ibid.

3.2.3 Problems

There are many traps connected to comparative law studies as often stressed by such scholars. The best advice, according to Zweigert and Kötz, is to “Watch out, be brave and keep alert”.²⁵⁷ A more pessimistic view is that of a perfectionist as raised by Van Hoecke; “If you do not fully understand something you do not understand anything”. On the other hand, a more optimistic view as espoused by Van Hoecke is that “comparative law can very well do without any method, or that comparing is just a natural activity: you look and listen, and automatically you see the divergences and commonalities; you compare different legal solutions and automatically you see the better solution”.²⁵⁸ Merryman claims that “it seems so obvious that comparison based on statements of rules of law, which is the dominant mode of comparative law scholarship, is a relatively trivial kind of enterprise”.²⁵⁹

Regardless of degree of difficulty, certain methodological problems need to be emphasized. The ambition of comparative law, according to Van Hoecke and Warrington, has always been to develop some type of neutral framework, some common language with which several legal systems can be described. In this context, taking an external position towards one’s own legal system according to these authors is problematic.²⁶⁰ A relevant question in this connection is whether one should describe the foreign law in question along the lines of one’s own legal system, or whether one should follow the foreign system in the way its authors tend to describe it. According to von Bar, the former or first approach has often been used in the belief that there is no other way to attract one’s own national readership.²⁶¹

In the least, the study of any legal system presupposes that there is an awareness of structural differences of law.²⁶² If, as claimed by David, all law were arranged in the same way, and differed only as to the content of the rules, the comparison would be a simple matter.²⁶³ A rule classified under a particular heading in one system does not always reappear under a different heading in another system. It might not even exist.²⁶⁴ Other pieces of legislation can instead cover it. Instead of a mining act, specific environmental legislation or a labour act can cover the issue, for instance. A shortcut to discovering differences in structure is to study textbooks within the compared field.²⁶⁵

In the field that is the object of the present study, one text used was the “Canadian Law of Mining”.²⁶⁶ Difficulties arose, however, as no common structure with the Swedish system could initially be identified, for example, with respect to

²⁵⁷ Zweigert and Kötz (1998), p. 36.

²⁵⁸ Van Hoecke 2004 p. 173

²⁵⁹ Interview granted in 1997 by John Henry Merryman to Pierre Legrand in *the American Journal of Comparative Law* vol. 47 1999 p. 4.

²⁶⁰ Van Hoecke and Warrington (1998), p. 530.

²⁶¹ von Bar (2004), p. 130.

²⁶² David and Brierley (1985), p. 15.

²⁶³ David (1974), p. [2-2].

²⁶⁴ Ibid at p. [2-8].

²⁶⁵ Van Hoecke (2004), p. 175.

²⁶⁶ Barton (1993) *Canadian Law of Mining*.

ownership, free entry and staking and keeping claims. This situation was reflected in its foreword as written by Owen Saunders: “Moreover a large part of the legal framework consists of common law and equity principles and is not to be found in statutes at all. Mining law therefore poses formidable research problems to the practising lawyer. To the non-lawyer it is virtually inaccessible”. Therefore, it was a relief to read that Ontario’s Mining Act was claimed to be the most comprehensive mining statute in all of Canada.²⁶⁷

Certain problems arise when it comes to framework legislation. It can at times be difficult to grasp the functions of the law if not spelled out, and knowledge must be derived instead from how legislation is applied in practice. Where legislation is very detailed, on the other hand, it can be difficult to get an idea about the main concepts since there might be many exceptions that hide a main rule. The comparatist must determine to what extent the words used in the compared legal systems carry the same meaning.²⁶⁸ This might be obvious where systems from two different legal families are compared. However, when two legal systems from the same family are compared, terminology can be misleading. Similarities in wording and concepts might instead be different in reality.²⁶⁹ For instance, the term ‘prospector’s licence’ in Ontario is not the same as a ‘prospecting licence’ in Western Australia. According to Otto and Cordes, examining the structure of a mining act is important to understanding what is meant by the term ‘mining’, as it is used to identify various forms of licenses, leases and concessions. Otto and Cordes claim that in most common law jurisdictions, the term ‘mining’ means mineral extraction, while in most civil law countries, it is defined to include both exploration and extractive activities.²⁷⁰ In addition to differences in terminology, language can be a further complication. Certain problems occur when it comes to translation (Sweden and Finland) as mentioned in chapter one.

There is a fundamental distinction in some countries between federal and state or provincial law. This is an issue to keep in consideration with respect to both Ontario and Western Australia. Mining legislation is mainly a responsibility of states, but the environmental legislation affecting mining projects, for instance, to a certain extent falls into the concurrent jurisdiction between federal and state law. Another example here is the environmental legislation of the European Union as regulated through different directives within the field of water, air, waste and environmental protection (such as Natura 2000), affecting member states including Sweden and Finland.

3.2.4 Methods of Comparison

Zweigert and Kötz claim that one can speak of comparative law only if there are specific comparative reflections on the problem to which the work is devoted. Zweigert and Kötz further state that experience shows that this is best done if the

²⁶⁷ Aston (1999), p. 64

²⁶⁸ Van Hoecke (2004), pp. 174-175.

²⁶⁹ David (1974), p. [2-4].

²⁷⁰ Otto and Cordes (2002), p. [3-12].

author first lays out the essentials of the relevant foreign law country by country and then uses this material, free from any critical evaluation, as a basis for critical comparison.²⁷¹ My personal experience is that in structuring different country descriptions in a similar way, a comparison must take place, at least in your mind.

How far the comparatist should go in the search for material is a separate matter. Zweigert and Kötz argue that a scholar should go as deep as possible into the chosen systems.²⁷² When it comes to any comparison, generalizations in one way or another are unavoidable. According to the present author's view, the basic material as described, for instance, in a country report, should not be too general. However, this question is also heavily linked to the intent and purpose of the comparative study as such.

Is comparative law a science or a method? According to David and Brierley, for many comparatists, comparative law will really be a method – “the comparative method”- employed to assist them in achieving their own particular objectives. For others, it has the status of a science.²⁷³ Strömholm maintains that comparative law has, or in any case, needs, elements of a method of its own.²⁷⁴ Reimann claims that comparative law today is more than simply a method – it has also become a field of substantive knowledge.²⁷⁵ However, according to Reimann, comparative law “lacks a sound theoretical framework and the discipline would be better off if comparatists gathered the courage to define a common canon of knowledge, to agree on a limited set of ultimate goals, and to commit to long-term and interdisciplinary cooperation.”²⁷⁶ Gerber argues, expressing a similar thought, that comparative law has no language, for instance, in contrast to physics and sociology. It needs an analytic framework – a language designed specifically for analyzing the operation of legal systems.²⁷⁷

Whether comparative law is still learning about its methodology, in conclusion the dominant tradition historically has been that of rule-based comparison. According to Bogdan, if such a comparison is to be meaningful, the most central and important requirement that must be fulfilled is that the rules to be compared deal with the same problem or situation.²⁷⁸ The basic methodological principle of all comparative law, according to Zweigert and Kötz, is that of functionality. In law, the only things which are comparable are those which fulfil the same function.²⁷⁹ According to these comparatists, one can almost speak of a basic rule of comparative law, namely that the different legal systems give the same or very similar solutions to the same problems of life.²⁸⁰ The necessity of a functional approach in order to carry

²⁷¹ Zweigert and Kötz (1998), pp. 6, 43.

²⁷² Ibid at pp. 40-41.

²⁷³ David and Brierley (1985), p. 12.

²⁷⁴ Strömholm (1972), p. 462.

²⁷⁵ Reimann (2002), pp. 683-684.

²⁷⁶ Ibid at p. 700.

²⁷⁷ Gerber (1998), pp. 719, 737.

²⁷⁸ Bogdan (2004), p. 1238.

²⁷⁹ Zweigert and Kötz (1998), p. 34.

²⁸⁰ Ibid at p. 39.

out a serious comparison between systems of law has also been stressed by David.²⁸¹ As claimed by Samuel when analyzing Zweigert and Kötz, concepts and rules need to be contextualised within a range of factual situations so that their function can become evident.²⁸²

Gerber criticizes the traditional or functional approach for producing too little knowledge about the processes of legal systems, focusing instead on the “artifacts” they produce.²⁸³ An alternative according to Gerber is to use a system approach whose object is to capture and represent influences on decision-making. Four basic categories or sources can be identified; texts (legislation), institutions, decision-making communities (relations between actors) and patterns of thought (how people think and talk about law).²⁸⁴ Merryman negates rule comparison, claiming instead that one alternative is to compare the underlying reality of the legal system, the institutions, actors and processes, “the law machine”.²⁸⁵ Van Hoecke and Warrington stress that comparative research needs to be undertaken with three concepts of law in mind: “law as culture”, “law as rules” and “law as an integrative instrument”. The latter serves as a concept of law when comparing the legal systems of the European Union.²⁸⁶

When it comes to the evaluation or assessment of legal systems, it is important to consider that laws, like policies, are normative. As claimed by Otto and Cordes, they are neither good nor bad except from the perspective of their ability to achieve the aims of policy.²⁸⁷ According to Bogdan, a true comparative legal evaluation of the content of two rules presupposes not only that they deal with the same problem/situation but also that they have the same aims. It is, as Bogdan mentions, difficult to tell which of two laws is “better” if they have diametric aims. A “good” legal rule, according to Bogdan, is not an end in itself, but rather one of several instruments used in order to attain certain desirable effects in the society. Desirable effects are a political, rather than legal, question.²⁸⁸ In this context it is also important to stress, as Bogdan does, that foreign experiences may not be studied uncritically. Something that works excellently in one country may be ineffective or downright harmful in another.²⁸⁹ To simply copy foreign law (or good solutions) and create an international standard for every law relating to education, national parks, mining etc. might not, according to Seidman and Seidman, be effective. Law, as they claim, is about behaviour, and to influence behaviour, lawmakers need to understand why people behave as they do in the face of a rule of law.²⁹⁰

The basic materials for comparison in this study are the four country/state surveys in chapters four to seven. These descriptions, in addition to containing a

²⁸¹ David (1974), p. [2-8].

²⁸² Samuel (2004), p. 39.

²⁸³ Gerber (1998), p. 722.

²⁸⁴ *Ibid* at p. 730.

²⁸⁵ Legrand (1999), p. 25, interview with Merryman 1997.

²⁸⁶ Van Hoecke and Warrington (1998), pp. 535-536.

²⁸⁷ Otto and Cordes (2002), p. [1-4].

²⁸⁸ Bogdan (2004), p. 1240, Bogdan (1993), pp. 82-83.

²⁸⁹ Bogdan (1993), p. 31.

²⁹⁰ Seidman and Seidman (1999), pp. 258, 260.

general introduction and system overview, have been structured in chronological order following the development phases of a mine. This is natural given the structure of mining legislation dealing with rights in a sequential order. Having earlier conducted a comprehensive separate study about the evolution of mining legislation in Sweden, some knowledge about the present author's own system was already gathered when this study started, giving an initial reference frame of one legal system and also indicating certain problems linked to the legal aspects of mineral development. However, after this study of comparative law, this author has learned to some extent to "[n]ever approach a problem in the way in which you would approach it at home. You are likely to go astray".²⁹¹

²⁹¹ Bogdan 1993 p. 14 quoting the german-american professor in law Max Rheinstein.

4. Country Survey – Sweden

This chapter describes the Swedish legal system with respect to exploring and mining minerals. It is divided into three parts: Background, Prospecting and Exploration Activities, and Mine Development Activities.

4.1 Background

This background description concerns the Minerals Act, its administration and development. The relationship between the ownership of lands and of minerals is described here, as is the status of the landowner. Certain attention is given to mineral development and the situation of Native Peoples. Finally, land use and environmental legislation significant to mineral development is addressed. This section begins with a system overview.

4.1.1 System Overview and Characteristics

The right of disposal over “concession minerals” in Sweden is governed by the 1991 Minerals Act. The minerals referred to in this Act, about 69 in number, are those usable industrially and of economic importance, as well as requiring extensive, systematic and often scientifically based prospecting methods. Those minerals not governed by the Minerals Act, such as quartz, olivine and limestone, are the property of the landowner. The purpose of the Minerals Act is to define the preconditions for the exploration and extraction of concession minerals, regardless of land ownership. The Minerals Act is based on the concession system, but also incorporates significant elements of the claim systems.

Exploration is subject to the grant of an exploration permit (*undersökningstillstånd*), and the extraction/exploitation of concession minerals is subject to the grant of an exploitation concession (*bearbetningskoncession*). As regards any area of land above ground needed for a mine, whether open-cast or for underground extraction, that land needs to be designated for such a purpose in a special land designation proceeding (*markänvisning*). The grant of permits under the Minerals Act is best described as an administrative process in which the Mining Inspectorate is the official body granting permits. The initiative in the permit granting process lies wholly with the applicant under the application procedure. If more than one party has applied for an exploration permit in the same area, the party applying first has precedence on the principle of first-come, first-served as found in the claim system.

All land, regardless of type of ownership, in principle is open for exploration permit applications. Prospecting or exploration may not, however, be conducted in national parks. A number of “impediment provisions” requiring special exemptions (dispensations) also apply in a number of areas specifically protected under the

Environmental Code, such as virgin mountain areas and Natura 2000 areas. In practice, this rules out prospecting and mining operations unless permits are granted.

An exploration permit confers the sole right of exploring a defined geographical area and is valid for three years, with certain possibilities for renewal. The area may not be so large that suitable exploration is not feasible. An exploration permit holder acquires priority over others for an exploitation concession when certain basic requirements under both the Minerals Act and environmental legislation are satisfied. A party proposing, by authority of an exploration permit, to commence exploration, must draw up a plan of operations, which is to be given to the landowners concerned. An exploitation concession entitles the holder to extract and appropriate concession minerals for 25 years. In order for a processing permit to be granted, a deposit must have been found that is likely to be economically viable. In a land designation proceeding where the landowner and mining company have not entered into an agreement, the Mine Inspector decides the ground that may be used for the mining operations.

In order for a mining project to be approved, permission is also necessary for any environmentally hazardous activity as defined under the Environmental Code. The Environmental Code is a codification of central environmental legislation. The Minerals Act and the Environmental Code apply simultaneously.

4.1.2 The Minerals Act and its Application

The principal rules governing the exploration and exploitation of minerals in Sweden are contained in the Minerals Act (1991:451) and the Minerals Ordinance (1992:285).²⁹² The Minerals Act applies solely to that termed “concession minerals”, i.e. those minerals that, according to the *travaux préparatoires* of the Act, occur on such a scale and in such a way that their extraction is viable and requires extensive, systematic and often scientifically based prospecting methods.²⁹³ The regulations in the Minerals Act make no distinction between minerals occurring on the surface or deep down. Gold, silver, iron, copper, nickel, alum shale, fluorspar and diamonds, for example, are all concession minerals. The range of statutorily regulated minerals has varied from time to time, due both to the progress of technology and the discovery of new substances, but also due to the impact of different economic schools of thought.²⁹⁴

A party wishing to explore and process minerals may be an amateur or professional, but an exploration permit may not be granted to a party who has

²⁹² The Minerals Act superseded the 1974 Mining Act and the 1974 Minerals Act. To a great extent, provisions of these earlier acts were simply transferred to the Minerals Act, Legislative Bill 1988/89:92, p. 48. The foremost purpose of the new Minerals Act is to establish uniformity in the legislation, broaden the range of minerals subject to statutory controls and achieve co-ordination with urban planning legislation, especially the Natural Resources Act, which now forms part of the Environmental Code.

²⁹³ Legislative Bill 1988/89:92, p. 50.

²⁹⁴ See Liedholm Johnson (2000).

previously been found to be unsuitable for pursuing exploration work.²⁹⁵ Given the hazards involved in exploring certain types of deposits, such as diamonds, oil and gas, certain competency requirements can exist.²⁹⁶ Special legislation applies concurrently with the Minerals Act to radio-active substances – uranium and thorium, for example – intended for use in nuclear energy.²⁹⁷ Uranium and thorium are both concession minerals and as such come under the rules of the Minerals Act.

The Minerals Act applies to areas including lakes and watercourses as well as dry land, but not to the sea: there the Continental Shelf Act (1966:314) is applicable. The right of exploring the Continental Shelf and its natural assets belongs to the state. The government can give permission to a party other than the state to explore and extract natural assets on the seabed. A permit of this kind has to be combined with any conditions as needed for the protection of public interests and individual rights. Human health, the environment and security issues are all considered here. Permits can also be made conditional on state participation in the operation or on payment of a charge to the state.

The overriding aim of Swedish mineral policy is to facilitate a viable mineral industry including both Swedish and foreign actors.²⁹⁸ The Minerals Act is primarily an instrument of industrial policy, designed to promote the extraction of minerals regarded by the government and parliament as industrially usable and economically important, where prospecting and extraction are complicated and resource intensive.²⁹⁹ The Minerals Act is usually described as based on the concessions system while incorporating strong elements of the claims system. One of the main purposes of the Minerals Act is to regulate the relation between prospectors and mine owners on the one hand, and landowners and right holders in the land, on the other. Only a small number of provisions have a different purpose.³⁰⁰

A basic principle of the Minerals Act is that the right of prospecting and extracting concession minerals can be granted to a person other than the landowner by resolution of a national authority.³⁰¹ In the same vein, a landowner can be compelled against his wishes to surrender land for the extraction of minerals. The Minerals Act also includes certain provisions mandating consideration for the natural and human environments, as well as to the objective of mineral assets being put to appropriate use.³⁰² The environmental interest, however, is mainly provided for in legislation other than the Minerals Act, namely the Environmental Code (1998:808), which applies concurrently.

Minerals not enumerated in the Minerals Act, e.g. feldspar, mica, limestone, sand and gravel, comprise “landowner minerals” and are termed the landowner’s property. Much of Sweden’s bedrock comprises landowner minerals. A landowner can thus normally prevent other parties from exploiting such deposits. There are,

²⁹⁵ Legislative Bill 2004/05:40, p. 37.

²⁹⁶ Legislative Bill 1988/89:92, p. 53.

²⁹⁷ The Nuclear Operations Act (1984:3).

²⁹⁸ Legislative Bill 1992/93:238, p. 5.

²⁹⁹ Legislative Bill 2004/05:40, p. 30.

³⁰⁰ Legislative Bill 1988/89:92, p. 75.

³⁰¹ Ibid at p. 45.

³⁰² Minerals Act Chap. 3, s. 3 and Chap. 4, s. 5.

however, certain, albeit limited, possibilities for a party conducting a business enterprise – a granite quarry, for example – to also exploit these deposits, provided that the exploitation benefits the locality concerned. If this is the case, it can take place under the authority of the Expropriation Act (1972:719), which sets out mandatory regulations for expropriations by the state or individuals. The most common way of gaining access to landowner minerals is by purchasing the land concerned, or signing an agreement with the landowner, i.e. without state intervention.

Commercial exploitation of landowner minerals requires an environmental permit. Notable is that the extraction of peat for energy purposes is also the subject of specific legislation, namely the provisions of the Certain Deposits Act (1985:620). This Act builds on the concessions system, which means that the landowner's rights can be circumscribed if the question of exploration and processing arises. Here again, the economic viability of any deposit is a material consideration.

4.1.3 Ownership of Lands and Minerals

All land and water areas in Sweden are basically divided into property units with unique designations and specific owners. The larger areas of water comprised by the sea and the larger lakes (four in number) are an exception. Property owners may be natural or legal persons, the state or a municipality. Large areas of Sweden are owned by private persons, covering in total about 43% of the country.

State land holdings are largest in the north of Sweden. Large parts of the state-owned land consist of non-productive land in the form of mountain and wetland areas. However, large areas of productive forest are owned by state forestry companies. The municipalities, 290 in number, own roughly 2% of Sweden's land area.³⁰³ The state and municipalities as landowners, are treated mostly the same as private individuals. On the other hand, their responsibility for public services gives them a special position when it comes to influencing land use.³⁰⁴ The Minerals Act does not include any special provisions on the exploration and processing of minerals according to different kinds of ownership. Different kinds of land use, on the other hand, can make possible, prevent or limit activities under the Minerals Act.

Despite the fact that ownership of land is directly geared to its division into property units, Swedish law does not have an explicit definition of a property unit (*fastighet*). The most common form of property unit consists of a delimited area on the ground together with its appurtenant buildings and other structures. There are no statutory provisions indicating how far such a property unit extends upwards and downwards on a vertical axis. One commonly accepted view, however, is that the extent of the property is such that no one but the owner is entitled to exploit the area above or below ground. Since 2004, a new type of property unit, known as a three-dimensional property unit, is now possible under the Swedish legal system. This

³⁰³ SCB (2004).

³⁰⁴ Julstad (2005), p. 16.

property unit can be delimited both horizontally and vertically, and in this way, constitute a volume, e.g. a certain storey of a building or a tunnel.³⁰⁵

Information about property units, approximately 3.4 million in number, is contained in the national Real Property Register (*fastighetsregistret*), which also includes a digital cadastral index map. The Swedish system of property ownership registration is very similar to a title or Torrens system. The property register contains particulars both of the properties themselves and of ownership. The National Land Survey is responsible for the operation and administration of the register. Information about exploitation concessions also has to be entered in this register, but the prime source for these particulars is the Mineral Rights Register (*mineralrättsregistret*), which is managed by the Mining Inspectorate.

Ownership of real property in Sweden is indivisible, rendering it impossible for one person to own, for example, property fixtures, and another person to own the land.³⁰⁶ The powers vested in the owner of a property, the landowner, are not directly stated in the Swedish legislation. Putting it simply, ownership carries with it all the powers over the property that are not limited by legislation, e.g. by provisions of the Minerals Act. The property owner basically owns all natural resources within the property, such as growing crops, timber and landowner minerals, like gravel and granite. Permission may be needed, however, under other legislation to exploit the resources. Land ownership can also be described as the owner being entitled to an ongoing land use, e.g. agriculture.

The protections afforded with respect to expropriation under Swedish constitutional law also have a bearing on land ownership.³⁰⁷ One such protection is that ownership can only be limited for essential public interests and that the owner must be indemnified for any losses caused by surrendering the land or suffering restrictions on the right of land use. However, a landowner is not always guaranteed compensation and may sometimes have to tolerate a certain encroachment on the right of ownership without being compensated for it.

Mineral assets governed by the Minerals Act occupy a special position in this system. The *travaux préparatoires* of the most recent amendments to the Minerals Act prescribe that mineral extraction is such a strong public interest that the constitutional prerequisites of interference with the rights of landowners must be deemed satisfied.³⁰⁸ The Minerals Act does not, however, define “public interest” as such. The state has not actually laid claim to any minerals in modern times.

In addition, the Minerals Act does not provide any indication of the ownership of concession minerals. It rather merely indicates who, under certain circumstances, has the right of dispose over them. Neither does the constitution say anything about whether the mineral deposits concerned belong to the nation or the people. The question of the ownership of the nation’s mineral resources has been addressed by a

³⁰⁵ Legislative Bill 2002/03:116.

³⁰⁶ Julstad (2003), p. 83.

³⁰⁷ The Instrument of Government Chap. 2, Art. 18.

³⁰⁸ Legislative Bill 2004/05:40, p. 31.

host of legal scholars, not least in the early years of the 20th century, and has been a subject of divided opinions, with various theories being propounded.³⁰⁹

Questions of ownership rights were never raised in the *travaux préparatoires* of the Minerals Act as originally worded. In connection with legislative work in the 1970s, it was stated that the issue of whether the country's mineral assets should belong to the state or the landowner nowadays was only of theoretical interest, and that the question had not really been settled in earlier legislation.³¹⁰ In the absence of case law under the Minerals Act concerning who has the right of disposal over concession minerals, there is no particular restriction on a landowner's ability to exploit those minerals in the same way as other minerals on his property. The landowner can also undertake exploration on his own land without a permit being necessary, to an extent commensurate with his powers as landowner. However, he may not encroach on another party's land, e.g. by using or building a road.³¹¹ The landowner may also extract concession minerals for domestic needs without a permit being needed under the Minerals Act, and this applies to some extent also after a permit has been granted to another party.³¹²

As of 2005, the landowner receives a certain amount of "mineral compensation" for minerals extracted on his property; this is a partial reversion to what applied previously. The state also receives a share of mineral compensation. This compensation, according to the law-maker, is to be regarded as consideration for permitting the exploitation of the natural resources. Such compensation to the state is also natural viewed from a historical perspective. The portion of mineral compensation paid to the state is to finance research for the sustainable development of mineral resources.³¹³ In summary, even if the state is not regarded as the true owner of minerals falling within the Minerals Act, it does have a decisive influence on the exploration and extraction of mineral assets.

In the award of permits under the Minerals Act, holders of certain user rights in the property must also be taken into consideration, in addition to the landowner or property owner. These rights include user rights, easements and reindeer husbandry rights. A user right can be described as a person's right to use land or buildings on a property belonging to someone else, e.g. by leasehold. Quite a large proportion of Sweden's farmland is leased, i.e. not farmed by the owner. The lessee can be said to enter into the landowner's stead for the duration of the leasehold agreement. A user right is of a limited duration, with a maximum period of generally between 25-50 years. An easement entitles a property to use another property in a certain specified way, to make provision for various ancillary needs. Easements in Sweden can only be granted in favour of a particular property. A right of way and the right to fetch water from a well are common easements. Reindeer husbandry rights are a special user right that the Sami, though their connection with Sami villages, enjoy in

³⁰⁹ Liedholm Johnson (2000).

³¹⁰ Government Inquiry 1969:10, p. 137. Digman (1953), p. 37.

³¹¹ Legislative Bill 1988/89:92, pp. 94-95. Minerals Act Chap. 3, s. 2.

³¹² Minerals Act Chap. 5, s. 2.

³¹³ Legislative Bill 2004/05:40, pp. 60-64.

mountain areas and also in large forest areas of northern Sweden as further discussed in the next section.

4.1.4 Native or Indigenous Peoples

The Sami rank as Sweden's only indigenous population. An indigenous population is defined as a people descended from ethnic groups living in the country when the present national boundaries were defined, and also retaining their social and cultural institutions.³¹⁴ The Sami are one of Sweden's national minorities and as such enjoy constitutional protection as an ethnic minority.³¹⁵ The Sami have long been living in northern Scandinavia and the Kola Peninsula. In earlier times, they lived by hunting and fishing, with reindeer as an important quarry. With the passing of time, their traditional activities changed to working with and accompanying reindeer flocks between different pastures. The Sami people's historical use of the land has given rise to a special user right, reindeer husbandry rights.³¹⁶ The right of reindeer husbandry enables a Sami to use land and water for reindeer grazing, hunting and fishing, but this right can only be exercised by a Sami who is a member of a Sami village. The right is in perpetuity and is based on custom immemorial.

The right of reindeer husbandry is of importance for land use in Sweden, as it affects roughly one-third of Sweden's land area, known as the Reindeer Husbandry Region. The Sami are estimated at approximately 17,000 persons. Fewer than 2,500 are reindeer-herding Sami and members of a Sami village. There are about 50 Sami villages altogether.³¹⁷ The Sami villages have an important function for reindeer husbandry. In principle, all the land on which reindeer husbandry is permitted is divided between them.

The right of reindeer husbandry is governed by special legislation and is also constitutionally safeguarded.³¹⁸ The Reindeer Husbandry Region comprises year-round lands and winter pastures. Migration paths that have long been in use are followed with the migration or transfer of reindeer between different pastures. The right of reindeer husbandry is exercised at the same time as the landowner uses the land, e.g. for forestry. The outer geographical boundaries of the Reindeer Husbandry Region have long been unclear, which has been a cause of difficulty to the reindeer herders, farmers, landowners and the state alike. This uncertainty has also given rise to a number of lawsuits. The issue has been looked into by a government boundary commission.³¹⁹ Due partly to the vagueness of the rules concerning the land rights of the Sami, Sweden has not acceded to ILO Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries. Local knowledge as possessed by the Sami people has been of great historical importance for ore prospecting in northern Sweden, resulting in major discoveries of copper, iron ore, lead and silver deposits.

³¹⁴ Government Inquiry 1999:25, p. 47.

³¹⁵ The Instrument of Government Chap. 1, Art. 2.

³¹⁶ Government Inquiry 2001:101, p. 11.

³¹⁷ Government Inquiry 1999:25, p. 53.

³¹⁸ Government Inquiry 1999:25, p. 88. The Instrument of Government Chap. 2, Art. 20.

³¹⁹ Government Inquiry 2006:14.

The right of reindeer husbandry must be taken into consideration in the award of permits under the Minerals Act. A Sami village is a claimholder in all matters concerning land use within the village boundaries. Exploration may not commence before a plan of operation has been communicated to proprietors of any reindeer herding right, which means that the Sami village concerned can study the plan and present any objections it may have. Before an exploitation concession can be granted, the proprietor of the reindeer herding right must be given the opportunity to express their opinion. An exploitation concession can be made subject to conditions necessary for protecting the right of reindeer husbandry.³²⁰ Compensation is to be paid if damage or encroachment results from the exploration or from land being taken into use for extraction. Compensation, for example, can be with respect to a reduced grazing acreage resulting in higher grazing intensity in other areas and for movements of the reindeer flock past the area designated for mining.

Its protected status as a national interest under the Environmental Code is also of consequence for reindeer husbandry. Areas of land and water that are of importance for reindeer husbandry and that constitute a national interest must be protected from measures that can palpably impede the conduct of reindeer husbandry.³²¹ Migration paths, calving lands and certain areas with particularly good grazing conditions are areas within the Reindeer Husbandry Area that can constitute national interests. Protection of certain areas where reindeer husbandry is practised has been prompted by the land claims of reindeer husbandry often having had to defer to other important land use interests such as mining and hydropower development. A heightened protection against exploitation applies to virgin mountain areas comprising unspoiled nature without roads in parts of the Swedish mountain region. These areas are reserved in practice for reindeer husbandry and outdoor recreation.³²² It should be mentioned in this connection, however, that mineral deposits can also constitute national interests under the Environmental Code.³²³

4.1.5 The Development of Mining Legislation

Rights in mineral deposits have long been subject to legislation in Sweden. That seen as the first general mineral legislation was enacted during the 15th century.³²⁴ That act was structured to support and regulate the extraction of the first metals mined in Sweden, namely iron and copper. Legal provisions and market needs have changed continuously since then, with varying degrees of balance between the interests of the state, landowner interests and the rights of parties prospecting for and extracting mineral assets.³²⁵

³²⁰ Minerals Act Chap. 4, s. 5.

³²¹ The Environmental Code Chap. 3, s. 5.

³²² Legislative Bill 1985/86:3, p. 57. Government Inquiry 2001:101, p. 283.

³²³ The Environmental Code Chap. 3, s. 7.

³²⁴ Almquist (1930), p. 11. Digman (1953), p. 14.

³²⁵ See Liedholm Johnson (2000) and (2001).

One important premise of mining legislation, still valid today, is that mineral prospecting is regarded as beneficial to the community. Accordingly, minerals legislation since the 15th century has been influenced by an endeavour to stimulate native extraction of various minerals. Another significant premise here has been that the utilisation of the country's mineral deposits is best promoted through the likelihood of economic gain to the party discovering a deposit, e.g. through that party also being entitled to exploit the deposit.

The development of a claims system in Sweden was completed by the 18th century, when practically all known metals and minerals became the objects of a claims procedure. The 19th century witnessed the passing of the 1855 and 1884 Mining Statutes, both based on the claim system, as was the subsequent 1938 Mining Act. Swedish law came under the influence of mid-19th century German mining legislation.³²⁶ A host of the terms and concepts as found in earlier Swedish mining legislation are directly borrowed from Germany. Under the 1884 Mining Statute, claims could be staked, for example, for the metals of gold, silver, platinum, lead, copper and iron; this marked a reduction compared to earlier practice. Under the 1855 and 1884 Mining Statutes, the landowner was entitled to a one-half share, together with the claimant, in the mining operation and the profit accruing from it.

The 1938 Mining Act deprived the landowner of his "landowner portion" and substituted a Crown portion, whereby the Crown or state became entitled to the one-half share previously accruing to the landowner in a mining enterprise. This was partly prompted by the need for public influence on the mining industry and the possibility of enforcing the extraction of minerals. Instead of landowner portion, the landowner received a landowner charge (*jordägaravgäld*) equalling 1% of the value of the claimable minerals extracted from the property. This charge was abolished by the 1974 Mining Act, which was also based on the claim system.³²⁷

Historically speaking, certain mineral deposits – coal, salt, alum shale and uranium, for instance – have also been regulated by the concession system. The 1884 Coal Act made coal, which until then had been claimable, concessionary. The main purpose of this Act was to balance the rival land use interests of the coal industry and landowners. If more than one party applied for a concession in the same area, the state decided between them. The party discovering the deposit was entitled to reasonable compensation, the amount of which was to be set in the concession awarded to another party. All concessionary minerals were made subject to the Minerals Act in 1974.

The present Minerals Act came into force in 1992, superseding the Mining Act and the Minerals (Certain Deposits) Act passed in 1974. The Minerals Act entailed the abolition of certain statutory restrictions imposing special permit requirements on foreign companies and persons.

The Minerals Act was amended already in 1993 with a view to improving general conditions for prospecting and mining operations in Sweden. The Crown

³²⁶ Government Inquiry 1969:10, p. 187.

³²⁷ Legislative Bill 2004/05:40, pp. 63-64. Legislative Bill 1992/93:238, pp. 10-11. The government's view was that there was no reason for a property owner to be entitled to substantial payment from a mine owner without having to do anything for it.

portion held by the state in mines was abolished, as it was found to place the Swedish mining industry at a competitive disadvantage and to stand in the way of foreign investments. Direct prospecting activity by the state was discontinued at roughly the same time. The validity of exploitation concessions was extended from ten to twenty-five years, ten years being considered too short a time to afford a prospector adequate guarantees of being allowed to exploit a deposit. The suitability prerequisite for exploitation concessions was abolished, except with respect to oil and gas.

The Minerals Act was amended again in 1998, with the aim of further improving the conditions for prospecting. The extension of exploration permits was increased from a maximum of ten years to fifteen. The Minerals Act was once more amended in 2005, but this time with the aim of redressing the balance between the landowner's interests and those of the mining industry. The growth of interest in mineral prospecting during the 20th century had led to prospecting in more densely populated areas, eliciting protests from landowning quarters. The public interest in having a Minerals Act was also called into question by certain players. In short, the existing minerals legislation had come to be seen as unfair and anachronistic. The official inquiry then mounted was primarily concerned with improving the position of the landowner.

Under the changes adopted, exploration permits were made subject to the drafting of a plan of operation for the activities intended. Prospecting near housing developments was limited and more closely regulated. An earlier rule, whereby land could be built on purely under the authority of an exploration permit, was abolished. In connection with mining operations, special mineral compensation was introduced for the landowner concerned and the state. The compensation equalled 2/1000 of the estimated value of the quantity of mineral extracted and removed during the year within the area for which the exploitation concession had been granted. The reintroduction of a special landowner's right of compensation for minerals extracted was motivated in the *travaux préparatoires* to the Minerals Act partly by the need for wider acceptance of certain properties being utilised for mining operations, and also as a means of improving conditions for mining operations in Sweden.³²⁸

4.1.6 Administration of the Minerals Act

The Swedish system of government is fairly decentralised in comparison to other European countries. The ministries (government departments) are relatively small and much of the operational work of government devolves on various national authorities at the sectoral level. The Geological Survey of Sweden (*Sveriges geologiska undersökning, SGU*), including the Mining Inspectorate (*Bergsstaten*), is the main authority responsible for mineral management in Sweden. There are several other authorities tangentially operative in the mining industry, particularly in the environmental context.

³²⁸ Legislative Bill 2004/05:40, p. 62.

Geological Survey is the central administrative authority in charge of issues concerning the geological characteristics of Sweden and the management of its minerals. As such, it has the task of providing and marketing geological information. The Mining Inspectorate is a special decision authority within Geological Survey as of January 2009. Geological Survey is accountable to the Ministry of Enterprise, Energy and Communications (*Näringsdepartementet*).

The Mining Inspectorate is responsible for matters coming under the Minerals Act, with its history as a national authority dating back to 1637. It is headed by the Chief Mining Inspector, a government appointee. Its task, pursuant to the Minerals Act, is to examine permit applications for the exploration and processing of mineral deposits and to monitor compliance with the Act. The Inspectorate has been commissioned by the government to facilitate exploration and extraction of mineral substances coming under the Minerals Act by means of an efficient permit procedure, in addition to supervisory and informational activities.³²⁹

The Mining Inspectorate is a small official body with few employees. Central decisions in connection with the award of permits under the Minerals Act are made by the Chief Mining Inspector (*bergmästaren*). The Chief Mining Inspector can also refer exploitation concession issues for primary assessment to the government, e.g. in the event of particularly large or controversial mining projects.³³⁰ The Chief Mining Inspector is also charged with the settlement of conflicts and disputes between landowners and mining companies. The various decisions taken by the Inspectorate under the Minerals Act can be appealed to either a land court or an administrative court. Compensation decisions are appealed to a land court, while other legal issues are appealed to an administrative court. Appeals against decisions in matters of suitability are made through an administrative procedure. For matters of this kind the government is the supreme instance.

The Mining Inspectorate keeps a special Mineral Rights Register (*mineralrättsregistret*, MRR) that can be accessed through its website. This register contains information concerning the various permits granted under the Minerals Act, for example, exploration permits, exploitation concessions and land designations. There is also a digital map linked to the register. The registration of mining rights does not have any intrinsic legal effects.³³¹

4.1.7 Land Use and Environmental Legislation Significant to Mineral Development

The Minerals Act is enforced parallel to other legislation. Certain of the principal land-use and environmental legislation affecting mining projects are briefly set forth below. The Minerals Act has been partly co-ordinated with that legislation.³³²

³²⁹ Bergsstaten, *Årsrapport 08*.

³³⁰ Delin (1996), p. 152.

³³¹ Hedström (e-mail 30 May 2006).

³³² Minerals Act Chap. 1, s. 7. The manner in which co-ordination was to be achieved between the Minerals Act and urban planning legislation was a pivotal issue in the drafting of the Minerals Act, Legislative Bill 1988/89:92, p. 61. Delin (1996), pp. 38-39.

- The Environmental Code (1998:808)
- The Planning and Building Act (1987:10)
- The Heritage Conservation Act (1988:950)

The Environmental Code (*Miljöbalken*) entered into force in 1999, superseding 16 laws in the environmental sector and thus constituting the main environmental legislation in Sweden. Some fifty government regulations are linked to it. Structurally the Code is quite unique by international standards.³³³ Sweden's EU membership necessitated harmonisation with developments in international environmental law – the Rio Declaration and Agenda 21, for instance – and this was duly provided for in the legislative process.

The advent of the Environmental Code had the effect of placing more stringent requirements on the party engaging in environmentally hazardous activities and of tightening up the procedure generating environmental impact assessments. The enactment of the Environmental Code also underscored the importance of work for the preservation and protection of biodiversity, including safeguarding habitat protection areas. This is clear from the preamble, which states that ... valuable natural and cultural environments are protected and preserved.” Environmental considerations are thus of the utmost importance in connection with the planning of land and water areas.

The Environmental Code's General Rules of Consideration are to be invoked with any action seen to be having an environmental affect.³³⁴

Persons who pursue an activity or take a measure, or intend to do so, shall implement protective measures, comply with restrictions and take any other precautions that are necessary in order to prevent, hinder or combat damage or detriment to human health or the environment as a result of the activity or measure. For the same reason, the best available technology shall be used in connection with commercial activities.

A party carrying on an activity causing harm to the environment is responsible for after-treatment. A party engaging in prospecting or mineral extraction has the duty to observe the General Rules of Consideration, their central stipulations and principles, and also be able to demonstrate compliance.³³⁵

The Environmental Code contains special provisions on the management of land and water areas.³³⁶ These provisions are designed to promote a reasonable use of natural resources in both the long and short-term from a comprehensive societal perspective. Accommodation of both preservation interests and exploitation

³³³ Michanek and Zetterberg (2004), p. 22.

³³⁴ Environmental Code Chap. 2.

³³⁵ Legislative Bill 1997/98:90, p. 216.

³³⁶ Environmental Code Chap. 3 and Chap. 4.

opportunities is to be made possible.³³⁷ Large virgin areas of land and water, ecologically sensitive areas, and agriculture and forestry of national importance are always to be protected to the maximum extent possible. The same applies to areas of importance, e.g., for reindeer husbandry, natural beauty, cultural interest, outdoor recreation, valuable substances they contain or for purposes of national defence. These areas can also constitute national interests, in which case they must always be protected.

When an area is of national interest for several incompatible purposes, priority must be given to the purpose best conducive to long-term management of the land, except where defence interests of outstanding importance are involved. Various national sectoral authorities are required to furnish particulars of areas judged to be of national interest. Geological Survey, for example, is responsible for the assessment of national interests in areas containing valuable substances such as minerals.³³⁸ In addition, the Environmental Code specifies certain geographical areas that come under direct protection and are regarded as national interests for purposes of tourism and outdoor recreation. These areas are designated along the coasts, rivers and in certain mountain regions. The area protection described above, national interests included, is safeguarded insofar as palpable damage can be prevented.³³⁹ Measures, e.g. mineral extraction, which palpably harm a national interest are an absolute impediment to mining operations, unless the deposit in itself also constitutes a major national interest. In summary, the management provisions can be seen as a planning instrument preceding decisions on changed land use.³⁴⁰

Parts of the Environmental Code also contain specific provisions aimed at preserving and caring for land and water areas of outstanding value. These areas include national parks, nature reserves, culture reserves, natural monuments, biotope protection areas, wildlife and plant sanctuaries.³⁴¹ There are 29 state-owned national parks including a recently created maritime area. These have the greatest protection. The purpose of nature reserves is to preserve biodiversity, to care for preserves containing valuable natural environments, and to provide necessary areas for outdoor recreation. A culture reserve is designed to preserve the historical dimension of the landscape, e.g. historic agrarian landscapes. Natural monuments are unusual natural objects, most often botanical monuments. Biotope protection areas protect the habitats of endangered animal and plant species. Wildlife and plant sanctuaries afford special protection for an animal or plant species in a particular area.

Several of these areas also form a part of the Natura 2000 network. Natura 2000 is a network of special preservation areas created in all countries of the European

³³⁷ Rubenson (2002), p. 39. The management provisions can be found in the Natural Resources Act, enacted in 1987. The act was prompted by the harrowing conflicts in the 1960s concerning land use in hitherto unspoiled coastal and mountain areas etc., in connection with developments such as nuclear power plants and the construction of airports.

³³⁸ The number of national interests for valuable substances are 130, (April 2009), *Bergverksstatistik 2008*.

³³⁹ Michanek and Zetterberg (2004), pp. 151, 153.

³⁴⁰ Rubenson (2002), p. 39.

³⁴¹ The area protection provisions in Chap. 7 of the Environmental Code originated with the Nature Conservation Act, effective from 1965.

Union. It comprises areas designated by individual Member States as Special Protection Areas (SPAs) under the EU Birds Directive or nominated as Sites of Community Importance (SCI) under the Directive on the Conservation of Habitats and Species. Preservation of biodiversity, i.e. of as much as possible of all species and their habitats, has become an important aim of nature conservation work in the past decade. In 2000, ten percent of Sweden's land area was protected in the form of national parks and other protected nature areas. A heavy augmentation of the land area of nature reserves is currently in progress. During 2000 alone, seventy new nature reserves were added. In addition, new Natura 2000 areas have been nominated over and above the 4,000 or so existing today.³⁴²

Environmentally hazardous activities, including mining, are subject to a permit procedure under the Environmental Code.³⁴³ The permit procedure for an environmentally hazardous activity is concerned with assessing its impact on the surroundings. The assessment normally results in the award of permit, defining conditions for emissions into soil, water and the atmosphere. The environmental quality standards issued by the government are of importance in this connection.³⁴⁴ Permits are also required for water operations, such as dam construction, filling and piling or the removal of harmful groundwater.³⁴⁵

The Environmental Code also contains provisions on environmental impact assessments (EIA). The purpose of an EIA is to furnish better guidance data for a decision or the award of a permit concerning environmental hazardous activity. The EIA must form part of the guidance data and facilitate a comprehensive assessment of the impact of a proposed activity on the environment, human health and management of natural resources. An EIA is to be appended to an environmental permit application, but the requirements it has to meet can vary depending on whether the environmental impact is significant.³⁴⁶ An EIA also has to be appended to an application for an exploitation concession under the Minerals Act.

In addition to the duty of after-treatment, the Environmental Code also includes detailed provisions concerning responsibility for the after-treatment of polluted areas. Regulations also exist concerning landfilling waste and furnishing a security.³⁴⁷ Certain specific regulations on liability at the expiry of an exploitation concession are also contained in the Minerals Act.

Permit procedures and supervision under the Environmental Code are administered by the government, county administrative boards, municipalities, central authorities and the environmental courts. The Environmental Code makes it the government's duty, as tribunal of first instance, to assess the permissibility, for example, of extractive facilities that can be used for the production of nuclear fuel,

³⁴² SBC (2004), p. 80. Government Inquiry 2006:39, p. 90.

³⁴³ Chap. 9 of the Environmental Code superseded the 1969 Environment Protection Act and various other legislation.

³⁴⁴ Chap. 5 of the Environmental Code.

³⁴⁵ Chap. 11 of the Environmental Code superseded parts of the Water Act.

³⁴⁶ Legislative Bill 2004/05:129, p. 53.

³⁴⁷ Chapters 10 and 15 of the Environmental Code. Directive 2006/21/EC of the European Parliament and the Council of 15 March 2006 on the management of waste from extractive industries also has a bearing on the extraction of minerals.

such as uranium.³⁴⁸ The twenty-one county administrative boards are the long arm of the state at the local level. Their duties include supervising the management of natural resources within the county, and acting as important intermediaries between the government and municipalities. The county administrative boards handle a variety of permit applications, and a special environmental panel assesses environmentally hazardous activities (“category B activities”). The county administrative boards also have a guiding role with regard to the focus and extent of EIAs. The municipalities can also make decisions concerning environmentally hazardous activities having only a minor degree of environmental impact. The Environmental Protection Agency and the National Chemicals Inspectorate are central authorities. Major activities of an environmentally hazardous nature – category A activities, which include mining – are assessed by the Environmental Court.

It should be noted that right holders other than those directly identified in the Minerals Act may also be entitled to appeal decisions by virtue of the co-ordination with other legislation, e.g. in the environmental assessment of proposed mining activities under the Environmental Code. The Code entitles environmental organisations of more than three years standing with 2,000 or more members to appeal judgments and decisions concerning permits. Persons not owning property within a mining area may also be entitled to appeal if their immediate surroundings are affected in certain ways.³⁴⁹ Sweden ratified the Århus Convention in 2005, entitling members of the general public to access environmental information, and to participation and access to justice in environmental proceedings.³⁵⁰ In this connection, the Minerals Act was amended in such a way that environmental organisations, as already mentioned, also became entitled to appeal exploitation concessions.

The Planning and Building Act (*Plan- och bygglagen*) contains regulations governing planning and building development. A basic principle in Swedish law is that land use is subject to public (national and local) control. Every one of Sweden’s 290 municipalities is required to have a municipal comprehensive plan (*översiktsplan*) outlining the intended use of land and water areas. The comprehensive plan must furnish guidance for future planning and the award of building permits, but it is not binding. It is to include an account of the measures to be taken in order to give effect to the regulations contained in the Environmental Code concerning national interests. The comprehensive plan thus has a very important bearing on the planning of mineral prospecting and mining projects, as it indicates the natural and man-made environments that are especially deserving of protection and where future mining operations consequently may be complicated.

A municipality can govern land use in its planning work with legally binding effect by adopting area regulations (*områdesbestämmelser*) and drawing up detailed development plans (*detaljplan*) regulating the positions of buildings and structures. Area regulations can be used in limited areas to reinforce the guidelines of the

³⁴⁸ Chap. 17 of the Environmental Code, “The Government’s consideration of permissibility”.

³⁴⁹ Rubenson (2002), pp. 126-127.

³⁵⁰ Legislative Bill 2004/05:65.

comprehensive plan or to protect areas adjudged to be national interests. Detailed development plans are mainly used for continuous building development. Exploration work under the Minerals Act may not take place in an area covered by a detailed development plan or area regulations without permission from the Chief Mining Inspector. Prospecting and mineral extraction normally only comes into question outside these areas, in places for which only a comprehensive plan exists. The erection of buildings in connection with mineral prospecting and mining is subject to building permits under the Planning and Building Act. The comprehensive plan can also furnish guidance for decisions of this kind.

The Planning and Building Act and the management provisions of the Environmental Code are important above all in connection with an exploitation concession, which involves striking a number of balances between the mineral interest and the purpose indicated by the general plan. One particular difficulty mentioned during the legislative process for co-ordinating mineral legislation with urban planning legislation was the fact that a mineral interest can be hard to assess before the nature and extent of any deposit are known. A mine cannot be localised at will: exploitation or non-exploitation of the deposit in a particular place are the sole options.³⁵¹

The Heritage Conservation Act (*Lagen om Kulturminnen mm.*) includes provisions on archaeological sites and cultural heritage buildings. Its purpose is to protect the cultural environment. A party planning or carrying out work is obliged under this Act to ensure that damage to the cultural environment is avoided or limited. There are two types of archaeological remains: ancient monuments and remains, and ancient finds. Ancient monuments and remains include burials, ship-settings, runestones and other objects of historical interest physically belonging together with the land. Cultural heritage buildings are buildings or structures designated as cultural heritage buildings by reason of the outstanding cultural and historical interest or value attached to them. The regulations governing archaeological sites set the parameters for the possibility of land areas being used for mining operations. Ancient monuments and remains are protected, together with an area surrounding them.³⁵² The protected area adjoining the ancient monument or remains must be as large as is necessary for the protection of the monument or remains and is termed an ancient remains area. An area of this kind usually has no boundaries, but these can be defined if necessary.

The protection of ancient monuments and remains is of a general nature. It is illegal to disturb, remove, excavate, cover over or by building development, planting or otherwise alter or damage permanent ancient monuments or remains without permission. This protection also encompasses archaeological remains having no visible indication above ground. Protection is furthermore extended to previously unknown remains discovered in the course of any work. Responsibility for ascertaining whether fixed archaeological remains may be affected by a proposed working enterprise devolves on the person carrying out the work. Particulars of

³⁵¹ Delin (1996), p. 48.

³⁵² Heritage Conservation Act Chap. 2, s. 2.

registered archaeological remains are contained in a special register, and certain remains are also entered in the Real Property Register.

The National Heritage Board is responsible for the supervision of heritage conservation in Sweden, while supervision at the county level is the responsibility of the county administrative boards. The county administrative board issues permission for the removal of ancient monuments and remains if they entail obstruction and inconvenience disproportionate to their value. Where development of a large area is planned, the county administrative board may order a special investigation to be carried out at the developer's expense.³⁵³ The permit requirements of the Heritage Conservation Act for interference with an ancient monument apply regardless of whether an exploration permit or exploitation concession has been granted under the Minerals Act.

4.2 Prospecting and Exploration Activities

A party wishing to prospect for concession minerals usually has to obtain an exploration permit (*undersökningstillstånd*) under the Minerals Act. Certain operations, such as block prospecting and measurement, can be undertaken within the authority of the public right of access (*allemansrätten*), as in practice presupposed by the regulations governing mineral extraction. The right of public access, which is constitutionally safeguarded, can be described as the right of every individual to gain access to land and water areas belonging to others to a certain extent and there gather mushrooms, berries and other certain natural products.³⁵⁴ The limits to this right of public access, however, are disputed. Some guidance can be found in the penal code, e.g. concerning criminal trespass and conversion. Existing roads and paths may as a rule be used, but no one may approach another person's dwelling house so near as to disturb the peace of the home. Thus public right of access requires the landowner to acquiesce in other persons making use of his property, albeit to a limited extent.³⁵⁵ No extensive real prospecting is possible only under the public right of access. It is worth mentioning in this connection that the Off-Road Vehicle Use Act (*Terrängkörningslagen* (1975:1313)) contains special rules prohibiting the driving of motor vehicles off-road. The Act forbids driving on bare ground for purposes other than those of agriculture and forestry.

Exploration under the Minerals Act entails activities to establish the existence of a deposit of a concession mineral and to ascertain its probable economic value and value generally, insofar as such work entails any encroachment on the rights of the owner of the land or another right holder.³⁵⁶ An exploration permit consequently is needed when prospecting entails encroachment on the landowner's property. With

³⁵³ Heritage Conservation Act Chap. 2, s. 11. Minerals Act Chap. 8, s. 1.

³⁵⁴ The Instrument of Government Chap. 2, Art. 18.

³⁵⁵ Bengtsson (1997), p. 186.

³⁵⁶ Minerals Act Chap. 1, s. 3.

certain exceptions, exploration may be conducted only by the holder of an exploration permit.³⁵⁷

4.2.1 Application for and Grant of an Exploration Permit

An exploration permit proceeding is initiated by a natural person/pro prospector of age and who is legally competent, or a legal person. A written application for an exploration permit is submitted to the Chief Mining Inspector (the Mining Inspectorate). There are no statutory restrictions with respect to foreigners.

The application is to include the name and address of the applicant, the areas and concession minerals referred to, the properties (landowners) affected and their addresses, the existence of land restrictions that may constitute impediments, particulars confirming finds of concession minerals, and the names proposed by the applicant for the exploration areas. The applicant must also furnish particulars of whether, and if so how, the activity planned impacts on public and private interests and, if so, how those interests are to be protected. In addition, the applicant is to submit a map, normally on a scale of at least 1:10,000, and, if the Chief Mining Inspector so requests, a plan showing the intended exploration procedure and an account of his possibilities of accomplishing the plan.³⁵⁸ The applicant must pay an application fee of SEK 500 per area of 2,000 hectares or part thereof and an advance on an annual exploration charge related to the area and the type of mineral.³⁵⁹

The Chief Mining Inspector can reject a defective application that cannot form the basis of an assessment. Before this can happen, the applicant is to be granted a certain period of time in which to remedy the deficiency by supplementing the application.³⁶⁰ If two or more parties have applied for exploration permits in the same area, the first party to apply has priority (the claim system). If the applications are received on the same day, the applicants will be equally entitled to the common area.³⁶¹

An exploration permit must refer to a particular area, not exceeding that which a permit holder can explore appropriately and otherwise suitably configured for the purpose.³⁶² No limitations of size are indicated, nor are there any limits as to the number of exploration permits that may be held.³⁶³ Normally the applicant is to be

³⁵⁷ Minerals Act Chap. 1, s. 4. A property owner may undertake exploration on his own property without a permit. A property owner may also allow another person to explore on his property as well.

³⁵⁸ Minerals Ordinance s. 1.

³⁵⁹ Minerals Ordinance ss. 2, 10-11. Minerals Act Chap. 14, s. 2.

³⁶⁰ Minerals Ordinance s. 4.

³⁶¹ Minerals Act Chap. 2, s. 3.

³⁶² Minerals Act Chap. 2, s. 1. In practice, the purpose requirement means the size of the area varying according to the concession minerals being prospected and also depending on who carries out the exploration (capacity and resources).

³⁶³ There was no examination of the applicant's possibilities of carrying out appropriate exploration as long as the area did not exceed about 100 hectares under the 1974 Mining Act, Delin (1996), p. 57. In practice, this size has served as a benchmark for the grant of exploration permits to private persons or amateur prospectors.

allotted the area requested, provided that the requirements of appropriate exploration can be met. An exploration permit is to be granted if there is reason to assume that exploration in the area can lead to a concession mineral find and the applicant has the possibility/intention to accomplish an appropriate exploration.³⁶⁴

An exploration permit may not be granted to a party who has previously shown himself unsuitable to carry out exploration. Situations in which permits can be refused can be, for example, when the applicant has previously shown a lack of consideration for the landowner's interests, or has conducted an exploration in a manner that has been harmful to the natural or cultural environment.³⁶⁵ Exploration of more hazardous substances such as oil, gas and diamonds may only be permitted where the party has shown himself to be suited to the task.

The Chief Mining Inspector may decide cases concerning the grant of exploration permits without any party but the applicant having been granted the opportunity to express his opinion.³⁶⁶ Thus the landowners affected have no legal right of expressing viewpoints before a decision is made. The county administrative board, however, must be given the opportunity of making a statement within a certain time. In addition, the Chief Mining Inspector must send notice of the application to the property owners and other right holders affected. Certain applications, e.g. those concerning diamonds, also have to be published, e.g. in a local newspaper. The municipality concerned is also entitled to submit a statement.³⁶⁷

When the Chief Mining Inspector has granted an exploration permit, the landowners and other claimholders affected must be served with, and acknowledge receipt of, a copy of the decision by the Chief Mining Inspector. The decision also has to be published in the official journal *Post- och Inrikes Tidningar* and in a local newspaper. The county administrative boards and municipalities concerned are also to be furnished with copies of the decision.

The applicant is entitled to appeal an adverse decision. A landowner affected is also entitled to appeal the grant of an exploration permit, as are other right holders, such as lessees or holders of reindeer herding rights. Appeals are to be lodged with a county administrative court.

An exploration permit gives the grantee an exclusive right of exploration and access for the land within the permit area. An exploration permit may not be granted for the same minerals within an area where another party already holds a permit for prospecting or exploiting the deposits concerned. In special cases, however, another party may be granted an exploration permit for other minerals within the same area. A case of this kind may exist if each of the minerals can be extracted independently and without any detriment to the rights of the original permit holder.³⁶⁸ In other

³⁶⁴ Minerals Act Chap. 2, s. 2. The regulations in the Minerals Act are not intended to prevent amateur prospecting. For this reason no detailed examination of suitability is prescribed.

³⁶⁵ Legislative Bill 2004/05:40, p. 80.

³⁶⁶ Minerals Act Chap. 8, s. 1.

³⁶⁷ Minerals Ordinance s. 3.

³⁶⁸ Minerals Act Chap. 2, s. 4. Delin (1996), p. 64.

words, work undertaken by authority of a right created first may not be obstructed or delayed by work under a right created subsequently.

An exploration permit is valid for three years from the decision date. Its validity can then be extended to a maximum of 15 years. The first renewal is for a total of up to three years, if appropriate exploration has been carried out within the area or if the permit holder gives acceptable reasons for no exploration having taken place and, moreover, establishes the likelihood of the area being explored within the time to which the application refers. Thereafter renewal is possible for a total of up to four years, given special reasons, and then by a further total of up to five years, given exceptional reasons. Exceptional reasons can be substantial work having been done within the area and further explorations being likely to lead to the grant of an exploitation concession. Exploration permit renewals entail increased charges for exploration.³⁶⁹

The Minerals Act contains provisions on waiting times whereby, in areas where another party has had a permit for prospecting or extracting minerals, new exploration permits may not be granted for at least one year following the expiry of those permits. The ban on the immediate grant of a new exploration permit is intended to prevent circumvention of the Chief Mining Inspector's assessment as to any renewal of a permit's validity.³⁷⁰ The Chief Mining Inspector, however, is empowered to grant exemptions from these provisions if there are special reasons for doing so.³⁷¹

An exploration permit may not normally be granted for land within a protected zone surrounding an area included in an exploitation concession. The protected zone must extend 1,000 metres from the boundary of the area covered by the concession.³⁷² The protected zone may be reduced if special reasons apply. The provisions concerning a protected zone are mainly intended for the protection of working mines from speculative prospecting directly adjacent to the operating point.³⁷³ The protected zone provisions cease to apply, however, if mining operations have not commenced within three years of an exploitation concession being granted, which puts pressure on the concession holder to commence operations.

The Chief Mining Inspector must include conditions for the protection of public interests or private rights in the exploration permits if necessary.³⁷⁴ The conditions may concern the manner in which activities are to be conducted, mainly with reference to the environment.³⁷⁵ Information or reminders concerning specific provisions of the Minerals Act and other legislation can also be included in the decision, for the purpose of drawing the applicant's attention to them. One obligatory

³⁶⁹ Minerals Act Chap. 2, ss. 5-7. Minerals Ordinance ss. 10a-c.

³⁷⁰ Legislative Bill 1997/98:47, p. 23. Minerals Act Chap. 2, s. 9.

³⁷¹ "Special reasons" can mean the applicant being specially suitable and skilled for carrying out an appropriate exploration. Suitability and competence are thus ascribed greater importance than with a system where the first claimant takes precedence, Legislative Bill 2004/05:40, pp. 38-39.

³⁷² Minerals Act Chap. 2, s. 9a.

³⁷³ Legislative Bill 1997/98:47, p. 14.

³⁷⁴ Minerals Act Chap. 2, s. 10.

³⁷⁵ Delin (1996), p. 70.

condition that must always be included in decisions concerning exploration permits is the furnishing of financial security for compensation. No exploration may begin until financial security has been pledged for compensation that may become due arising from any damages or encroachment as a consequence of future exploration work.³⁷⁶

Exploration permits may be transferred with the consent of the Chief Mining Inspector.³⁷⁷ However, this is subject to the transferee having the possibility or intention of accomplishing an appropriate exploration. A party wishing to relinquish his exploration permit wholly or partly without a transfer taking place can notify the Mining Inspectorate of this while at the same time specifying the properties concerned. The permit will then lapse after one month. When an exploration permit has ceased to apply, partly or wholly, the Chief Mining Inspector must inform the property owners and claimholders concerned as to this effect.

The number of exploration permits granted in 2008 totalled 282, as compared to 356 for the preceding year. There were 243 applications in 2008, compared with 400 annually for previous years. At year-end 2008, there were 1,322 valid exploration permits for an acreage equalling 5 % of the area of Sweden.³⁷⁸

4.2.2 Lands Available for Exploration and Mining

Exploration permits in principle can be granted for all land, regardless of ownership (whether private or state). Areas designated as national parks are probably the sole absolute exception. Whereas earlier legislation prescribed the prohibition of claims (impediments to claim) in certain areas, the Minerals Act prescribes prohibition of activity as such (exploration work). This has practical advantages. The Mining Inspectorate does not need to be informed in detail of the impediments that may exist in different parts of the area. The prospecting party has to obtain the permits needed if areas deserving of protection are affected.³⁷⁹

Under the Minerals Act, certain areas and a certain kind of land use constitute impediments to mining activity. There are provisions concerning waiver of these impediments in the majority of cases. When applying for an exploration permit, the applicant must indicate whether areas of the kind affected by the impediment provisions exist within or immediately adjacent to the area to which the application refers. Exploration or exploitation may not take place within a national park or at variance with provisions issued for nature and culture reserves pursuant to the Environmental Code. Nor may work proceed within 200 metres of a protected object for vital services, a churchyard or other burial ground, or within certain virgin mountain areas without permission from the county administrative board. If permission is granted for prospecting within the mountain regions, the award of an

³⁷⁶ Minerals Act Chap. 2, s. 10 and Chap. 3, s. 3. The mandatory security requirement for compensation was introduced in the 2005 amendments for the purpose of strengthening the landowner's position.

³⁷⁷ Minerals Act Chap. 6, ss. 1 and 2.

³⁷⁸ Bergsstaten, *Årsrapport 08*.

³⁷⁹ Delin (1996), p. 78.

exploration permit must be made subject to conditions necessary for the prevention of palpable harm to the natural and cultural qualities of the area. Nor may exploration be conducted without permission from the appropriate county administrative board within a military protected area or within the Estrange rocket-launching area in Kiruna.³⁸⁰

Permission in turn is required from the Chief Mining Inspector for exploration and exploitation within an area situated less than thirty metres from: A public highway or the course of such highway in accordance with an established plan of works, a railway or a canal open for public transport, or a public airport. The same applies to an area within 200 metres of a dwelling, church, other assembly premises intended for more than 50 persons, or an area with an electric power station or an industrial facility.

Permission must also be obtained from the Chief Mining Inspector for work within an area covered by a detailed development plan and area regulations as referred to in the Planning and Building Act.³⁸¹ The grant of an exploration permit within a planning area must not have the effect of counteracting the purpose of the plan, and the Chief Mining Inspector must obtain a statement from the municipality.³⁸² The Chief Mining Inspector may attach conditions to the permit.

Apart from the impediments that have now been mentioned to exploration and exploitation, there are, as remarked earlier, a host of areas protected by the Environmental Code as well as by the Heritage Conservation Act. There are biotope protection areas, ancient monuments and remains, protected areas for wild animals and plants (Natura 2000 sites), as well as national interests of various kinds pertaining to reindeer husbandry, nature conservation, and outdoor recreation. Altogether some thirty different area protections are in force. The county administrative board determines the exploration activities that are permissible under the environmental protection regulations.

The duty of consultation under the Environmental Code by the party carrying on an operation for activities that may significantly alter the natural environment, without necessarily being subject to the requirement of a permit, is also important.³⁸³ Permission is needed from the county administrative board with respect to Natura 2000 sites, while an activity that may have a significant environmental impact is subject to permission from the government. The grant of permits is conditioned on no alternative solutions being available for the activity in question.

The Minerals Act also empowers the government to exclude areas from exploration work or exploitation under a “reserve rule.” This is in cases where the work or exploitation can be presumed to impede or significantly obstruct such current or planned use of the land as is of major importance from the point of view of the public interest.³⁸⁴

³⁸⁰ Minerals Act Chap. 3, s. 6. Minerals Ordinance ss. 14 and 14a.

³⁸¹ Minerals Act Chap. 3, s. 7.

³⁸² Minerals Ordinance s. 16.

³⁸³ The Environmental Code Chap. 12, s. 6.

³⁸⁴ Minerals Act Chap. 17, s. 3. An exploitation concession granted previously, however, is unaffected by such a decision.

4.2.3 Exploration Work and Obligations

The holder of an exploration permit may carry out exploration work (*undersökningsarbete*) to show that a mineral included in the permit is present within the area and to more exactly ascertain the size, nature and extractability of the deposit.³⁸⁵ There is no stipulation that exploration work be conducted in order for an exploration permit to be retained. An annual charge is payable, however, based on the number of hectares or part thereof within the exploration area where exploration has begun and the species of concession mineral. The charge increases annually and still more so if the exploration permit is renewed.³⁸⁶

A landowner may carry out exploration without an exploration permit on his own land with the exceptions of oil, gas and diamonds. A landowner is not entitled to do so, however, if an exploration permit has been granted to another party.³⁸⁷ There is nothing to prevent a landowner from applying for an exploration permit in order to reinforce his right, as long as he actually intends to carry out exploration work.

A plan of operation has to be drawn up before exploration can begin. The plan must contain an account of the exploration work planned, a timetable for the work and an assessment of the extent to which the work will presumably affect public interests and private rights.³⁸⁸ For efficiency reasons, the plan of operations can be something of a standard form.³⁸⁹ Any landowners and other right holders concerned must be served with the plan, as must Sami villages if a reindeer herding right exists in the area. The plan must also be sent to the Chief Mining Inspector.

Objections to the content of the plan of operations must be communicated in writing to the permit holder within three weeks. A plan of operations becomes valid if no objections are made, or if an agreement is concluded with the landowners and other right holders concerned. If objections have been raised, the party holding an exploration permit may request an examination of the plan of operations by the Chief Mining Inspector. In such a case, the Chief Mining Inspector is to accept or reject the plan. If accepted, the Chief Mining Inspector is to at the same time issue conditions, if any, for the protection of public interests and private rights, and the prevention or limitation of inconvenience.³⁹⁰ A decision by the Chief Mining Inspector accepting a plan of operations can be appealed to a property court. To prevent groundless objections from delaying exploration, the Chief Mining Inspector may resolve that the plan of operations is valid even if appealed.³⁹¹

In addition to the plan of operations, and as already mentioned, before exploration can begin, financial security for damages must be pledged for any

³⁸⁵ Minerals Act Chap. 3, s. 3.

³⁸⁶ Minerals Act Chap. 14, s. 2. Minerals Ordinance ss. 10 and 10a-c.

³⁸⁷ Minerals Act Chap. 3, s. 2.

³⁸⁸ Minerals Act Chap. 3, s. 5. Provisions concerning an obligatory plan of operations were added through the 2005 amendments, the aim being to facilitate the dialogue between property owners and prospectors.

³⁸⁹ Legislative Bill 2004/05:40, p. 51.

³⁹⁰ Minerals Act Chap. 3, s. 5a.

³⁹¹ Legislative Bill 2004/05:40, p. 54.

damages that may occur. Failing this, a landowner can request that the Swedish Enforcement Authority cancel the work.³⁹²

The exploration work must be conducted in such a way as to cause the least possible damage to, and encroachment on, any other party's property and to the natural and cultural environments.³⁹³ This means that the work must be limited to the activities necessary in order to achieve the purpose of the exploration. The Rules of Consideration as found in the Environmental Code also apply.

The exploration permit in most cases includes all concession minerals except oil, gas and diamonds, unless the applicant has excluded certain minerals in the application.³⁹⁴ Concession minerals extracted under the permit, with certain exceptions, may only be used for investigating their character and their suitability for technical processing.³⁹⁵ The right conferred by an exploration permit to use land for erecting buildings was abolished through the 2005 amendments. The permit holder may, to the extent necessary, use a road to and within the area. Construction of a new road requires permission from the Chief Mining Inspector.³⁹⁶

No further provision is made concerning the extent of the prospector's powers. Electrical measurements and various sampling operations on the ground surface are normal activities, together with diamond drilling to investigate the bedrock in depth. An environmental permit under the Environmental Code may be needed for certain activities, such as test extraction, which can substantially harm the natural environment. Other measures may require consultations with the county administrative board or the municipality pursuant to the Environmental Code. These are activities requiring no permit but nevertheless are of such a kind as to significantly alter the natural environment, e.g. large-scale earth-moving operations. It is also of importance whether the prospecting will affect areas deserving of protection.

The prospector must compensate the landowner and other right holders for any damages or encroachment resulting from the exploration work.³⁹⁷ If conflicts occur between the holder of an exploration permit and a property owner or special right holder, the Chief Mining Inspector may adjudicate the dispute if requested to do so. Disputes concerning the amount of compensation for damage and encroachment entailed by the exploration work are also to be adjudicated by the Chief Mining Inspector. The costs of resolving these disputes are to be borne by the permit holder.³⁹⁸

A party engaging in exploration work contrary to the provisions of an exploration permit, commencing exploration work without furnishing a financial security and drawing up a plan of operations, can be fined or sentenced to no more than six-months imprisonment. The Chief Mining Inspector may also order

³⁹² Minerals Act Chap. 15, s. 4.

³⁹³ Minerals Act Chap. 3, s. 3.

³⁹⁴ Delin (1996), p. 72.

³⁹⁵ Minerals Act Chap. 3, s. 4.

³⁹⁶ Minerals Act Chap. 3, s. 3.

³⁹⁷ Minerals Act Chap. 7, s. 1.

³⁹⁸ Minerals Act Chap. 8, s. 7.

compliance under penalty of a fine.³⁹⁹ An exploration permit can also be revoked if activity is conducted at variance with the permit granted.⁴⁰⁰

When an exploration permit ceases to apply without an exploitation concession having been granted, the prospector (if professional activity is being conducted) is to submit, within three months, an account of the exploration work completed. This account is to be accompanied by a map of the area explored. Particulars are to be included concerning the person carrying out the exploration, the types of exploration work carried out, the extent of the exploration and its results in the form of unprocessed data.⁴⁰¹

4.3 Mine Development Activities

Entitlement to the exploitation of concession minerals requires an exploitation concession (*bearbetningskoncession*) under the Minerals Act. Exploitation is defined in the Act as the extraction and utilisation of a concession mineral.⁴⁰² The connection between an exploration permit and an exploitation concession was a topic of major interest when the Minerals Act was being drafted. Under previous mining legislation, the party successfully claiming an area in principle was entitled to utilise the deposit he found.⁴⁰³ The provisions of the Minerals Act are designed to meet the security needs of serious mining enterprises, while retaining the basic purpose of the concessionary procedure. An exploration permit holder is legally entitled to an exploitation concession if certain basic requirements are satisfied.⁴⁰⁴

4.3.1 Exploitation Concession for Mining Purposes

In order for an exploitation concession to be granted, a deposit must have been found that is likely to be utilized on an economic basis and whose location and character do not make it inappropriate for the applicant to be granted the concession requested.⁴⁰⁵ If two or more parties apply for a concession, the examining authority cannot pass over the holder of an exploration permit if the general requirements are satisfied and the permit holder is suitable *per se*. The system established through the Minerals Act means that most prospectors can be relatively sure of acquiring the right of extracting deposits found, if mineral extraction is permitted in the first place.⁴⁰⁶ In exploitation concession proceedings, a balance of interests has to be struck, pursuant to the Environmental Code, concerning the use of the land for mineral extraction.

³⁹⁹ Minerals Act Chap. 15, ss. 4-6.

⁴⁰⁰ Minerals Act Chap. 6, s. 3.

⁴⁰¹ Minerals Act Chap. 14, s. 3.

⁴⁰² Minerals Act Chap. 1, ss. 3 and 4.

⁴⁰³ Delin (1996), p. 91.

⁴⁰⁴ Legislative Bill 1988/89:92, p. 55.

⁴⁰⁵ Minerals Act Chap. 4, s. 2.

⁴⁰⁶ Legislative Bill 1988/89:22, p. 56. Delin (1996), p. 93.

4.3.2 Application for and Grant of an Exploitation Concession

A written application for an exploitation concession must be submitted to the Chief Mining Inspector and accompanied by an environmental impact assessment (EIA).⁴⁰⁷ The application is to include the particulars of the applicant, the concession minerals to which the application refers, and the area affected. The applicant furthermore is to indicate the properties affected by the application, as well as any right holders other than landowners as known to the applicant. The application is also to make clear whether there are impediments to exploitation and exploration, on account of protected areas or areas that should be protected since land use may be prevented or impeded by possible mining operations.

The application is also to include information as to whether other parties have applied for concessions for the same area or whether the application area is a subject of existing exploration permits or exploitation concessions. Furthermore, it is to give an account of the impact of the planned activity on public and private interests and of the measures that, in the applicant's opinion, are necessary for the protection of public interests and private rights. The applicant is to present a plan in the application for the activity intended and the principal conditions that, in the applicant's opinion, should apply to the activity. Exploration permits that the applicant holds or has held within the area are to be indicated, together with the name proposed by the applicant for the area to which the application refers.

The application documents are to be accompanied by a map and a description of the area concerned, an account of the results that the exploration work has led to, and geological and geophysical maps compiled to assess whether a viable deposit has been found. A working programme for the activity planned is also to be submitted. The concession area is to be clearly apparent from the map and description, as well as restrictions stemming from other permits granted or whether an activity will presumably prevent or impede an ongoing land use.⁴⁰⁸ The applicant is to pay an application fee of SEK 80,000 for each concession area. An incomplete application can be rejected if it is incapable of being used as the basis of an examination of the matter, if there is no environmental impact assessment, or if no application fee has been paid.⁴⁰⁹

The Chief Mining Inspector is to send notice of the application and a copy of the EIA to the property owners affected and other right holders as identified in the Minerals Act, as well as to priority right holders – holders of exploration permits or exploitation concessions within the area. In addition, through official announcements and notices, the Chief Mining Inspector is to indicate that objections to the application are to be tendered in writing to the Chief Mining Inspector within a certain time, at least four weeks after the announcement was published, and that objections to the EIA are to be lodged with the county administrative board.⁴¹⁰

⁴⁰⁷ Minerals Act Chap. 4, s. 2. Minerals Ordinance s. 17.

⁴⁰⁸ Minerals Ordinance s. 18.

⁴⁰⁹ Minerals Ordinance ss. 19 and 20.

⁴¹⁰ Minerals Ordinance s. 21.

As mentioned earlier, obtaining an exploitation concession is conditional on a deposit having been found that is likely to be viable (ore indication), and whose location and character do not make it inappropriate for the applicant to be granted the concession requested. Ore indication has to be undertaken for every substance for which a concession is requested. The location of the deposit is designed to prevent inefficient spatial configuration (or irrational mineral exploitation), e.g. in the sense of different concession holders having overlapping areas. The character of the deposit refers to the possibility of certain minerals being of special importance from the viewpoint of defence and foreign policy.⁴¹¹ The applicant does not have to meet any special requirements of suitability in order to obtain a concession, except with respect to oil and gas. A concession must refer to a particular area defined according to what is appropriate, having regard to the deposit, the purpose of the concession and circumstances generally.⁴¹² In the decision awarding an exploitation concession, the concession area is described in terms of area and co-ordinates.

If two or more parties have applied for a concession for the same area, and more than one party meets the ore indication requirements, the party having an exploration permit in the area for a mineral included in his concession application is to have priority. If none of the applicants has an exploration permit, the party who has carried out appropriate exploration work in the area is to have priority. Otherwise, the first party to file an application has priority (first-come, first-served). If several applications were received on the same date, the applicants are equally entitled to a share in the concession.⁴¹³

In the grant of exploitation concessions, provisions concerning the use of land and water areas under the Environmental Code are also to be examined, i.e. a statement in the matter of land use is also to be submitted in the concession proceedings. The compatibility of mining operations with other interests surrounding use of the land must be examined. The Chief Mining Inspector is to consult the county administrative board in these matters.⁴¹⁴

A concession, once granted, is binding in the matter of land use and is not to be re-examined in the course of subsequent environmental reviews.⁴¹⁵ The environmental impact assessment is an essential and important part of the guidance data for this balancing of interests. The EIA must identify, describe and facilitate a comprehensive assessment of the direct and indirect effects of a planned activity on human life, animals, plants, soil, water, air, climate, landscape and cultural environment and on management of land and water and other resource conservation. The EIA must present alternative locations where possible, together with the consequences of the activity not materialising – the zero alternative. The EIA is to be examined by the county administrative board.⁴¹⁶ Finally, it is the permit granting authority, i.e. the Mining Inspectorate, which ultimately decides whether the content

⁴¹¹ Delin (1996), pp. 95-96.

⁴¹² Minerals Act Chap. 4, s. 1.

⁴¹³ Minerals Act Chap. 4, s. 3.

⁴¹⁴ Minerals Act Chap. 8, s. 1.

⁴¹⁵ Minerals Act Chap. 4, s. 2.

⁴¹⁶ Minerals Ordinance s. 28.

of an application and an environmental impact assessment can be accepted as guidance data for a decision.⁴¹⁷

As mentioned, management provisions are contained in the Environmental Code, which sets out the interests that are of special importance for urban development and therefore are to take priority over other interests when questions of land use are to be decided. It must be possible for both preservation interests and exploitation opportunities to be accommodated. A balance has to be struck when there is competition between different interests, e.g. mining and reindeer husbandry. The possibility of combining different activities, such as mining and active forestry, should always be investigated. Economic arguments, such as employment or regional policy issues, can carry weight where mining operations are under consideration, provided such use entails good management from a community viewpoint. Short-term economic considerations may not, however, result in long-term needs for the protection of essential qualities connected to land areas being set aside.

A concession as requested may not imply measures palpably impeding or harming to what are termed national interests in the Environmental Code, such as nature conservation, outdoor recreation, and reindeer husbandry. The “strength” of any mineral interest depends partly on whether the deposit concerned has been designated a national interest, i.e. contains valuable substances or materials that must as far as possible be protected against measures that can appreciably impede their extraction.

The assessment of the county administrative board as to the land use issue normally ought to govern the Chief Mining Inspector’s decision-making. If the Chief Mining Inspector is of a different opinion, the question of an exploitation concession can be referred to the government for consideration. This is also the case when the concession question is considered particularly important from a public viewpoint, as for example with major or controversial cases.⁴¹⁸ The overall balancing of interests then ultimately becomes a political issue.

In certain cases, the Environmental Code empowers the government to reserve for itself the right of assessing the permissibility of an activity or operation with a significant environmental impact.⁴¹⁹ In the matter of mineral extraction, a concerned municipality may specifically request adjudication by the government if mining and extraction activities are planned within virgin mountain areas.⁴²⁰ Government assessment as to permissibility is mandatory for facilities for the extraction of uranium-bearing material.⁴²¹ The concerned municipality has a veto as to this type of extraction, i.e. a uranium mine cannot be established if the municipality objects to it. In addition, the Minerals Act empowers the government to resolve that exploration work or exploitation may not take place within a certain area without government permission. Exclusion under this “reserve rule” is to be exercised with restraint.⁴²²

⁴¹⁷ Legislative Bill 2004/05:129, p. 55.

⁴¹⁸ Minerals Act Chap. 8, s. 2. Delin (1996), pp. 151-152.

⁴¹⁹ Environmental Code Chap. 17, s. 3.

⁴²⁰ Environmental Code Chap. 17, s. 4a.

⁴²¹ Environmental Code Chap. 17, s. 1.

⁴²² Minerals Act Chap. 17, s. 3. Delin (1996), pp. 235-236.

In connection with an application for the granting of a concession, the county administrative board may decide that a special investigation under the Heritage Conservation Act is needed in order to ascertain whether a permanent archaeological site (ancient monument or ancient remains) is affected by a proposed working enterprise.⁴²³ If an exploitation concession can entail significant harm to agriculture or forestry, an investigating body may be appointed by resolution of the Swedish Board of Agriculture and the Swedish Forest Agency, to facilitate the balancing of interests.⁴²⁴ The expense of such investigations is normally borne by the applicant.

The award of an exploitation concession can be made subject to any conditions found necessary in order for the natural assets to be explored and utilised in an appropriate manner and for the protection of public interests and individual rights.⁴²⁵ In the event of a conflict of interests, e.g. those of mining and nature conservation, conditions counteracting or limiting damage to the landscape may be a factor enabling interests to co-operate within one and the same area, i.e. making it possible for an exploitation concession to be granted. Conditions of this kind can, for example, include annual consultations with Sami villages to minimise the disruptive effects of mining activity of reindeer husbandry. Fencing obligations and reinstatement stipulations are conditions normally included in concession awards, even though these matters are also specifically provided for in the Minerals Act. Detailed conditions for the protection of the environment and concerning technical design are formulated in connection with the grant of environmental permits under the Environmental Code.

If a concession affects an area subject to a detailed development plan or area regulations, the Chief Mining Inspector must obtain a statement from the municipality.⁴²⁶ An exploitation concession may not be at variance with a detailed development plan or area regulations under the Planning and Building Act. Minor deviations are permissible, however, if the purpose of the plan or provisions is not frustrated.⁴²⁷

A concession is to be granted for twenty-five years. A shorter term is possible if the applicant so requests.⁴²⁸ The concession period is renewable for ten years at a time without an application being made, provided regular exploitation is in progress or alternatively construction work, exploration work or development work.⁴²⁹ Renewal of an exploitation concession may also come into question if justified by public interest in the mineral assets being appropriately utilised.⁴³⁰

An exploitation concession may not be granted within an area where another party has been granted a concession for the same mineral or minerals. Another party may, however, be granted a concession for other minerals in the same area if there is

⁴²³ Minerals Act Chap. 8, s. 1.

⁴²⁴ Minerals Act Chap. 8, s. 6a.

⁴²⁵ Minerals Act Chap. 4, s. 5.

⁴²⁶ Minerals Ordinance s. 28.

⁴²⁷ Minerals Act Chap. 4, s. 2.

⁴²⁸ Minerals Act Chap. 4, s. 7.

⁴²⁹ Minerals Act Chap. 4, ss. 8 and 9.

⁴³⁰ Minerals Act Chap. 4, s. 10.

special reason for doing so.⁴³¹ Any disputes that may arise out of such a grant are to be determined by the Chief Mining Inspector.⁴³²

The award of an exploitation concession is to be communicated to the property owners and other right holders concerned, pursuant to the Minerals Act, and to the municipality and county administrative board. Appeals against exploitation concessions are lodged with the government. An appeal can be filed by the claimholders identified in the Minerals Act, the municipality where the exploitation concession is located, and certain environmental organisations.⁴³³ Exploitation concessions that have taken effect are entered in the Mineral Rights Register kept by the Mining Inspectorate, and also in the national Real Property Register.

An exploitation concession may be transferred with the consent of the Mining Inspectorate. An application for such consent is to include particulars of the transferee's plan for the continuation of activities and a report on the transferee's technical and financial capacity for accomplishing the plan.⁴³⁴ Five exploitation concessions were granted in 2008. The number of mines in operation at year-end was 15.⁴³⁵

4.3.3 Exploitation

A concession entitles the holder to carry out exploration work and exploitation (*bearbetning*) above or below ground within the concession area. Exploitation above ground, and the land needed for this purpose, as well as land outside the concession area, may only be utilised when the land has been designated for the purpose in a special land designation proceeding as further discussed below. The grant of a concession and the designation of land always constitute two different kinds of procedures.⁴³⁶ In addition, an environmental permit under the Environmental Code is normally required before exploitation can take place. Financial security under the Minerals Act also has to be furnished prior to the commencement of mining operations, to guarantee the measures that have to be taken when the concession expires.⁴³⁷

Exploitation and exploration work may refer to minerals included in the concession. Other concession minerals and other mineral substances such as landowner minerals may also be extracted if necessary in order for the work to proceed in an appropriate manner.⁴³⁸ Extraction of other substances is permissible only when technically necessary, i.e. not for financial reasons. The Minerals Act

⁴³¹ Minerals Act Chap. 4, s. 4.

⁴³² Minerals Act Chap. 8, s. 7.

⁴³³ The ability of environmentalist organisations of a certain size and entitled to appeal decisions under the Environmental Code also to appeal exploitation concessions is a new development stemming from the Århus Convention and the articles of the Directive.

⁴³⁴ Minerals Act Chap. 6, s. 1. Minerals Ordinance s. 25.

⁴³⁵ Bergsstaten, *Årsrapport 08*.

⁴³⁶ Delin (1996), p. 161.

⁴³⁷ Minerals Act Chap. 4, s. 6.

⁴³⁸ Minerals Act Chap. 5, s. 3 and 4.

prescribes that exploitation may not be conducted in such a way as to jeopardise future extraction of any concession minerals, nor may it be conducted so as to entail evident mismanagement of minerals in other respects.⁴³⁹ An exploitation concession does not entail any obligation on the concession holder's part to commence operations. Fluctuating ore prices, technical progress and changing circumstances can entail exploitation being postponed or failing to materialise. The concession holder decides in principle whether exploitation is to take place.⁴⁴⁰

The property owner may exploit concession mineral deposits for domestic requirements without a concession as long as no other party has a concession within the area. Extraction of more exclusive commodities, e.g. rare metals or precious stones, cannot be alleged to be prompted by domestic requirements. Assessment also hinges on the extent of extraction. If a concession is granted to another party within an area where the property owner is exploiting deposits of concession mineral or some other mineral substance for his own needs, the property owner is entitled to continue the activity to a reasonable extent, failing special reasons to the contrary.⁴⁴¹

The concession holder must make good any damage or encroachment resulting from the utilisation of the land.⁴⁴² One of the basic principles of the Minerals Act, and of other mandatory legislation, is that the property owner and other right holders must be indemnified. If a property is affected in such a way that current land use cannot continue, the concession holder is obliged to purchase the entire property or parts thereof, if so requested by the property owner. The qualifying requirement is that there must be "extraordinary detriment" (*synnerligt men*).⁴⁴³ Compensation disputes are adjudicated by the Chief Mining Inspector. This adjudication usually coincides with the land designation proceeding, but matters of compensation can also be adjudicated earlier on.⁴⁴⁴

During exploitation, the concession holder has to pay mineral compensation to the landowner and the state as from 2005.⁴⁴⁵ This partly reverts to the state of affairs before 1974. The mineral compensation is to equal 2/1000 of the estimated value of the quantity of concession mineral extracted and brought to the surface during the year. The calculation is to be based on the amount of ore brought to the surface, its concession mineral content and the average price of the mineral during the year or a corresponding value. Three-quarters of the compensation accrues to property owners within the concession area and one-quarter to the state. If there is more than one property within the concession area, the compensation payable to property owners is to be determined according to each property's share of the area. No mineral compensation is payable to right holders, such as lessees or reindeer herding right holders.

The structure of compensation is geared to the fact of concession minerals being present on the property and compensation being payable for the use of the property

⁴³⁹ Minerals Act Chap. 5, s. 7.

⁴⁴⁰ Legislative Bill 2004/05:40, p. 56.

⁴⁴¹ Minerals Act Chap. 5, s. 2.

⁴⁴² Minerals Act Chap. 7, s. 1.

⁴⁴³ Minerals Act Chap. 7, ss. 2, 3 and 4.

⁴⁴⁴ Minerals Act Chap. 8, s. 8.

⁴⁴⁵ Minerals Act Chap. 7, s. 7.

for mining operations. The compensation is to be fixed with reference to conditions as of the 31st of December of the year to which the compensation refers. Only minerals referred to in the concession are to be included in the calculation. For the assessment of the average annual price of the mineral, data are to be used from raw material exchanges (metals), published pellet prices from the mining company concerned (iron) and, for other minerals, a reasonable amount.⁴⁴⁶ Since it is common for mining companies to own the entire land area or parts thereof as included in the concession, the total compensation payable to property owners is reduced commensurately with the proportion of which the concession holder has freehold tenure.⁴⁴⁷ Mineral compensation is ultimately determined by the Chief Mining Inspector.⁴⁴⁸

The concession holder is to compile a map of mines in operation, showing the boreholes in the concession area that are of lasting value. A mine may not be closed without permission before all mining works have been surveyed and charted.⁴⁴⁹ The holder of an exploitation concession for thorium, uranium, coal and certain other substances, is to keep a record of exploration work and exploitation.⁴⁵⁰ When mining or corresponding operations are commenced, terminated, discontinued for a period in excess of six months, or are resumed, this is to be immediately reported to the Chief Mining Inspector.⁴⁵¹ A concession holder failing to make such a notification is to be fined. If a concession holder wishes to relinquish his title to a concession, the concession will cease to apply one month after notification to this effect. If a concession is to be partly relinquished, application must be made to this end. The exploitation concession can be revoked insofar as a concession holder defaults on his obligations under the Minerals Act as defined in the concession grant.⁴⁵²

4.3.4 Land Designation Proceeding

Land has to be designated for exploitation above ground. This is done in a special land designation proceeding (*markanvisningsförrättning*) presided over by the Chief Mining Inspector.⁴⁵³ No land designation is needed for activity below ground, unless the activity leads to collapses or subsidence within a certain area, in which case that land can also be designated. The right to utilise land is based on the possession of an exploitation concession. Accordingly, the land designation proceeding may not be concluded before the concession award has acquired force of law (been conclusively decided).⁴⁵⁴

⁴⁴⁶ Minerals Ordinance s. 48.

⁴⁴⁷ Legislative Bill 2004/05:40, p. 90.

⁴⁴⁸ Minerals Act Chap. 8, s. 6b.

⁴⁴⁹ Minerals Act Chap. 14, s. 4.

⁴⁵⁰ Minerals Act Chap. 14, s. 5. Minerals Ordinance s. 51.

⁴⁵¹ Minerals Ordinance s. 57.

⁴⁵² Minerals Act Chap. 6, s. 3.

⁴⁵³ Minerals Act Chap. 9.

⁴⁵⁴ Minerals Act Chap. 9, s. 18.

The land designation proceeding takes place at the request of the concession holder, by special application to the Mining Inspectorate.⁴⁵⁵ The proceeding defines the land within the concession area that the concession holder may use for exploiting the mineral deposit. Land outside the concession area may also be designated if connected with mining operations, e.g. for plants, roads, buildings and structures for leading off water from the mine. If the concession holder, the property owners and other right holders, e.g. reindeer herding or husbandry right holders, are agreed that the land is necessary, land is to be designated in accordance with their agreement. If no agreement is reached, the Chief Mining Inspector is to designate the land necessary.

Land designation may not include land coming under the “impediment provisions” (protected areas) unless the county administrative board or the Chief Mining Inspector has granted an exemption. This issue usually is considered in connection with the land designation.⁴⁵⁶ The designation of land does not render the concession holder the owner of the land, but gives him a limited, albeit strong, right of disposition over the land, known as mining title (*gruvrätt*). This title applies irrespective of any property boundary changes.

Land may be designated for an indefinite period unless otherwise requested by the applicant.⁴⁵⁷ In principle, this means that land is designated for the length of time necessary. The concession holder loses his title to the land when the exploitation concession expires, unless the properties concerned or parts thereof have been acquired under a contract of sale.⁴⁵⁸ In practice it is common for the land within the concession area to be purchased freehold, in which case the contracts of sale form the basis of an agreement in the actual land designation proceeding.

A land designation proceeding commences after written application has been submitted to the Mining Inspectorate. The application must include a description of the land to be used, the properties, property owners and other right holders affected, e.g. holders of reindeer herding rights or hunting and fishing rights. The application must also indicate whether agreements have been made with the right holders affected or whether there are disputes pending.⁴⁵⁹ When the parties concerned are agreed as to what land is to be utilised and what amounts paid (i.e. in the absence of conflicting interests), a land designation order can be made on the strength of the documents submitted without a meeting. Otherwise, a meeting must be held.⁴⁶⁰ The applicant has to pay a land designation fee, the amount of which depends in part on whether a meeting takes place.⁴⁶¹

A land designation proceeding is conducted by the Chief Mining Inspector, who can be assisted by two executive officials (*gode män*), in which case they together

⁴⁵⁵ Minerals Act Chap. 9, ss. 1 and 11. Minerals Ordinance s. 30.

⁴⁵⁶ Minerals Act Chap. 9, s. 2. Prop 1988/89:92, p. 114.

⁴⁵⁷ Minerals Act Chap. 9, s. 3.

⁴⁵⁸ Minerals Act Chap. 13, s. 1. A contract of sale is a civil law agreement under the rules of the Land Code and as such beyond the scope of the Minerals Act.

⁴⁵⁹ Minerals Ordinance s. 30.

⁴⁶⁰ Minerals Act Chap. 9, s. 13.

⁴⁶¹ Minerals Ordinance s. 43. The land designation fee payable is SEK 80,000 if a meeting is held and SEK 40,000 without a meeting.

constitute an executory authority (*förrättningsmyndighet*). The executive officials are specially appointed within the municipality and are persons with experience of different local industries or land use interests. The Chief Mining Inspector may also engage persons with specialist knowledge if necessary. The cost of executive officials and special experts has to be borne by the applicant. All known claim or right holders must be called to a meeting if one takes place, and minutes of the meeting are to be kept.⁴⁶²

A land designation order must indicate the purpose of the land designation, as well as the extent and location of the area (areas of properties affected, with co-ordinate references for the corner points of the area or areas).⁴⁶³ The boundaries of designated land are to be staked out and marked to the extent necessary. A map normally has to be prepared. The land designation order must also indicate the compensation amounts payable on account of any damage or encroachment. Insofar as the applicant or concession holder has not entered into agreements as to compensation with the right holders affected, a decision on this point can be taken by the executory authority.

A land designation order must be issued at a meeting or time as set by the authority. The order can be appealed to the land court. Access to designated land, however, is possible regardless of the land designation order having been appealed (not finally determined). However, this is subject to the applicant or holder of the exploitation concession having furnished financial security for compensation.⁴⁶⁴

Land designation can take place on more than one occasion while a mine is in operation. It can be difficult to predict at the first designation how great an area of land may subsequently come to be affected by the extraction operations. Successive land designations may therefore come into question as the land above the workings is affected, becomes fissured and so on.⁴⁶⁵

4.3.5 Environmental Approvals and Environmental Assessment

A right under the Minerals Act can be termed a necessary, but insufficient, prerequisite for engaging in the activity to which the Act refers. For the purpose of exploitation and, in exceptional cases, exploration work, the prerequisites of a mining project are defined through the environmental assessment made by the environmental court pursuant to the Environmental Code.⁴⁶⁶ Mining activity is an environmentally hazardous activity. Environmentally hazardous activity is defined as any use of land, building or structures that entails or can entail discharges into land or water, pollution of soil, air or water, or other nuisance (such as noise or radiation) to the surroundings.

The construction and operation of a mine and extraction plant require a permit for environmentally hazardous activity and a permit for water operations under the

⁴⁶² Minerals Ordinance ss. 37-42.

⁴⁶³ Minerals Act Chap. 9, s. 22.

⁴⁶⁴ Minerals Act Chap. 9, s. 26.

⁴⁶⁵ Ds 2006:2, p. 63.

⁴⁶⁶ Legislative Bill 1997/98:90, p. 217.

Environmental Code.⁴⁶⁷ Water operations are defined as activities that in various ways involve the use of or construction in water, such as leading off of mine water from open-cast mines, the construction of dikes and the extraction of water. Permits for both environmentally hazardous activity and water operations are considered in a single process (environmental assessment). The manner in which after-treatment is to take place has an important bearing on the assessment of the permissibility of an activity.⁴⁶⁸ Permission for activities, such as mining, that involve the landfilling of waste may not be granted before financial security has been provided as prescribed by the Environmental Code.⁴⁶⁹

An application for an environmental assessment must be accompanied by an environmental impact assessment. It is the duty of the environmental court to ensure that the content of the application and EIA measure up to the requirements for a satisfactory assessment of the activity. Both the county administrative board and the Environmental Protection Agency are entitled to express views as to the application documents and request clarifications. An application with deficiencies that cannot be remedied may be rejected.

The handling procedure is initially conducted in writing, with a relatively copious exchange of correspondence between various advisory bodies at national and local government levels. The property owners affected and other right holders, such as reindeer herding right holders, lessees, are also given the opportunity to be present at the hearing. A main hearing is usually held which is open to the general public, after which the court issues a judgment.⁴⁷⁰

An environmental permit normally includes a number of conditions for the activity concerning matters such as atmospheric emissions and effluence, noise and other disturbances. An environmental permit can be appealed to the Environmental Supreme Court. Appeals may be filed, for example, by the parties affected by the decision, the National Environmental Protection Agency, the county administrative board, the municipality and certain environmentalist organisations. The Environmental Supreme Court may issue an enforcement order (*verkställighetsförordnande*) whereby operations may commence despite the judgment not yet having acquired force of law. It should also be mentioned in this connection that a permit under the Planning and Building Act (a building permit) has to be obtained from the municipality for the structures proposed within the mining area.

4.3.6 Responsibilities when an Exploitation Concession Expires

On the expiry of an exploitation concession, the concession holder loses the mining title conferred by the land designation, unless, as previously mentioned, he has purchased the land.⁴⁷¹ The landowner then recovers his right of disposal over the

⁴⁶⁷ Environmental Code Chap. 9 and Chap. 11.

⁴⁶⁸ Environmental Code Chap. 10.

⁴⁶⁹ Environmental Code Chap. 15, s. 34 and Chap. 16, s. 3.

⁴⁷⁰ Domstolsverket (2002), p. 9.

⁴⁷¹ Minerals Act Chap. 13, s. 1.

land. The concession holder also loses his title to buildings belonging to the mine.⁴⁷² In addition, he immediately loses his title to any extracted minerals not yet brought to the surface or taken in hand. Minerals taken in hand may remain within the area on the concession holder's account for no more than the two years after the concession has ceased to apply. Minerals to which the concession holder forfeits his right and that are not covered by a new exploration permit or a new exploitation concession accrue to the owner of the property.⁴⁷³

The concession holder is to carry out clean-up and restoration to the extent justified in the public or private interest.⁴⁷⁴ The provisions of the Minerals Act are designed to eliminate as far as possible the environmental damage that mineral exploitation inevitably entails.⁴⁷⁵ As mentioned earlier, the after-treatment provisions of the Environmental Code are also fully applicable.⁴⁷⁶ In connection with the expiry of the concession, the Chief Mining Inspector can determine the concession holder's clean-up and restoration liabilities, unless they were already fixed at the time the concession was granted. When the concession holder has fulfilled the measures ordered, responsibility for supervision of the mine area passes to the state.

⁴⁷² Minerals Act Chap. 13, s. 3.

⁴⁷³ Minerals Act Chap. 13, s. 2.

⁴⁷⁴ Minerals Act Chap. 13, s. 4.

⁴⁷⁵ Delin (1996), p. 206.

⁴⁷⁶ Environmental Code Chap. 2, s. 8 and Chap. 10.

5. Country Survey – Finland

This chapter describes the Finnish legal system with respect to exploring and mining minerals. It is divided into three parts: Background, Prospecting and Exploration Activities, and Mine Development Activities.

5.1 Background

This background description concerns the Mining Act, its administration and development. The relationship between the ownership of lands and of minerals is described here, as is the status of the landowner. Certain attention is given to mineral development and the situation of Native Peoples. Finally, land use and environmental legislation significant to mineral development is addressed. This section begins with a system overview.

5.1.1 System Overview and Characteristics

Seeking, claiming and exploiting deposits containing extractable minerals are specifically regulated in Finland through the provisions of the 1965 Mining Act. Extractable minerals comprise metallic ores, industrial minerals and precious stones. Several of the eighty-odd metallic ores enumerated in the Act are industrial minerals. Stone, gravel, sand and clay do not fall within the Act. To gain access to extractable mineral deposits, or a right of disposal over such, one must either own the land where the deposits are located, or have an agreement with the landowner. The purpose of the Mining Act is to promote and regulate prospecting and mining operations.⁴⁷⁷ The Mining Act is based on the claim system.

The Mining Act is structured to reflect the processes whereby mining activities are prepared, commenced and conducted. One can distinguish several stages in the Mineral Act, each of which progressively confers greater rights on the operator. There are three levels of mineral rights that must be applied for separately: Reservation of a claim (*förbehåll*), claim right (*inmutningsrätt*) and mining concession (*utmål*). Typical for these rights is that the relevant authority, in most cases the Ministry of Employment and the Economy (*Arbets- och näringsministeriet*), must grant a reservation, claim or concession to any applicant provided that certain objective criteria set out in the Act are fulfilled.

⁴⁷⁷ A review of the Mining Act is currently being conducted. In October 2008 the Mining Act Work Group (*Gruvlagsarbetsgruppen*) submitted a proposed comprehensive revision of the Mining Act to the Government, recommending that the 1965 Act be replaced with modern legislation securing the preconditions of mining and ore prospecting in a socially, economically and ecologically acceptable manner. A legislative bill (273/2009) was presented in December 2009.

Prospecting by authority of a claim reservation may not take place without the landowner's permission. A reservation of a claim may cover up to nine square kilometres and is valid at most for one year. Importantly, a reservation confers priority for claim right in an area claimed. If more than one party has made a notice of reservation of a claim or applied for claim in one and the same area, the party first to apply has priority on the principle of first come, first served (the claim system).

A claim right confers an exclusive right to the exploration of extractable minerals. If a claim application meets the requirements in the Mining Act, and no objections exist, for example, under other legislation, the Ministry of Employment and the Economy is to issue a prospecting licence (*mutsedel*). This prospecting licence gives the holder a claim right of at least one and not more than five years. The claim area may comprise up to one hundred hectares. The holder of a claim right also has statutory priority over others when applying for a mining concession. If the claimant can demonstrate that the amount of extractable mineral in the claim area is sufficient so that the deposits are probably economically viable, he is entitled to the grant of a mining concession for the area. In the execution of the concession (*utmålsläggning*), the boundary of the area is defined in detail. The area must be undivided and correspond to the needs of the mining operation. After the execution procedure, a mining certificate (*utmålssedel*) is issued, certifying the mining right. A mining concession is valid for a period between five and ten years, even if mining operations are not commenced. Once mining operations have begun, the mining concession remains valid for as long as they continue.

Prospecting, in principle, is permissible in all areas where there are no claim impediments under the Mining Act. Areas near housing and infrastructure facilities are instances of primary claim impediments. The removal of soil substances or extractable minerals in national parks and nature reserves is prohibited. There is a number of State-owned wilderness areas ("Remote Areas") in the north of Finland where mining operations are prohibited while prospecting, on the other hand, is not. The Natura 2000 network includes most of the protected areas of national parks, Remote Areas, etc.⁴⁷⁸ Accordingly, prospecting and mining operations substantially impairing the protected qualities of the areas concerned may not take place within this network without special permission from the Council of State.

The sanctioning of a mining project also requires an environmental permit under the Environmental Protection Act. In the case of mining projects of a certain magnitude or which entail harmful environmental consequences, an EIA may be required under the Environmental Impact Assessment Procedure Act.

5.1.2. The Mining Act and its Application

Most of the statutory rules governing the exploration and exploitation of minerals in Finland are contained in the Mining Act (503/1965) and the Mining Decree (663/1965). Extractable minerals comprise metallic ores, industrial minerals,

⁴⁷⁸ The Natura 2000 network is a specific nature protection programme based on EU regulations on nature conservation.

precious stones, marble and soapstone. The Mining Act also includes specific provisions as to panning for gold. One objective of the 1965 Act, defined against the background of technical progress in ore prospecting and mining through further development of the claim system, was to give enterprises better opportunities to carry out preparatory prospecting in extensive areas, and sufficient time to carry out explorations in limited areas.⁴⁷⁹ The Mining Act has generally been regarded as part of the claim system.⁴⁸⁰ Through the claim right, the Mining Act confers the right of carrying out exploration work on one's own or another party's land with regard to claimable minerals and also a right, subject to certain conditions, of obtaining a mining concession and with it the right of working the deposits concerned. In principle, the Mining Act consequently assumes that the owner of the land where the extractable minerals are located must also apply for a permit in order to exploit them. This is the case, at least, if one wishes to guard against another party applying for a claim right within the same area. In practice, any party, regardless of nationality, is entitled to apply for claims and mining concessions under the Mining Act.⁴⁸¹ Additional permits may be needed, however, in the case of non-Finnish nationals.⁴⁸² The provisions of the Mining Act concerning who has a right of claim and the provisions of the Business Activity (Entitlement) Act (22/1919) are of importance here.⁴⁸³ The Mining Decree contains detailed provisions on application and permit procedures under the Mining Act, in addition to the provisions of the Administrative Procedure Act (434/2003). The Ministry of Employment and the Economy also has promulgated a number of orders and practical directives concerning safety issues and directions for application procedures under the Mining Act.

The rules of the Mining Act make no distinction between minerals occurring on or below the surface. The Act applies to lakes and watercourses as well as to land. Specific legislation exists concerning mineral deposits located in the economic zone comprising the sea area immediately outside Finnish territorial waters, though the Mining Act is also partly applicable here as well. The right to explore and exploit natural assets in the economic zone accrues to the Finnish state under the Economic Zone of Finland Act (1058/2004). The Government (Council of State) may grant another party permission to economically exploit the deposits through a concession procedure whereby conditional permits are granted for the protection of security and the public interest (*utnyttjanderätt*).⁴⁸⁴ Finland's territorial waters and major fjords in

⁴⁷⁹ Legislative Bill 122/1962, p. 1.

⁴⁸⁰ Herler (2002), p. 366.

⁴⁸¹ Legislative Bill 120/1992, p. 44.

⁴⁸² Under Chap. 1, Section 1 of the Mining Act, any natural person domiciled within the European Economic Area, any Finnish corporation or foundation and any foreign corporation or foundation established in accordance with the law of a state belonging to the European Economic Area is entitled to seek, claim and exploit extractable minerals.

⁴⁸³ *Lagen angående rätt att idka näring*.

⁴⁸⁴ Legislative Bill 53/2004, p. 17. The Economic Zone of Finland Act has partly superseded earlier legislation on the Continental Shelf and the Finnish fishing zone. A claim application for the Gulf of Finland rejected in September 2009 also involved exploitation of the economic zone, which was likewise refused. The application had been made for a purpose deviating from those sanctioned by the Mining Act and the Economic Zone of Finland Act.

its lakes constitute public water areas under the Public Water Areas (Title) Act (1966/204). These areas and their beds are state property. The Mining Act also applies here.

The Mining Act contains no provisions concerning deposits of oil, coal, gas or peat, nor is there any special legislation for such deposits.⁴⁸⁵ The Nuclear Energy Act (990/1987) applies conjointly with the Mining Act to mining and enrichment activities involving uranium. Stone, gravel, sand, etc. which do not constitute extractable minerals are freely disposable by the landowner, which normally means that he can prevent others from extracting such deposits. Extraction of these deposits for other than domestic requirements, or for the requirements of agriculture and forestry, may be subject to the award of a permit under the Land Extraction Act (555/1981). This involves an environmental assessment procedure, i.e., assessment of the operation's acceptability from the viewpoint of landscape and environment protection. The Land Extraction Act does not apply to extraction based on the Mining Act.

5.1.3 Ownership of Lands and Minerals

All land and water areas in Finland are divided into properties having unique designations and specific owners. The greater part of Finland's land area, nearly 60%, is owned by private persons. The state owns about 30%, mostly forest land in the north of Finland, public water areas and nature protection areas. The municipalities own roughly 2% of the country's land area.⁴⁸⁶ The legal status of the state and municipalities does not substantially differ from the position of other owners.⁴⁸⁷ In ordinary usage, "property" generally denotes a building or a building together with its curtilage or land area. Usage is not clearly defined and there are differences between certain enactments.⁴⁸⁸

A property unit (*fastighet*) is simply an independent unit of land ownership entered in the Land Register.⁴⁸⁹ A property unit is only two-dimensionally delimited. No provisions exist defining the extent of such a unit in a vertical direction. In practice, a property is taken to include the areas that can be used for its benefit and that of its owner. On the other hand, a property owner is entitled to prevent the use of the air and land area if such use causes vibrations, tremors, noise or comparable nuisances.⁴⁹⁰

There are nine different types of property. The commonest, termed *lägenheter*, are rural properties originally intended for private use, such as farms and forest land.⁴⁹¹ In the Great Redistribution land reform (*Storskifte*), the land and water areas

⁴⁸⁵ No deposits of coal or oil had been found in Finland at the time of the enactment of the Mining Act.

⁴⁸⁶ Halme, Still and Vitikainen (2006), p. 139.

⁴⁸⁷ Hollo (2002), p. 30.

⁴⁸⁸ Viitanen, Kokkonen and Vitikainen (2003), p. 66.

⁴⁸⁹ Lukkarinen (2006), p. 87 and Real Estate Formation Act Chap. 1, s. 2.

⁴⁹⁰ Viitanen, Kokkonen and Vitikainen (2003), p. 69 referring to Hyvönen (1998), p. 8.

⁴⁹¹ Viitanen, Kokkonen and Vitikainen (2003), p. 69.

belonging to the village were redistributed between different homesteads (*hemman*) and subsequently divided into *lägenheter*.⁴⁹² Planned areas have the type of property unit called building plots (*tomt*), which is the second commonest. State-owned forest land is a further type of property, formed by the State as part of the land reform. These lands originally were virtually wildernesses. Protected areas (*skyddsområde*) as applied to State-owned land denotes various types of landscape protection areas, such as national parks, nature reserves and other conservation areas. Public water areas in the sea and in major lakes are another type of property. In addition to *fastighet* property units, there are also joint property units (*samfällighet*), areas jointly owned by two or more properties.

It is also possible for various rights, e.g. easements, to be attached to a property. An easement, for example, can entitle one property to use a part of another property for water pipes, or it may entitle a property to take stone, gravel, sand, clay and other comparable soil substances.⁴⁹³ Other rights that can be attached to a person are leaseholds (*lega*) of different kinds. Leaseholds can refer to land and/or buildings.

Information concerning the different types of properties is contained in a national Real Property Register, which also includes a Cadastral Index Map. There are upwards of 2.1 million *lägenheter*, some 370,000 *tomter* and about 15,000 public areas listed in the Land Register.⁴⁹⁴ The Real Property Register forms part of the Property Data System (FDS), which is administered by the National Land Survey of Finland. FDS is divided into a property unit (*fastighet*) section describing the property units in greater detail, and a title registration (*inskrivning*) section containing ownership particulars. Data in the title registration section, such as title deeds and charges, are maintained by the city and district courts. The FDS property unit section also contains particulars of mining concessions and their auxiliary areas.⁴⁹⁵ The primary source for these data, however, is the Mining Register (*gruvregister*) maintained by the Ministry of Employment and the Economy.

Title to land is directly geared to subdivision into property units. A property unit includes various components, such as land, water, trees and other vegetation as well as buildings, structures, etc., belonging to the property owner. Real estate refers to the title in a property unit.⁴⁹⁶ Title is indivisible and can only belong to one party.⁴⁹⁷ Basically, natural resources within the property, such as growing crops, timber, stone, gravel, etc., belong to the property owner unless the law states otherwise.⁴⁹⁸ Extractable minerals falling under the Mining Act can also be claimed by others than the property owner. In other words, the landowner's title to these deposits can be limited by the authority of provisions of the Act. The Mining Act does not address the ownership of extractable minerals, nor is there any constitutional provision making the mineral assets in question the property of the

⁴⁹² Lukkarinen (2006), pp. 95-96.

⁴⁹³ Viitanen, Kokkonen and Vitikainen (2003), pp. 74-75.

⁴⁹⁴ Halme, Still and Vitikainen (2006), p. 151.

⁴⁹⁵ Lukkarinen (2006), p. 147.

⁴⁹⁶ Halme, Still och Vitikainen (2006), p. 142. Unlike Sweden, where the land or property unit in itself constitutes the real estate.

⁴⁹⁷ Kartio (2002), p. 234.

⁴⁹⁸ Viitanen, Kokkonen and Vitikainen (2003), p. 74.

nation or the people. The basic legal standpoint, however, is that the landowner has certain rights which include the bedrock.⁴⁹⁹ The protection of property rights enshrined in the Finnish Constitution also has a bearing on ownership.⁵⁰⁰

The Mining Act and the Mining Decree contain various terms defining the holders of different rights, such as landowners, rights holders and the proprietors of easements, leasehold and other rights. A rights holder is defined more closely in the Real Estate Formation Act (554/1995) as the party directly affected by a cadastral procedure. Where the Mining Act is concerned, this is pertinent to the mining area delimitation (*utmålsläggning*) effected through a cadastral procedure conducted by the land survey offices of the National Land Survey of Finland.

5.1.4 The Native or Indigenous Peoples

The Sami have standing as Finland's only indigenous people. Together with the Roma and other groups, they are entitled under the Constitution to their own language and culture.⁵⁰¹ The Sami population numbers approximately 7,500 persons, less than 4,000 of who live in the Sami native region demarcated in 1973 in the northernmost part of the County of Lapland. Under the Constitution and within their native region, the Sami have linguistic and cultural autonomy as defined by law.⁵⁰² The Finnish state is deemed to own the greater part of all land within this region.⁵⁰³ The right of the Sami to land and water and to natural resources within their native region has been the subject of many official inquiries.⁵⁰⁴ State ownership has been called into question. Finland has not acceded to ILO Convention 169 concerning Indigenous and Tribal Peoples, among other things due to the uncertainties surrounding land rights.⁵⁰⁵

Reindeer husbandry is an important part of Sami culture. The right of reindeer herding is a special right comprising the right to own reindeer and grazing rights. The reindeer herding area where reindeer husbandry may be practised comprises nearly the whole of the County of Lapland and the northernmost part of the County of Oulu, thus totalling upwards to thirty percent of Finland's land area. Reindeer may be owned by Finnish or EU citizens residing within the reindeer herding area. Thus in Finland, unlike Sweden, the right of reindeer husbandry is not reserved for the

⁴⁹⁹ <http://www.kaivostoiminta.fi>

⁵⁰⁰ The Constitution of Finland (731/1999) Chap. 2, s. 15. Finland acquired a new constitution in 2000. The protection of property rights is one of the basic rights and liberties, concerning which provision is made in the second chapter of the Constitution. Another right is freedom of enterprise. Also of importance is that Section 22 of the same chapter requires the public authorities to guarantee the observance of basic rights, liberties and human rights.

⁵⁰¹ The Constitution of Finland Chap. 2, s. 17.

⁵⁰² The Constitution of Finland Chap. 11, s. 121.

⁵⁰³ Government Inquiry 1999:25, p. 75.

⁵⁰⁴ Cf. reports by Vihervouri (2000) and Wirilander (2001). The legal status of the Sami in Sweden and Finland was addressed in a doctoral thesis by the legal historian Kaisa Korpijaako-Labba in 1989.

⁵⁰⁵ Government Inquiry 2006:14, p. 47.

Sami. The reindeer within a reindeer pasture area form a reindeer herding co-operative, which is a legal entity having geographic limits defined by the county administrative board. The reindeer herding area comprises 56 such pasture areas.⁵⁰⁶

The Finnish authorities are duty bound to consult the Same Parliament (*Sameting*) on measures that are liable to impact the position of the Sami as an indigenous people and on their native region, e.g. matters of urban planning, management of state-owned land, extractable mineral claims and mining concession area boundary definitions, which are specifically mentioned in law.⁵⁰⁷ In addition, national authorities have a general duty of negotiation with representatives of the reindeer pasture co-operative concerned when planning measures will affect state-owned lands and significantly impact reindeer husbandry.⁵⁰⁸ The Ministry of Employment and the Economy has thus to take this into account when dealing with matters concerning prospecting and mining operations affecting these lands. It is also the rule in special parts of the reindeer herding area that state-owned lands may not be used in a manner detrimental to reindeer husbandry.⁵⁰⁹

The Skolt Sami are a Sami group in their own right and special legislation exists regarding living conditions for Sami living in the Skolt region. Important considerations include sustainable uses of natural resources and the preservation of the traditional environment. If a claim application affects the Skolt region, the Ministry of Employment and the Economy must obtain statements of opinion from the Skolt Sami's village assemblies concerning the prospecting activities planned if necessary.⁵¹⁰

5.1.5 The Development of Mining Legislation

The history of Finland until 1809 coincides on the whole with that of Sweden. Consequently, for a long time the legal provisions historically governing the extraction of minerals in Sweden applied in Finland as well.⁵¹¹ Between 1809 and 1917, Finland was an autonomous Russian Grand Duchy and allowed to retain its old laws from the Swedish period. Many new reforms were added. The oldest provisions

⁵⁰⁶ The Sami villages are Sweden's nearest equivalent to the reindeer herding co-operatives.

⁵⁰⁷ Sametingslagen (974/1995) Chap. 2, s. 9.

⁵⁰⁸ Renskötsellagen (848/1990) Chap. 8, s. 53.

⁵⁰⁹ Renskötsellagen Chap. 1, s. 2. In 1995, when Finland joined the EU, foreign mining companies obtained a large number of claims within the Sami native region. A number of reindeer-herding Sami complained, arguing that this was contrary to Article 27 of the International Covenant on Civil and Political Rights, which states that "[i]n those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture." The Supreme Administrative Court in its judgment cancelled all permits and referred the matter to the then Ministry of Trade and Industry. The judgment set a precedent in that any harmful consequences to Sami reindeer husbandry now have to be investigated together with the Finnish Sametinget before a permit can be granted; Government Inquiry 1999:25, p. 74.

⁵¹⁰ Handels- och Industriministeriet (2007), pp. 33-34.

⁵¹¹ Finland was part of the Kingdom of Sweden for more than 650 years (about 1150-1809).

on mining not “inherited” from Sweden were contained in a Proclamation from 1821. Finland acquired a new Mining Statute in 1857 based on the claim system, but with a smaller number of claimable deposits than had previously been the case. Until 1857, Swedish laws as enacted in the 18th century had prevailed. A new Mining Statute, also based on the claim system, was enacted in 1883.⁵¹² In 1917 Finland became an independent republic.

Developments in mining technology and a widening of the potential uses of different minerals rendered the 1883 Mining Statute obsolete, and a new Mining Act, once again based on the claim system, was passed in 1932. New potential uses made more minerals the subjects of claims, e.g., manganese, chromium, titanium, diamond and apatite. Prospecting for these minerals was considered to involve a great deal of capital and labour, and it was therefore argued that anyone undertaking such an enterprise should have a statutory right of exploiting any deposits found.⁵¹³

A 1943 Mining Act was passed to include provisions aimed at preventing speculation in claims. Earlier stipulations of mining as a condition for retaining mining rights had been replaced with a “defence charge” in the 1932 Act, and claimed areas had been left unexploited, to the detriment of the mining industry. Stipulations were introduced requiring an investigation to ascertain whether mining operations had commenced.⁵¹⁴ The current principle whereby the claimant could not exploit a deposit alone if the landowner gave notice of his participation in the enterprise was retained in the 1943 Mining Act, which again was based on the claim system. The landowner was entitled to a one-half share, together with the claimant, in the mining work and the profit thus generated. However, the landowner could lose his right to the claimant if the landowner did not invoke his right to participation at the latest as set out in the definition of the concession area.⁵¹⁵

The present Mining Act dates from 1965. Technical advances in ore prospecting and mining operations had continued and the importance of the mining industry had grown steadily. The scope of the Mining Act was expanded and more minerals made claimable. The Act also came to include limestone deposits. The size of the claim area was extended from nine hectares to one square kilometre or one hundred hectares. Earlier provisions concerning the landowner’s participation were repealed. In practice, the landowner had had no possibility of participating in the mining operations, which more often than not required heavy capital investment. According to the *travaux préparatoires* of the 1965 Mining Act, this right was “fairly insignificant” to the landowner. In addition, its existence was a source of inconvenience and uncertainty to the mining entrepreneur. An annual extraction charge was instead made payable to the landowner for minerals extracted. At the same time, the former defence charge was replaced with a simpler liability to the state, namely a “claim charge”, the amount of which was calculated per unit of area. The landowner received a claim payment, payable before the exploration work

⁵¹² Legislative Bill 15/1882, p. 3.

⁵¹³ Legislative Bill 4/1931, p. 1.

⁵¹⁴ Legislative Bill 61/1942, pp. 1-3.

⁵¹⁵ In Sweden the landowner’s right of participation was eliminated with the passing of the 1938 Mining Act.

begins. The 1965 Mining Act also abolished the defence charge at the mining concession stage, replacing it with an annual mining concession charge payable to the landowner and computed by unit of area.⁵¹⁶

The 1965 Mining Act remained practically unchanged for over 25 years. This was a period of considerable state influence on both prospecting and mining operations. Ore deposits were exploited predominantly through state-owned companies. During the 1990s and the present decade, in contrast, several statutory amendments have been passed, above all due to developments in the environmental context. Another contributing factor can be seen as the fact that mining operations have become an increasingly international phenomenon involving several players from outside Finland itself. Finland's accession to the EU in 1995 also influenced the need for changes through the implementation of directives in both new and existing legislation for the protection of the environment. Problems concerning "contentious claims" were abated by means of clearer rules and closer control. New legislation for conservation areas was added in the late 1990s. Finland acquired new planning legislation in 2000 as well as a new Environment Protection Act. The new Constitution, adopted in 2000 and reinforcing basic rights and liberties of the individual, led to changes of precedent in the case law accompanying the Mining Act.⁵¹⁷

A work group was set up at the then Ministry of Trade and Industry in 2005 to revise the Mining Act. The group carried out several studies to clarify the relation between the Mining Act and other legislation.⁵¹⁸ The group submitted a proposal in 2008 for revising the Mining Act, the purpose of the revision being to replace the antiquated Mining Act with modern legislation. The proposed legislation, on one hand, makes provision for environmental aspects, civil rights and liberties, landowners' rights and the ability of municipalities to influence matters. On the other hand, it secures the feasibility of ore prospecting and mining operations.⁵¹⁹ The aim is for the Parliament (*Riksdag*) to pass a new Mining Act in 2010 and for the new Act to enter into force in 2011.⁵²⁰

The work group's memorandum does not propose any changes in the scope of the Mining Act. The Act will continue to be based on the claim system, i.e., the claimant will have priority for exploiting the deposit he has found, no matter who owns the land or property. The work group's proposal includes the introduction of a general right of sampling, which can be equated with a public right of access (*allemansrätt*). This right, intended to facilitate ore prospecting to a wider extent, does not require official permission, but the landowner will have a right of prohibition and thus will be able to prevent prospecting. The right of claim is

⁵¹⁶ Legislative Bill 122/1962, pp. 1-3.

⁵¹⁷ Handels- och Industriministeriet (2007), p. 11. The scope of fundamental rights in the new Constitution has been enlarged to include, for example, the environment, nature conservation and aspects relating to civic participation. Ministry of Employment and the Economy (2008), pp. 1-2.

⁵¹⁸ Handels- och Industriministeriet (2007), p. 11.

⁵¹⁹ Ministry of Employment and the Economy (2008).

⁵²⁰ A Legislative Bill of a new mining act (RP 273/2009 rd) was presented to the Parliament on the 22nd of December 2009.

proposed to be replaced with a claim permit. The work group proposes more detailed provisions in the new Act concerning the claimant's rights and obligations. The claim will be valid for 15 years at most, i.e., longer than under the present legislation. The claimant will still pay the landowner an annual claim charge, but the level of the charge will be adjusted and will gradually rise when the claim lasts for over four years. It will be possible for financial security to be demanded for the repair of damage and for subsequent reinstatement.

Where mining operations are concerned, it is proposed that a mining permit be introduced, regulating the rights of the user to the deposit. More detailed provisions concerning the rights and obligations of the party carrying on mining operations are also proposed. One new development is the possibility of a mining permit being granted regardless of a claim impediment. An annual extraction charge will continue to be paid to the property owners, but the basis of its calculation is to be specified in greater detail. It is proposed that a party carrying on mining operations would have more extensive duties of finishing and reinstatement and be required to furnish financial security in this connection. Gold panning forms the subject of a separate chapter of the Act and a gold panning permit is to be introduced. The intention is for a more holistic approach to be applied to the grant of permits for claims, mining and gold panning. Property owners, the environment, the landscape, land use and safety are all to be taken into account in the processing of permit applications. It is proposed that the existing Safety Technology Authority (TUKES) be made a new mining authority for the issue of permits under the Mining Act. The Council of State, however, is to decide mining permit applications involving a demand to purchase the right of user to the mining area.⁵²¹

5.1.6 Administration of the Mining Act

The Ministry of Employment and the Economy (*Arbets- och näringsministeriet*) is responsible for issuing permits under the Mining Act. Finland does not have any counterpart to Sweden's Mining Inspectorate.⁵²² The Ministry of Employment and the Economy is also tasked with supervising mining activities. The Ministry is assisted by a Mining Committee (*Gruvnämnd*). This is an advisory body, furnishing the Ministry with viewpoints and expertise in the mining sector. The Mining Decree provides for the Committee to consist of a Chairperson and 13 other members appointed for three-year terms. It is important for geological, mining technology and legal expertise to be included. The mining industry and landowners are also to be represented.⁵²³ The Ministry's permit decisions under the Mining Act may be appealed to the Supreme Administrative Court. The Ministry appoints special cadastral officers from the National Land Survey of Finland to carry out the execution and demarcation of mining concession areas based on mining concessions. The execution or cadastral procedure can be appealed to the Land Court. The

⁵²¹ The Ministry of Employment and the Economy (2008).

⁵²² Before 2008 the Ministry was the Handels- och Industriministeriet (the Ministry of Trade and Industry).

⁵²³ Mining Decree Chap. 4, s. 21. Mining Act Chap. 8, s. 59.

Ministry of Employment and the Economy keeps a Mining Register containing particulars of claims and mining rights.

The Geological Survey of Finland (GTK) has the task of producing and disseminating geological information. GTK is an expert organisation accountable to the Ministry of Employment and the Economy, one of its main duties being to promote mineral exploration and mining. The state also carries out a certain amount of prospecting through this organisation. GTK identifies and documents areas with mineral potential, in order to encourage follow-up exploration and exploitation by the private sector. All GTK discoveries are offered to the private sector through an open tendering process arranged by the Ministry of Employment. The State has no role in the downstream development of mineral deposits.⁵²⁴

The Safety Technology Authority (TUKES) is a national authority responsible for the surveillance of technical safety in a number of fields including mining. TUKES is accountable to the Ministry of Employment and the Economy.

5.1.7 Land Use and Environmental Legislation Significant to Mineral Development

The environment is constitutionally protected through a provision in the Constitution of Finland which lays down that each individual has a responsibility towards the environment, and at the same time, requires public authorities to endeavour to guarantee everyone the right to a healthy environment and the possibility of influencing decisions affecting their own living environment.⁵²⁵

Some of the main enactments on land use and the environment relevant to a mining project are briefly presented below. The Mining Act has to some extent been adapted to this legislation:

- The Nature Conservation Act (1096/1996)
- The Remote Areas Act (62/1991)
- The Environmental Protection Act (86/2000)
- The Environmental Impact Assessment Procedure Act (468/1994)
- The Water Act (264/1961)
- The Land Use and Building Act (132/1999)
- The Ancient Monuments Act (295/1963)

The 1996 Nature Conservation Act (*Naturvårdslagen*) is a modernisation of earlier conservation legislation. One of the main purposes of the statutory reform was to transpose the EC Directive on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive). The Nature Conservation Act contains safeguards for areas belonging to Natura 2000, the EU network. Those provisions enjoin assessment of the environmental impact of projects or plans threatening such sites, and forbid public authorities from granting permits for projects or plans appreciably weakening the protected natural qualities of a site belonging to the network. Special

⁵²⁴ Geological Survey of Finland <http://en.gtk.fi> modified 03.04.2008.

⁵²⁵ The Constitution of Finland Chap. 2, s. 20.

provisions concerning the Natura 2000 network are contained in Chapter Ten of the Nature Conservation Act. The Mining Act requires those provisions to be observed in connection with the grant of mineral rights.⁵²⁶ If a claim or mining project is likely to severely impair the natural qualities of a Natura site, the party applying for a claim right or the demarcation of a mining concession area must assess the impact. If the assessment shows that a mining project will significantly impair the natural qualities, a prospecting licence may not be awarded and an order sanctioning demarcation of a mining concession area may not be made. There may, however, be cause for permitting mining operations, e.g., if they constitute an extremely important public interest. Ore exploration and prospecting should normally be permissible, since they do not significantly impact natural environments.⁵²⁷

The Nature Conservation Act provides for the formation of three types of protected areas: national parks, nature reserves and other nature conservation areas. Nearly all of these various protected areas are included in Natura 2000 and between them, cover approximately 15% of Finland's land area.⁵²⁸ National parks and nature reserves can only be formed on state-owned land. Other nature conservation areas can be formed on both private and state-owned land. The purpose of a national park is to preserve the natural environment and to provide opportunities for recreation. A national park must comprise at least 1,000 hectares. The purpose of a nature reserve is to protect the original natural environment and promote scientific research.

The removal of soil substances or extractable minerals and the infliction of damage to the ground or bedrock are prohibited in national parks and nature reserves.⁵²⁹ Ore prospecting and geological surveys may, however, be carried out by special permission or dispensation.⁵³⁰ The *travaux préparatoires* of the Nature Conservation Act refer to mining and nature conservation as almost invariably mutually exclusive. Conflicts between mining and nature conservation must, according to the *travaux préparatoires*, be resolved by special examination of the importance of the land use for nature conservation and mining respectively before any final decisions are taken.⁵³¹ Most nature conservation areas are managed by the Finnish Forest Agency (*Forststyrelsen, Metsähallitus*).

The Remote Areas Act (*Ödemarkslagen*) is designed to preserve state-owned wilderness areas in the north of Finland. Protection of the culture and natural industries of the Sami is another important concern. There are twelve state-owned Remote Areas, totalling approximately 14,000 square kilometres. Remote Areas consisting of mountain areas, important forests on the tree line, wetlands and watercourses are also included in the Natura 2000 network. Prospecting and acquisition of claim rights are not prohibited in these areas, but mining operations

⁵²⁶ Mining Act Chap. 10, s. 71.

⁵²⁷ Nature Conservation Act sections 65 and 66. Miljöministeriet (2004), p. 22. Statsrådet (2002) pp. 11-12.

⁵²⁸ Handels- och Industriministeriet (2007), p. 19.

⁵²⁹ Nature Conservation Act Chap. 3, s. 13.

⁵³⁰ Nature Conservation Act Chap. 3, s. 15.

⁵³¹ Legislative Bill 79/1996, p. 32.

are.⁵³² The Remote Areas impinge to some extent on the native regions of the Sami, where special provisions apply, for example, concerning claims.

The Environmental Protection Act (*Miljöskyddslagen*) passed in 2000 represents a co-ordination of environmental legislation, enacted in response to the demands of the IPPC Directive for co-ordinated measures for the prevention and reduction of industrial pollution.⁵³³ “Environmental protection” for the purposes of this Act means pollution prevention and thus has a narrower meaning than “environment conservation” in everyday parlance. Environmental protection in this sense does not include nature conservation measures, such as the protection of species and biotopes. Nor does it directly include the protection of heritage qualities or the landscape.⁵³⁴ The Environmental Protection Act is general in scope, i.e., the basic assumption is that it will be applied to all activity causing or capable of causing pollution of the environment.

The Environmental Protection Act contains uniform provisions on environmental permits for land, water and air, as well as various well-established rules such as the principle of the best possible technology and the principle of caution and care. The Act is also applied to activities generating waste, in that the actual grant of permits for waste has been transferred to the Environmental Protection Act, as have provisions of the Water Act concerning protection of water and prohibition of the pollution of watercourses. Thus one and the same authority is to be competent to decide an environmental permit issue in its entirety.

Under the Environmental Protection Act, an environmental permit has to be applied for in advance for an activity creating a risk of environmental harm. Mining activity, mechanical gold digging and mineral beneficiation plants require environmental permits, in common with extensive test extractions.⁵³⁵ The Ministry of Environment (*Miljöministeriet*) is responsible for general control, monitoring and development of the activity to which the Act refers. The Ministry’s administrative sector for supervision and permits includes thirteen regional environment centres (*regionala miljöcentraler*), three environmental permit authorities (*miljötillståndsverk*) and the Finnish Environment Institute (*Finlands miljöcentral*). At the municipal level, the municipal environment protection committee (*kommunala miljöförvaldsmyndigheten*) is the primarily environmental permit authority.

The Environmental Impact Assessment Procedure Act (*Lagen om förfarandet vid miljökonsekvensbedömning*) came into force in 1994, transposing the Directive on Environmental Impact Assessments. Its purpose is to promote assessment of environmental impact in planning and decision-making while at the same time improving public access to information and opportunities for civic participation.⁵³⁶

⁵³² Section 6 of the Remote Areas Act states that mining concessions under the Mining Act may not be granted in a Remote Area unless sanctioned by the Council of State. The same goes for the construction of permanent roads.

⁵³³ Directive on Integrated Pollution Prevention and Control.

⁵³⁴ Legislative Bill 84/1999, p. 98.

⁵³⁵ Environmental Protection Act Chap. 4, s. 28.

⁵³⁶ The Directive on public participation (the Aarhus Convention) prompted amendments to the Act in 2005.

The environmental impact of an activity must be treated holistically. An environmental impact assessment is a document containing the particulars of a project and its alternatives, together with a general assessment of their environmental impact. For the purposes of the Act, environmental impact refers not only to impact on the environment and nature but also to effects on urban structure, the landscape, heritage and the use of resources.

The assessment procedure under the Act is applied to projects with significant harmful environmental impact. The Act is applicable to the extraction, beneficiation and processing of extractable minerals if the total amount extracted is not less than 550,000 tonnes, or to open-cast mining exceeding 25 hectares in area. This limit, however, is not absolute, and the regional environment centre can in individual cases order the assessment procedure to be applied to other mining projects if they are likely to cause significant harmful environmental effects.⁵³⁷ In the case of uranium extraction, moreover, the assessment procedure applies regardless of the size of the mine. If a project is not subject to the stipulation of an EIA, however, the party carrying on the activity still incurs a duty of general awareness concerning the project's environmental impact.⁵³⁸ No permit procedure applies under this Act. On the other hand, the procedure results in a statement by the contact authority (the regional environmental centre) on which a decision concerning the award of an environment permit is based. Everyone whose interests may be affected by a project with considerable environmental impact is entitled to a hearing. NGOs and interest organisations may also take part in the assessment procedure, regardless of whether their interests are deemed affected by the project.⁵³⁹

The Water Act (*Vattenlagen*) regulates water ownership and titles on water use but no longer water pollution caused by emissions. These rules are now part of the Environmental Protection Act. As far as water pollution is caused by water construction, the rules of the Water Act still apply.⁵⁴⁰ The Water Act is a framework enactment in water conservation matters involving regulation, damming, dredging, ditching, etc.

The Land Use and Building Act (*Markanvändnings- och bygglagen*) contains provisions on planning and building. Land use comes under public (municipal and national) control. The municipalities (of which there are 348) have a strong position as regards the control of planning and building. The national administration has an advisory and/or supervisory function. Overarching planning at the national level with nationwide targets for land use is directed and supervised by the Ministry of Environment and the regional environment centres. The planning system proper, however, comprises provincial and municipal levels.⁵⁴¹

The Ministry of Environment is tasked with co-ordinating the interests of different sectoral authorities into nationwide targets for area use. These objectives

⁵³⁷ Environmental Impact Assessment Procedure Act Chap. 2, s. 4 and Government Decree (*Statsrådets förordning*) on Environmental Impact Assessment Procedure Act Chap. 2, s. 6.

⁵³⁸ Environmental Impact Assessment Procedure Act Chap. 5, s. 25.

⁵³⁹ Legislative Bill 210/2005, p. 4.

⁵⁴⁰ Hollo (2002), p. 53.

⁵⁴¹ Legislative Bill 101/1998.

are incorporated in a system for planning the use of areas with a regional plan (*landskapsplan*), local master plan (*general plan*) and local detailed plan (*detaljplan*).⁵⁴² A regional plan is a general plan of area use in the province concerned. The local master plan indicates the main outlines of area use in the municipality. As regards legal effects, a local master plan may be binding or advisory. The local detailed plan indicates in detail how a sub-area in a municipality is to be used and built up. The regional plan and local master plan are the commonest types of plan where conditions for mining operations are concerned.⁵⁴³

Under the Mining Act, a claim or mining concession may not be granted within an area covered by a local detailed plan or by a legally binding master plan, failing special reasons to the contrary, where the municipality objects and has cause for so doing. In the demarcation of concession areas, needs associated with area planning are also to be taken into account, which is to say that the implementation of plans must not be significantly impeded.⁵⁴⁴ On the other hand, existing claims are to be taken into account in connection with planning, since they can lead to the demarcation of mining concession areas.⁵⁴⁵ Under the Land Use and Building Act, one of several objectives of area planning is the promotion of a sparing use of natural resources, while another is to promote opportunities for entrepreneurial activity including mining operations. A plan may need to be revised in order for relations between mining and other land use to be decided once a deposit containing viable extractable minerals has been discovered within a planning area.⁵⁴⁶

The Ancient Monuments Act (*Lagen om fornminnen*) contains provisions on permanent archaeological remains and unattached prehistoric objects. Permanent archaeological remains include mounds, cairns, graves and other traces left by people during past ages in the landscape and the ground. Permanent archaeological remains are protected and come under the supervision of the Archaeological Commission (*Arkeologiska kommissionen*). Permanent archaeological remains also include any area of land needed for the preservation of the remains themselves. Special boundaries can be defined for such a protective area in connection with a property formation procedure. If no boundaries have been defined, a general protective zone applies that is two metres in width from the visible edges of the remains. Previously unknown archaeological remains discovered in the course of excavation or other works are also protected.

5.2 Prospecting and Exploration Activities

Finland, like Sweden, has a public right of access whereby people can move freely outdoors by foot, skis or bicycles on all land except curtilages and arable fields, meadows and plantings that would suffer damage as a result. People are also at

⁵⁴² See Finland's National Land Use Guidelines. Issued by Government on November 30, 2000. Ministry of Environment (2002).

⁵⁴³ Legislative Bill 148/2000, p. 4.

⁵⁴⁴ Mining Act Chap. 2, s. 6 and Chap. 4, s. 22.

⁵⁴⁵ Legislative Bill 148/2000, p. 5.

⁵⁴⁶ *Ibid* at pp. 5-6.

liberty to pick wild berries, mushrooms and flowers. This right is not enshrined by statute but is founded on custom and precedent. The public right of access may not be invoked for a permanent use, the carrying on of business or the arrangement of competitions, e.g. orienteering events.⁵⁴⁷ Reference is sometimes made to the public right of access under the Mining Act, but the reference there is not to the public right of access in the strict sense but rather to a general right of investigation termed prospecting (*letningsarbete*). This is a more far-reaching right than the public right of access, see below.

Under the Mining Act, any individual is entitled to carry out geological observations and measurements and small-scale sampling on another person's land that can be considered necessary in connection with prospecting for extractable minerals.⁵⁴⁸ Light or minor sampling can, for example, mean a few litres of geochemical samples from the bed of a stream or a sample taken with a manually worked device at a depth of a few metres in a test tube.⁵⁴⁹ Before sampling takes place, the landowner must be informed or, if the landowner cannot be contacted, the local registration office (*magistrat*). These offices are a part of the national administration at local level. The landowner or *magistrat* must also be given advance notice of any tree-felling or work causing any damage to trees. Damage resulting from prospecting has to be restored. Prospecting is not subject to any presumption of the occurrence of extractable minerals in the area.⁵⁵⁰

In certain areas, prospecting is normally not permitted because unauthorised persons do not normally have access to them. This applies, for example, to military installations, areas adjoining residences, building plots, gardens or parks and arable land on which it is obvious that damage will arise. Prospecting is also forbidden on a public transport or communication route if the work will disrupt traffic, nor is it permitted in a churchyard or cemetery. It is also prohibited in areas where exploration and mining permits have been granted under the Mining Act. The landowner's permission is always needed if off-road vehicles are to be used across terrain under the provisions of the Off-Road Traffic Act (1710/1995).

5.2.1 Reservation

A party eligible to make a claim under the Mining Act, which as of the beginning of the 1990s in practice means anyone with an address and representative, e.g. a lawyer, in Finland, is entitled to reserve the right to priority to a claim to any deposit (*förbehåll*). Notice of reservation must be submitted to the *magistrat* in whose jurisdiction the reserved area is located. The *magistrat* forwards the notice to the Ministry of Employment and the Economy for decision. The location of the area must be marked on a map appended to the notice. A party giving notice of reservation can upon request obtain a written certificate showing when the notification took place. The Ministry of Employment and the Economy can reject the

⁵⁴⁷ Viitanen, Kokkonen, Vitikainen (2003), p. 76.

⁵⁴⁸ Mining Act Chap. 1, s. 3.

⁵⁴⁹ Legislative Bill 312/1994, p. 1.

⁵⁵⁰ Herler (2002), p. 368.

notification if the area is too large. The Ministry is required to keep a list of reservation notifications and to inform the parties concerned whether the notification has been approved or rejected. The reservation remains in force for up to one year from the date upon which it was submitted to the *magistrat*. A decision concerning a reservation can be appealed to the Supreme Administrative Court.

A reservation may not refer to an area less than one kilometre away from a place where another party has applied for a claim right or mining concession under the Mining Act. A three-year waiting period applies following the expiry of previous reservation areas. The reservation can be up to nine square kilometres in area, but several areas can be included in one and the same notification. A reservation area must be undivided and if possible, quadrilateral and rectangular.⁵⁵¹

An approved reservation notification can be described as an option or reservation for a future claim or exploration permit. The first party to file this notification has priority over any competitors. A reservation does not *per se* confer a wider right of carrying out exploration work over and above public rights of access. On the other hand, a reservation application may have been based on previous prospecting in accordance to the Mining Act. In the event the landowner consents, the reserving party can acquire rights to more extensive exploration. If so, these rights are based on voluntary agreements with the landowner with no state involvement. Reservation notifications are quite common and regarded as positive in the regulatory system. A reservation notification costs € 170. Reservations are not transferable.

5.2.3 Application for and Grant of a Claim Right

Any party wishing to have sole title for a fixed term to the minerals existing in a certain area must apply for a claim and obtain a prospecting licence. A prospecting area may not normally exceed one square kilometre or one hundred hectares. The prospecting area must be an undivided area with its boundaries defined in depth and vertically. A claim right for more than one area can be requested in the same application.⁵⁵²

A claim application has to be lodged with the Ministry of Employment and the Economy. The application must clarify that the applicant is eligible to claim and, if the applicant is a natural person, must include particulars of the applicant's occupation. The boundaries of the claim area must be clearly marked on a map with geographic and administrative location data to a scale of 1:20,000 so that the area can be easily marked on the ground. In addition, particulars must be furnished of the property units and/or areas affected by the claim. The applicant must also indicate the extractable minerals presumed to exist within the area and the reasons for this presumption. The application must also make clear the type of explorations intended and the extent of the same. A name is to be proposed for the claim area. Since a current reservation confers priority over other parties eligible to claim, particulars of

⁵⁵¹ Mining Act Chap. 2, s. 7 and Mining Decree Chap. 1, ss. 1-4.

⁵⁵² Mining Act Chap. 2, s. 5.

this kind must also be included in the application. A certificate or report must be appended to the application, showing that there is no claim impediment under the Mining Act.

The certificate must be signed by the *magistrat* or by two persons familiar with local conditions. If explorations affect Natura sites, wilderness (Remote Areas), or a Sami or reindeer husbandry area, the consequences of the activities must be assessed. If a claim is contemplated for areas for which plans already exist, a statement must be obtained from the municipality.⁵⁵³ The Ministry of Employment and the Economy is to send notice of the application to any landowners, other rights holders and public authorities affected by a claim application. The landowners and other parties have the possibility, within a certain time, to state their opinions before a decision is made.⁵⁵⁴

If reservation notifications or claim applications have been filed by more than one party concerning one and the same area, the party first filing notification or an application will have priority. If the notifications or applications were received on the same day, the applicant who first found the deposit will have priority. A claim application may not be decided before applications with superior priority and wholly or partly within the same area have been conclusively decided.⁵⁵⁵

If the claim application “meets the conditions enacted in this Act” (i.e. the Mining Act), the applicant is to be issued a prospecting licence for the area referred to in the application, or for that part of the area for which no claim impediment exists.⁵⁵⁶ If the application does not meet the requirements defined in the Mining Act, the applicant can be given the opportunity to supplement it. Failing this, the application is to be rejected by the Ministry of Employment and the Economy.⁵⁵⁷ The prospecting licence decision can be appealed to the Supreme Administrative Court. Exploration or prospecting may only take place after the prospecting licence decision has acquired force of law.⁵⁵⁸ A decision under the Mining Act, such as a claim decision, costs € 60 and a prospecting licence costs € 400.⁵⁵⁹ A prospecting licence must include the following particulars:⁵⁶⁰

- The Mining Register number (identification in the Mining Register),
- The name and place of residence of the claimant and, in the case of a natural person, his occupation,

⁵⁵³ Mining Act Chap. 2, ss. 6, 8 and Mining Decree Chap. 2, ss. 5-6.

⁵⁵⁴ Notification as to the right to be heard (*meddelande om hörande*) according to the Administrative Procedure Act.

⁵⁵⁵ Mining Act Chap. 2, s. 11.

⁵⁵⁶ Mining Act Chap. 2, s. 10. According to Herler (2002), pp. 390-391, the Mining Act presumes that a claim will be granted if it meets the limited requirements and no impediment exists. Information from the Ministry of Employment and the Economy states that the applicant will be granted a prospecting licence if the claim application meets the requirements of the Mining Act and other legislation.

⁵⁵⁷ Mining Act Chap. 2, s. 9.

⁵⁵⁸ Handels- och Industriministeriet (2007), p. 13.

⁵⁵⁹ Fees 2009.

⁵⁶⁰ Mining Decree Chap. 2, s. 7.

- Particulars of special permission from the Ministry of Employment and the Economy being needed in order for the applicant to be eligible as a claimant,
- The location, size and boundaries of the claim area,
- The name of the claim area,
- Particulars of properties affected, as well as county, municipality and village,
- Particulars of the extractable minerals which the applicant expects to find in the area, and
- The time within which the concession application is to be filed.

The prospecting licence gives the holder a claim right for at least one and at most five years.⁵⁶¹ Any renewal of a claim cannot be applied for more than three years before its expiry.⁵⁶² The Mining Act does not contain any provisions whereby conditions can be attached to the prospecting licence, but there have been instances of this happening, e.g., in order to safeguard the interests of reindeer owners in the Remote Areas of northern Finland, given the constitutional safeguards for minority populations. However, it has been and remains customary for the prospecting licence to include provisions on obligations under the Mining Act as a reminder to the claimant. For some years now the Ministry has made a practice of elucidating decisions under the Mining Act. These decisions, like decisions concerning claim rights, have also been made conditional with reference to provisions of environmental law and the Administrative Procedure Act.

Finland also has special provisions concerning panning for gold on state-owned land. Gold claims have been made for over one hundred years in the watercourse area surrounding the rivers Ivaklojoki and Lemmenjoki in northern Finland. A claim area for gold panning may comprise up to seven hectares.⁵⁶³ Following a request for renewal, a gold panning claim can remain valid at most for ten years. The procedure of special permits for mining operations – mining concessions – does not apply to gold panning, having been adjudged unnecessary in that none of the gold deposits hitherto revealed by gold panning in the bedrock have been viable.⁵⁶⁴

5.2.4 Lands Available for Exploration and Mining

The Mining Act defines a number of claim impediments.⁵⁶⁵ A deposit may not be claimed:

- Within an existing claim or concession,
- Within a previous claim or mining concession unless five years have passed since the claim or concession lapsed (waiting period),

⁵⁶¹ Mining Act Chap. 2, s. 10.

⁵⁶² Mining Act Chap. 4, s. 21.

⁵⁶³ Mining Act Chap. 2, s. 5 and Chap. 3, s. 12

⁵⁶⁴ Legislative Bill 70/1997, pp. 2-3.

⁵⁶⁵ Mining Act Chap. 2, s. 6.

- Within a frontier zone without permission from the Council of State,
- Within a fortified area (military installations),
- Less than 30 metres from an airport, highway, street, railway or canal used for public traffic,
- Less than 50 metres from a building which is to be used as a dwelling or secondary home or worksite, from a public building, from a power line or transformer exceeding 35,000 V, or in a garden or park adjoining a dwelling,
- Within the grounds of an industrial plant,
- In a churchyard or cemetery, or
- In an area covered by a local detailed plan or by a local master plan that is legally binding, failing special cause, where the municipality objects for some well-founded reason connected with the use of the area concerned.

Claims are absolutely forbidden within existing claim areas and concessions. Exemptions are possible from certain claim impediments if the authorities or the landowner/rights holder concerned consent thereto. The nature of the special reasons in planned areas that can render a claim permissible is not altogether clear.⁵⁶⁶

In addition to claim impediments under the Mining Act, there are other areas that are protected by other legislation, and in which claims can only come into question after exemption has been granted by the competent authorities. As mentioned earlier, national and nature reserves are protected but ore prospecting can be undertaken there by special dispensation. Claims are possible in the Remote Areas of northern Finland, but special provisions apply within the native regions of the Sami. The general principle governing prospecting and mining activity in the Natura 2000 network, which also includes protected areas as mentioned above, is that natural environments must not be significantly weakened. The possibility of claims hinges partly on the protected area affected, the qualities forming the subject of protection and the environmental impact of the activities planned. It is important for the right of claim that a Natura report be appended to the claim application and that the Ministry of Employment and the Economy have assessed that the natural environment will not be impaired. In addition to the grant of a claim right, special permission may be needed for terrain explorations in protected areas. Within state-owned areas, these permits are granted either by the Finnish Forest Agency or the Ministry of Environment.⁵⁶⁷

5.2.5 Exploration Work and Obligations

The claim right confers the right to undertake exploration concerning claimable minerals for a certain length of time. A prospecting licence gives a right to the

⁵⁶⁶ According to Herler (2002) p. 373, this provision invests the mining authority with considerable decision-making power, since, if it deems special reasons to be present, it can grant a permit despite the municipality objecting to the claim for a well-founded reason.

⁵⁶⁷ Handels- och Industriministeriet (2007), pp. 25-29.

deposit itself, but also priority when applying for exploitation of the deposit. This is the next step in the permit procedure through mining concession demarcation.⁵⁶⁸ It is the claimant's duty to present his prospecting licence when requested to do so by a public authority or the owner of the claim area (the landowner).⁵⁶⁹

The claimant may carry out exploration work within the claim area to ascertain the nature and extent of the deposit, and according to needs, he may also use land outside the area for roads, power lines, water supply and other utilities. The exploration and use of areas must be confined to that necessary in order to achieve the purpose of the exploration. The Mining Act gives examples of permissible works, such as drainage, stripping, exploration, deep-drilling and test ore-dressing.⁵⁷⁰ The Mining Act stipulates that work must be conducted so as to cause the least possible damage and inconvenience.⁵⁷¹ A claimant may not, without the landowner's consent, utilise extractable minerals in the claim area in any way other than required for investigating their usefulness. Gold panned out of soils in an area, however, occupies a special position compared with other extractable minerals, in that the claimant is entitled to utilise the deposits commercially. Exploration work by authority of a prospecting licence does not normally require any permission under the Environmental Protection Act. A permit may be required, however, if the claimant pollutes the claim area, and likewise if protected areas are affected.

Only buildings or other structures necessary for the exploration work may be erected within a claim area. The reference here is usually to movable barrack-types of buildings for living quarters, etc., when an exploration is particularly long-lasting and extensive.⁵⁷² It is possible, however, for the Ministry of Employment and the Economy to stipulate in the prospecting licence that special building permission must be applied for in advance. Permanent buildings or structures require building permits under the Land Use and Building Act. Permission is required under the same Act for structures or facilities that are not regarded as buildings, if the measure thus taken impacts on natural conditions, etc. If a claimant has erected or moved buildings without permission, the Ministry of Employment and the Economy can set a time limit for the claimant to remove or restore them, failing which the claim right can be declared forfeit. The buildings or facilities in the area then become the landowner's property and the landowner can immediately remove them at the claimant's expense.⁵⁷³ This provision has been enacted in order to bring unnecessary building under control.⁵⁷⁴

⁵⁶⁸ Mining Act Chap. 1, s. 4.

⁵⁶⁹ Mining Act Chap. 3, s. 14.

⁵⁷⁰ The claim right confers a number of rights of a far-reaching nature. It is questionable whether land, e.g. for roads and power lines, outside the claim area can be claimed on the strength of the claim right, i.e. without further permission or grant of rights, such as easements etc. See also Delin (1977) pp. 92-95 concerning powers under the 1974 Mining Act in Sweden.

⁵⁷¹ Mining Act Chap. 3, s. 12.

⁵⁷² Legislative Bill 312/1994, p. 2.

⁵⁷³ Mining Act Chap. 8, s. 64.

⁵⁷⁴ Legislative Bill 312/1994, p. 3.

The claimant is to compensate the landowner for damage and inconvenience resulting from the exploration work, both within and outside the claim area. A claimant other than the state, a municipality or a parish shall, in the event the landowner so requests, furnish financial security for the compensation which he is liable to pay before the actual exploration work may begin. If the parties are unable to agree on the security, it is to be set by the county administrative board.⁵⁷⁵

The claimant shall pay to every landowner affected within the claim area a charge of € 10 per hectare according to the area stated in the prospecting licence.⁵⁷⁶ The actual exploration works in the claim area may not begin until this charge has been paid to the landowner. The claim right may be declared forfeit if the claimant has not, within one year of the prospecting licence being issued, sent evidence to the Ministry of Employment and the Economy of payment having been rendered. The same applies if the claimant does not pay punctually (before 15th March) every year on payment being demanded by the landowner. In addition, the claimant shall pay an annual prospecting charge to the state for the claim area. The charge is € 6.75 per hectare.⁵⁷⁷ The claim charge is payable when the prospecting licence is issued and not later than 15th March every year thereafter. If the charge, which can also be collected by distraint, is not paid within two months after 15th March, the claim right can be declared forfeit. The state as claimant is exempt from this charge.⁵⁷⁸ The claim charge is principally intended as a regulatory charge, its purpose being to limit unnecessary claims to areas.

The claimant can surrender his claim right to the claim area or a part thereof by notifying the Ministry of Employment and the Economy to this effect in writing.⁵⁷⁹ The claimant is also entitled to transfer his claim right to another party who is eligible, in which case notice of transfer must be given to the Ministry of Employment and the Economy within 60 days for entry in the Mining Register. The transfer to a third party is valid when registered. Particulars of the transfer and of approval of the transferee are also to be noted on the prospecting licence itself. If the notice of transfer is deficient and the deficiency is not remedied by the parties, entry in the Register may be refused.⁵⁸⁰ If the development of mining operations so demands, the state may, under powers conferred by the Council of State (Right to Dispose of State Property) Act (174/1940), transfer state-owned mineral deposits to another party. The Geological Survey of Finland transfers prospecting licences by contract. The Ministry of Employment and the Economy sells them through a species of auction and the new holder promises to invest money in the claim area.

It is the duty of the claimant, within one year of surrendering the claim right, to present a detailed written account of the explorations that have been carried out within the claim area and their outcome. In addition, reasons must be given for the claimant not having gone on to apply for concession area demarcation. Within one

⁵⁷⁵ Mining Act Chap. 3, s. 15.

⁵⁷⁶ Fees 2009

⁵⁷⁷ Fees 2009

⁵⁷⁸ Mining Act Chap. 3, ss. 15, 16 and 17, Mining Decree Chap. 2, ss. 8 and 9.

⁵⁷⁹ Mining Act Chap. 3, s. 18.

⁵⁸⁰ Mining Act Chap. 3, s. 13 and Chap. 6, s. 54.

year of surrendering the claim right, the claimant must remove buildings and other facilities, failing which the property will pass to the landowner. The claim area must be left in the condition which public safety demands. In addition, a representative portion of drill cores, with reports pertaining thereto, are to be preserved and transmitted to the national drill core depot of the Geological Survey of Finland, normally not more than five years following the cessation of the claim.⁵⁸¹

5.3 Mine Development Activities

A claimant wishing to become entitled to exploit the deposit claimed must apply for a mining concession. It is possible under the Mining Act to apply simultaneously for both a prospecting licence and a mining concession, in which case the claimant must already have sufficient information about the deposit to be able to demonstrate that it is financially viable. If such a showing can be made, the claimant is entitled to have an area for mining operations established and demarcated. Following the issuance of a mining certificate, the claimant can then avail himself of all extractable minerals within the mining area. The possibility of exploiting extractable minerals also hinges on the grant of an environmental permit.

The connection between claim and mining concession is important. If the mining concession is not applied for at the same time as the claim, application must be made while the claim is in force. Otherwise the claim right is forfeit and no mining concession can be sought. Thus one prerequisite for a mining concession is the existence of a valid claim at the time of the application for the mining concession. If, despite systematic explorations, the possibilities of exploiting the deposit remain uncertain, the Ministry of Employment and the Economy can, on application being made, prolong the period stated in the mining concession by up to three years, as already mentioned. If a claim has expired before the mining concession application has been processed, the claim remains valid until the concession has been granted.⁵⁸²

5.3.1 Mining Concession for Mining Purposes

The mining concession area must constitute an undivided area and in size and shape correspond to practical requirements. The concession may not be greater than the nature and size of the deposit can reasonably justify. No maximum size is stated in the Mining Act. The boundaries of the concession are held to descend vertically. Part of the concession must already be held by the applicant in the form of a claim area, as mentioned above. The mining concession can also be made to include areas necessary for exploiting the deposit, such as land for industry, storage, dumping and accommodation. Land for transport equipment, power lines, water and sewerage mains can be attached to the concession, but they also can be defined as separate

⁵⁸¹ Mining Act Chap. 3, ss. 19, 20 and Mining Decree Chap. 2, s. 10.

⁵⁸² Mining Act Chap. 4, s. 21.

auxiliary areas (*hjälpområden*) outside the concession. An auxiliary area is not tied to the location of the deposit in the same way as the concession, which makes for flexibility in the planning of the land. For activity above ground, a more limited area than the concession may be demarcated. An area of this kind is termed a working area (*nyttjoområde*). When designing the concession, claim impediments are to be taken into consideration, as well as needs connected with planning the use of the area in accordance with the Land Use and Building Act.⁵⁸³

5.3.2 Application for and Grant of a Mining Concession

A mining concession application is to be submitted to the Ministry of Employment and the Economy during the term of the claim and must include the following particulars:

- The applicant's name, occupation, residential locality and address,
- The applicant's representative and his contact details in Finland, if the applicant is a foreign company,
- Contact details of a contact person who can inform the landowner of the exploration works and the timetable for the same,
- The geographic location of the mining concession – county, municipality and properties affected,
- The area of the mining concession, and
- Proposed name of the concession.

The Mining Act requires a number of appendices to be attached to the application, such as a map showing the location and boundaries of the concession to be formed. It must also be clear which properties are affected by the concession. A report on the exploration works and their outcome, for assessment of the probable commercial viability of the deposit, must also be appended to the application. A plan showing how the concession and its auxiliary area are to be exploited, together with an account of various needs affecting the size and shape of the concession is also to be attached. A report showing how products and by-products, such as excess removed, processing sand and waste, are to be placed within the concession and its auxiliary area must also be appended to the concession application.⁵⁸⁴ A concession application must further be accompanied by an EIA as provided in the Environmental Impact Assessment Procedures Act if the mining project is subject to those provisions.⁵⁸⁵ A concession application comes under the hearing provisions of

⁵⁸³ Mining Act Chap. 4, s. 22.

⁵⁸⁴ Mining Act Chap. 4, s. 23 and Mining Decree Chap. 3, s. 11.

⁵⁸⁵ Mining Act Chap. 4, s. 23 a. The Ministry of Employment and the Economy may decide that an impact assessment is instead to be appended to the general operational plan. This subsequently must always be submitted to the Safety Technology Authority of Finland before mining operations can be allowed to commence, provided that it is obvious that no real preparations for mining operations will be occasioned by the concession application. In

the Administrative Procedure Act, which means that the authorities and rights holders concerned have the right to a hearing before a decision is taken. Under the provisions of the Mining Act, moreover, the municipality is given the opportunity of a hearing in that a statement from the municipality must be appended to the application unless the municipality has been consulted in the matter already. If a mining concession application is deficient, the applicant is given the opportunity of amending it, failing which the application can be rejected.⁵⁸⁶

If the concession application meets the requirements laid down in the Mining Act, the Ministry of Employment and the Economy is to issue an order for grant of the mining concession.⁵⁸⁷ The main statutory requirements are for the claimant to have been able to show that extractable minerals are present in such abundance and form that the deposit can most likely be exploited. The order must show in what way assessment under the Environmental Impact Assessments Act has been taken into account, if the project is subject to this type of assessment.

5.3.3 Execution of the Mining Concession

The actual demarcation of the concession, in which the boundaries of the concession are more closely defined and rights holders compensated, is handled by the Land Survey of Finland by authority of an order from the Ministry of Employment and the Economy for the effectuation of a mining concession procedure (*utmålsläggning*). This procedure is headed by a cadastral engineer, who may be assisted by two trustees. A mining concession procedure may begin even if an order for the demarcation of a mining concession has been appealed. All known rights holders whose rights are affected by the concession are called to the execution of the mining concession (establishment of the mining district), which takes the form of meetings.⁵⁸⁸

A mining concession may not be greater than has been determined by the Ministry of Employment and the Economy in its order for the grant of a concession, but certain minor adjustments are acceptable if the rights holders consent.⁵⁸⁹ In the execution procedure, the concession and any auxiliary areas are to be demarcated. If the applicant is to use only part of the concession for open-cast mining, that part can be established as a working area. The applicant must pay compensation to the landowner for the right of using the work area of a concession and an auxiliary area, unless the area has already been purchased through a contract of sale. Usufructuaries, e.g. lessees, are also to be compensated if as a consequence of the planned mining operations their rights cannot be exercised. If the parties are unable to agree on compensation for the work area and auxiliary area of the concession, the amount payable is to be determined by the cadastral officer. Agreement is primarily sought.

practice, only a minor proportion of concessions lead to the commencement of mining operations. Legislative Bill 319/1993, p. 28.

⁵⁸⁶ Mining Act Chap. 4, s. 26.

⁵⁸⁷ Mining Act Chap. 4, s. 27.

⁵⁸⁸ Mining Act Chap. 4, ss. 27, 28.

⁵⁸⁹ Mining Act Chap. 4, s. 32.

Minutes are to be kept during the executory procedure. A map and descriptions of the concession are to be prepared. The areas must also be marked on the ground in an appropriate manner. Executory documents, minutes, map and description are to be available to the general public for 14 days within the municipality affected by the concession. Thereafter the documents are to be sent to the Ministry of Employment and the Economy.⁵⁹⁰ Those parts of the cadastral procedure not concerning compensation can be appealed before the Ministry of Employment and the Economy. Questions of compensation are appealed to the Land Court. In both cases, an appeal can be lodged by a rights holder, i.e. a party whose rights are directly affected.⁵⁹¹

A mining certificate is to be issued by the Ministry of Employment and the Economy when the cadastral procedure has acquired force of law, i.e. when the time limit for appeal has expired, or alternatively, when an appeal has been decided. Questions of compensation need not, however, have been conclusively determined. The mining certificate constitutes a certificate of mining rights. Particulars of the concession are to be entered in the Mining Register and in the national Real Property Register. A mining certificate must contain the following particulars:⁵⁹²

- The Mining Register number (identification in the Mining Register),
- The name and residential locality of the mining rights holder and, in the case of a natural person, his occupation,
- Particulars of properties affected, as well as county, municipality and village,
- The extractable minerals to be exploited,
- The name of the mining concession, and
- The date on which the mining concession grant acquired force of law in respects other than that of compensation.

The Mining Act does not contain any provisions whereby conditions can be attached to the mining certificate, but it has been and remains customary for the mining certificate to include provisions on obligations under the Mining Act as reminder to the concession holder.

5.3.4 Mining

The mining certificate entitles the concession holder to process and profit from all extractable minerals within the concession. This, however, is conditional on environmental permission being obtained, and on the general operational plan for mining having been submitted to and approved by the Safety Technology Authority.⁵⁹³ The concession holder may also exploit other rock and soil materials in

⁵⁹⁰ Mining Act Chap. 4, ss. 33-38 and Mining Decree Chap. 3, ss. 12-15.

⁵⁹¹ Mining Act Chap. 9, ss. 66, 67.

⁵⁹² Mining Decree Chap. 3, s. 18.

⁵⁹³ (*Handels- och Industriministeriets beslut om säkerhetsföreskrifter för gruvor 921/75*). The general operational plan should include technical and economic assessments as well as

the area if they are needed for the mining operations and the upgrading process.⁵⁹⁴ The concession holder also has a right of user to land areas within the concession, though not for any purpose other than that of mining operations and the upgrading of extractable minerals or for activity in furtherance of the mining operations. There are also instances of the concession holder purchasing the area from the landowner, in which case he will have freehold tenure of the land.

If the concession holder has not commenced mining operations or other activities within a certain period as specified in the mining certificate (at least five and not more than ten years from the grant of the concession), the Ministry of Employment and the Economy can determine that mining operations must be commenced within two years, failing which the concession can be declared forfeit. The time limit may, however, be extended if the public interest so demands or if extractable mineral reserves are needed, or if there are other special reasons.⁵⁹⁵

The concession holder (if not the owner of the concession area) is to pay an annual concession charge of € 20 per hectare. A charge is also payable for any auxiliary area.⁵⁹⁶ The concession holder is also to pay an annual extraction charge (*brytningsavgift*) to the landowner as compensation for any extractable minerals exploited. This charge is fixed by the Ministry of Employment and the Economy after consulting the Mining Committee. The extraction charge is to be equitable and fixed with due regard for the economic value of the extractable minerals, their potential uses, etc. If there is more than one landowner, the extraction charge is to be proportionally distributed as to each owner's share in the concession area.⁵⁹⁷ If the concession holder does not pay the concession and extraction charges, the concession can be forfeited. The same applies if payments decided in the execution of the concession are not rendered punctually.⁵⁹⁸ If the mining operation causes damage or inconvenience that has not been taken into account in the grant of the concession, a compensation claim can be filed with a general court within a certain time.⁵⁹⁹

The concession holder should ensure that future use of the mine and extraction work is not jeopardised or impeded, and that blatant wastage does not occur in the exploitation of extractable minerals.⁶⁰⁰ A mine owner is to render an annual account to the Ministry of Employment and the Economy as to whether mining operations have been carried on and, if so, submit a report on the extent and result of

address safety issues. It is also recommended that this plan takes into account environmental considerations and provides a provisional closure plan, Heikkinen, Noras and Salminen (2008), p. 26 and Handels- och Industriministeriets beslut om säkerhetsföreskrifter för gruvor 921/75.

⁵⁹⁴ Mining Act Chap. 5, s. 40.

⁵⁹⁵ Mining Act Chap. 5, s. 50.

⁵⁹⁶ Mining Act Chap. 5, s. 44 and Mining Decree Chap. 3, s. 19.

⁵⁹⁷ Mining Act Chap. 5, s. 45 and Mining Decree Chap. 3, s. 20.

⁵⁹⁸ Mining Act Chap. 8, s. 64.

⁵⁹⁹ Mining Act Chap. 5, s. 46.

⁶⁰⁰ Mining Act Chap. 5, s. 47.

operations. The concession holder is also to supply annual cartographical data to the Safety Technology Authority, showing how the mining operation has progressed.⁶⁰¹

The concession holder is entitled to transfer his concession to another party eligible for a claim. If a transfer takes place, a note must be made on the original copy of the mining certificate. The new holder to whom the concession has transferred is to give notice of this within sixty days to the Ministry of Employment and the Economy for entry in the Mining Register.⁶⁰² If the concession holder wishes to relinquish his concession without any transfer, the Ministry of Employment and the Economy is to be notified to this effect in writing. The concession is deemed to have lapsed as from the day when the application was received by the Ministry.⁶⁰³

5.3.5 Environmental Approvals and Environmental Assessment

Mining operations and mechanical gold digging as well as facilities for the beneficiation of ores or minerals constitute activities requiring environmental permits under the Environmental Protection Act.⁶⁰⁴ The environmental permit application must include a closure plan if relevant.⁶⁰⁵ The Environmental Permit Authority decides environmental permit issues concerning extraction of metallic ores or minerals. Permits granted under the Environmental Protection Act usually stipulate precise measures to be taken with respect to closure, including rehabilitation.⁶⁰⁶ An environmental permit may be appealed in the Vaasa Administrative Court and from there to the Supreme Administrative Court. Appeals may lodged, for example, by the party whose rights are affected, associations whose purpose is the promotion of environmental protection and nature conservation, the municipality affected, the regional environmental centre and other authorities monitoring public interests in the matter. It should also be mentioned in this connection that permits under the Land Use and Building Act are required for buildings or structures that are to be erected within the mine area, as stated above. Certain mining projects of a certain magnitude or having considerable harmful environmental effects also come under the Environmental Impact Assessment Procedure Act. The mine operator is required to allocate a specified amount of money in proportion to total company turnover, as a contribution towards insurance against environmental risk or damage.⁶⁰⁷

5.3.6 Responsibilities when a Mining Concession Expires

When a concession holder relinquishes his concession or the concession is declared forfeit, the mining concession and auxiliary area revert to the landowner without any

⁶⁰¹ Mining Act Chap. 5, s. 49.

⁶⁰² Mining Act Chap. 5, s. 42 and Chap. 6, s. 54.

⁶⁰³ Mining Act Chap. 5, s. 48.

⁶⁰⁴ Environmental Protection Decree 169/2000 Chap. 1, s. 1.

⁶⁰⁵ Heikkinen, Noras and Salminen (2008), p. 32.

⁶⁰⁶ Ibid at pp. 26-27.

⁶⁰⁷ Ibid at p. 111.

remuneration being payable. The concession holder, however, is entitled to retain existing buildings and structures above ground and to keep the products of the mine for a period of two years. After this, the assets accrue to the landowner if they have not been removed. Existing safety devices and fixtures for the purpose of mining operations are to be left *in situ* failing permission from the Ministry of Employment and the Economy for their removal. Any party who may acquire the right to resume mining operations, e.g. after a temporary closure, may take over the devices without rendering payment for them. After relinquishing the concession, the concession holder is to lose no time in putting the area into the condition which public safety requires.⁶⁰⁸ Even if the operator is no longer responsible under the Mining Act, he can still be responsible under environmental legislation.

⁶⁰⁸ Mining Act Chap. 5, s. 51.

6. Country Survey – Ontario

This chapter describes the legal system of Ontario with respect to exploring and mining minerals. It is divided into three parts: Background, Prospecting and Exploration Activities, and Mine Development Activities.

6.1 Background

This background description concerns the Mining Act, its administration and development. Provincial and federal jurisdiction is addressed. The relationship between the ownership of lands and of minerals is described here, as is the status of the landowner. Certain attention is given to mineral development and the situation of Native Peoples. Finally, land use and environmental legislation significant to mineral development is addressed. This section begins with a system overview.

6.1.1 System Overview and Characteristics

Ownership of most minerals in Ontario is vested in the Crown. However, the discovery and development of these resources is carried out by the private sector. The process of obtaining mineral rights is self-initiated and is mainly an automatic non-discretionary system providing compliance with the requirements in the Mining Act and its regulations. The method of acquisition of rights to minerals is known as the “free entry” system. Free entry systems share four characteristics according to Bankes.⁶⁰⁹ First, an interest in minerals is acquired through the physical staking or locating of a claim rather than based on an application. The interest may be perfected through registration with the mining recorder or similar governmental office. Second, the barriers to entry are low. Any person may engage in prospecting and staking activities, provided that they have a prospector’s licence. Third, all Crown-held mineral rights are open for staking unless they have been withdrawn from staking or are restricted as outlined in the Ontario Mining Act. This can be, for example, the case with respect to provincial parks and native reserves. Fourth, once acquired, mineral claims can be maintained indefinitely by undertaking and recording work on the property.

The Ontario Mining Act gives the basis for mineral exploration and development on both Crown and private land where mineral rights are reserved to the Crown. The first stage of exploration activity is selecting an area for staking a claim. Physical ground staking gives the claimholder the exclusive right to prospect in the chosen area on a first-come basis. A mining claim is a square or rectangular area from 16 hectares (a 1-unit claim) to 256 hectares (a 16-unit claim) in size. A prospector must perform work in order to maintain and keep the claim, referred to as

⁶⁰⁹ Bankes (2004), pp. 317-318.

assessment work. A claim can be maintained indefinitely by completing this work. Mining cannot take place until the claims are brought to lease. The right to go to lease is a statutory right based upon the claimholder fulfilling the obligations of the Mining Act. A mining lease is issued for a period of twenty-one years.⁶¹⁰ Prior to a mine coming into production, the leaseholder must comply with both provincial and federal legislation, such as the Environmental Protection Act.

The Mining Act also contains discretionary provisions where mining rights or the right to explore may be given by a Licence of Occupation. This licence allows for the exploration of tracts of land, or land under water, within specific terms and conditions as set by the Minister. A licence of occupation is issued only in special circumstances, for instance, with respect to environmentally sensitive areas, to allow mineral exploration to occur under controlled conditions in areas not open to claim staking.

6.1.2 The Mining Act and its Application

The main legislation or framework for exploration and development of minerals is the Ontario Mining Act (Revised Statutes of Ontario, 1990, Chapter M.14) and several regulations related to that Act.⁶¹¹ This act applies to minerals owned by the Crown, which is the most common situation. Since the beginning of the 20th century, the Crown has reserved the mineral rights in most new land grants, but historically there have been different practises. If the mineral or mining right is privately owned and not reserved by the Crown, general property law applies.⁶¹²

The Mining Act and its Regulations dictate the manner by which the Crown may dispose of its minerals and how individuals and companies may obtain rights to them. The purpose of the Mining Act is to encourage prospecting, staking and exploration for the development of mineral resources and to minimize the impact of these activities on public health, safety and the environment through rehabilitation of mining lands in Ontario.⁶¹³ Minerals according to the Act include all naturally

⁶¹⁰ Current modernization of the Mining Act with the introduction of the Mining Amendment Act in April 2009, Bill 173, entailed numerous amendments to the Act relating to prospecting land, staking mining claims, disputing claims, assessment work, surface rights owners, exploration work and consultation with Aboriginal communities. The Mining Amendment Act received Royal Assent on October 28, 2009. This meant that the Bill became an act and a few sections came into force that day. However there are many sections that do not come into force until proclamation of the Lieutenant Governor which may not be for sometime (possibly year(s)). Lessard (email 4th of November 2009).

⁶¹¹ Some of the main regulations are Ontario Regulation; 6/96 Assessment work, 7/96 Claim staking, 195/06 Forms, 113/91 General, 240/00 Mine Development and Closure under part VII of the Act.

⁶¹² Barton (1993), p. 2.

⁶¹³ Mining Act section 2. According to proposed amendments to the Mining Act, Bill 173, section 2 of the Act is repealed and the following substituted: The purpose of this Act is to encourage prospecting, staking and exploration for the development of mineral resources, in a manner consistent with the recognition and affirmation of existing Aboriginal and treaty

occurring metallic and non-metallic minerals including natural gas, petroleum, coal, salt, quarry and pit material, gold, silver and all rare and precious minerals and metals, but does not include sand, gravel and peat.⁶¹⁴ Mine when used as a verb in this context refers to the performance of any work in or about a mine except preliminary exploration. Prospecting is the investigation of or search for minerals.

Mineral rights under the act are obtained through a claim system by staking on the ground. Then, if certain conditions are fulfilled, a lease may be issued giving the right of disposal over the minerals. This method of acquisition of rights is the free entry system as is prevalent throughout most of Canada.⁶¹⁵ The Mining Act deals with both underground and surface mining.⁶¹⁶ No distinctions are made between smaller or larger mining projects. Neither is any distinction made between individuals or companies who want to explore and develop minerals. The Mining Act also contains several provisions concerning the rehabilitation of a mine, such as the requirement for a closure plan before extraction can take place.

Sand and gravel are excluded from the Mining Act's definition of minerals. These are regulated instead under the Aggregate Resources Act (R.S.O. 1990, c.A.8). This Act applies to the surface mining of aggregates as defined by the Act: Gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, rock or other prescribed material. Rock has been defined in a regulation connected to the Act to exclude materials as andalusite, barite, coal, diamond, gypsum, kaolin, lepidolite, magnesite, petalite, phosphate rock, salt, sillimanite and spodumene.⁶¹⁷ Some other materials, such as asbestos, talc, wollastonite, graphite, kyanite and mica are also exempted from the Aggregate Resources Act, entailing that the Mining Act applies. The classification of material normally determines the legislation applicable as well as the procedures that must be followed in order to acquire rights. Subsurface or underground mining operations are not eligible for permits under the Aggregate Resources Act. For some non-metallic minerals, such as limestone and marble, both acts may apply. There are also interactions between the acts that can be somewhat complicated. For instance, no aggregate permit is to be issued for sand and gravel if the sand and gravel have been included in a placer mining claim under the Mining Act, unless the non-aggregate mineral has been removed from the placer deposit.⁶¹⁸

The Aggregate Resources Act applies to private land in areas designated under the Act (not all areas), on all land owned by the Crown, and on all land under water. With respect to private land areas not designated under the Act, no regulation applies as to the extraction of sand and gravel if these aggregates are privately owned, i.e., no reservation to the Crown. The purpose of the Aggregate Resources Act is to provide for the management of aggregate resources in Ontario, to control and regulate aggregate operations on Crown and private lands, to require the

rights in section 35 of the Constitution Act, 1982, including the duty to consult, and to minimize the impact of these activities on public health and safety and the environment.

⁶¹⁴ Mining Act section 1(1).

⁶¹⁵ Barton (1993), p. 1.

⁶¹⁶ Mining Act section 1(1).

⁶¹⁷ Ontario regulation 244/97, Aggregates Act, General.

⁶¹⁸ Aggregate Resources Act section 36.1.

rehabilitation of land from which aggregates have been excavated and to minimize adverse impact on the environment in respect of aggregate operations.⁶¹⁹ This is done by a licensing or permit system. A developer has to meet a set of rules, standards and prepare site plans. Municipal involvement in this permit process is essential.

A special act applies for oil, gas and salt resources, namely the Oil, Gas and Salt Resources Act (R.S.O. 1990, c.P.12). The right to exploit these deposits is regulated through a licence system. The Mining Act also contains special regulations concerning oil and gas applicable to certain land areas owned by the Crown of Ontario. No special provincial legislation in addition to the Mining Act exists for uranium. However, federal law applies to the development of uranium mines.

6.1.3 Provincial and Federal Jurisdiction

Canada has a constitutional division of legislative power between the federal Parliament and the provincial legislatures. The power to legislate concerning onshore minerals remains with the provinces. This is stated in section 92 A(1) of the Constitution Act of 1867, inserted by the “Resources Amendment” of 1982 in its provision for non-renewable natural resources in the provinces. A mineral operation may still be subject to federal law, as some matters affecting mining, such as fisheries, are the responsibility of the federal government. Other areas of federal jurisdiction are navigable waters, trade and commerce, Indians and lands reserved for Indians. Agriculture is a matter on both levels of government. Environmental law also falls under concurrent jurisdiction in Canada and mining projects might be subject to both federal and provincial environmental assessment legislation. The constitution allows the federal government to assume authority over matters that may have national and international implications and could affect the entire country. The division between jurisdictions at times is not clear, complicating understanding the legislative framework governing a mining project.⁶²⁰ As to offshore minerals, Canada has complete sovereignty over its territorial sea and jurisdiction to exploit the mineral resources under the continental shelf.

6.1.4 Ownership of Lands and Minerals

The historical starting point with respect to the ownership of lands and minerals in Canada is the principle that the sovereign owns lands not granted, subject only to the claims of aboriginal title. The Constitution Act of 1867 provides that, upon Confederation, all lands, mines and minerals belong to the provinces subject to then-existing interests. Title to land comprising the province of Ontario was originally claimed by the Crown in the right of Canada, and later the Crown in either the right of Canada or the right of Ontario. Settlers who arrived in the late 18th century were issued Crown grants, called Crown patents, by the province. A Crown patent

⁶¹⁹ Aggregate Resources Act section 2.

⁶²⁰ Wakefield, Oliver and Fordyce (1998), p. 5.

generally involved one or two, usually 100 acre farm lots and retained mineral rights and timber. As a condition for receiving a Crown patent, the settler was required to clear a stated number of acres and build a shelter. Where no original Crown patent is issued for a piece of land, no private ownership can exist in law even today.⁶²¹

About 87 % of all land in Ontario is Crown land that is controlled and administered by the provincial or federal governments. Generally, this is land that has never been granted or sold by the Crown to individuals or organisations for private use. Lands on the beds of most navigable lakes and rivers are provincial Crown lands. Certain lands are held by the federal government, for instance land used for Indian reserve areas, national parks, railways and military purposes. In southern Ontario, where the majority of the population lives on quite large land areas, these are private. Even if land has been granted or sold by the Crown for private purposes, there are several ways land can return to Crown or Public land status. For instance, land may revert to the Crown if the owner has neglected to pay property taxes.

While the Province of Ontario was being settled from 1870 onwards, the British government had it surveyed. The first priority for the surveyors was to report on mining and lumbering possibilities, and to a lesser extent, agricultural potential. The province was divided into counties, each county was divided into townships and these in turn were surveyed into concessions and lots. A typical township was laid out in 14 concessions, 14 strips of land running from one side of the township to the other, each strip measuring 2.0116 kilometres.⁶²² Each concession was divided into smaller lots that often were sold in halves for typical Ontario 100-acre farms. As the Province's population grew, township lots were further subdivided into smaller lots that were surveyed and shown on often informal registered plans. The resulting lot and plan number then became the permanent description reference for the real property. Whether land has been surveyed is also of importance when it comes to the way Crown-owned minerals can be claimed according to the Mining Act. A claim in a surveyed area is namely governed by the concession lines and size of surveyed lots. Real property can be described as the North half of Lot 5, Concession XI, Township of Osgoode.⁶²³ A more common way to describe real property is to use a parcel number with an identification designation (PIN-code).

The basic common law rule is that minerals, except gold and silver, are part of the land itself and belong *prima facie* ("as things first seem") to the owner of the soil. This *prima facie* rule is not absolute. Exceptions to the rule according to Barton are so frequent that the rule simply does not provide an accurate description of mineral ownership anywhere in Canada.⁶²⁴ The origins of the common law rule may be traced back to the Case of Mines in 1567 in England. Before that great case was decided, the Crown on occasion had asserted a general right to all minerals wherever situate. The case is primarily known for holding that precious metals, gold and silver are the prerogative of the Crown, but it also established the limits of the royal claim.

⁶²¹ Moore and Globe (2003), p. 2.

⁶²² Donahue, Quinn and Grandilli (2003), p. 1.

⁶²³ Donahue, Quinn and Grandilli (2003), p. 321.

⁶²⁴ Barton (1993), p. 28.

Ontario also had an early history of reservations of gold and silver in Crown grants.⁶²⁵

It is typical for the rights to mines and minerals to be held separately from the rights to the rest of the land. This severance of ownership most frequently is met in a patent or Crown grant of land, from which the minerals are reserved or excepted. It can also be done by statute.⁶²⁶ Surface rights, in contrast with mining rights, are often referenced. In general usage, surface rights mean the balance of rights in the land once the mineral rights are separated, or every right in land other than the mining rights. The Ontario Conveyancing and Law of Property Act (R.S.O. 1990, c. C.34) defines mining rights as the ores, mines and minerals on or under the land, together with such right of access for the purpose of winning them. Surface rights are described as the land with the exception of the ores, mines and minerals on or under the land and such right of access for the purpose of winning them. The holder of the mining rights therefore has certain distinct rights to the surface even if another party owns the surface rights.

However, the Ontario Conveyancing and Law of Property Act does not apply to conveyances by the Crown.⁶²⁷ This Act applies instead to a situation where the minerals are privately owned. Mining rights according to the Mining Act (regulating Crown minerals), mean the right to minerals on, in or under any land. Surface rights mean every right in land other than mining rights.⁶²⁸ The Mining Act provides a statutory right to Crown minerals even if the surface rights are privately owned. There is no horizontal boundary between surface rights and mineral rights. Both rights exist from the surface down into the ground directly beneath the surface, but they are for different uses of and physicals in the land. There is no lower limit or depth limit to either of these rights.

The ownership of surface rights and mining rights varies from one parcel of land to the next across Ontario. Over the past century in Ontario, the Crown at various times has sold parcels of land while retaining the mineral rights.⁶²⁹ The province amended the act generally dealing with the granting of Crown lands, the Public Lands Act, in 1913 so that any title granted by the Crown before the amendment included mining rights ownership. The minerals passed to the grantee whether reserved or not. Any parcels of land granted by the Crown after May 6, 1913 may or may not include mining rights depending on how the title is worded. Mineral rights passed unless expressly reserved.⁶³⁰

Ontario's current Public Lands Act authorizes the Ministry of Natural Resources to sell or lease land. The province's policy today is to reserve mining rights to the Crown in the majority of land grants. The Public Lands Act defines mines and minerals to include gold, silver, copper, lead, iron and other mines and

⁶²⁵ Barton (1993), pp. 29, 68.

⁶²⁶ Ibid at p. 33.

⁶²⁷ Conveyancing and Law of Property Act sections 16, 17, 19.

⁶²⁸ Mining Act section 1(1).

⁶²⁹ Ministry of Northern Development and Mines, *Prospecting on Private Land in Ontario*.

⁶³⁰ Donahue, Quinn and Grandilli (2003), p. 82. Public Lands Act, section 61(1), (3). Ministry of Northern Development and Mines, *Surface Rights and Mining Rights*.

minerals, and quarries and beds of stone, marble or gypsum.⁶³¹ The Act requires all Crown grants for summer resort locations to reserve all mines and minerals thereunder.⁶³² The mineral reservation means that if gold, silver, lead, iron or any other mineral is found under a cottage, it belongs to the Crown. Where land for agriculture purposes has been sold by the Crown after 1st of April 1957, the mines and minerals are also to be reserved to the Crown.⁶³³

The Mining Act further gives the right to explore, extract and use minerals that have been reserved in a grant and therefore still remain the property of the Crown. As mentioned above, where the Crown has granted mineral rights so that they are privately owned, the Mining Act does not apply. The Conveyancing and Law of Property Act gives comparable rights. Of importance is the certain distinct right to the surface according to the definition of mining rights even if another party owns the surface rights. The most common way to receive mining rights is through claiming and then obtaining a lease after the fulfilment of the requirements in the Mining Act.

On private land, individuals do not hold absolute ownership of land. Ownership of land can be described as a bundle of rights and obligations with respect to particular parcels of land. These bundles can be divided into various smaller bundles called estates and interests held by different people. A private individual owns an “estate”, an interest comprising a collection of rights related to the use and possession of land.⁶³⁴ The two basic categories of land ownership are freehold title and leasehold title. The freehold estates are further divided into a fee simple estate or a life estate. The fee simple estate is the greatest estate a person can own and comprises all ownership rights that are possible to have under the law. A life estate consists of the same ownership rights as the fee simple estate but limited to a lifetime. A leasehold estate provides a tenant or lessee with the right of exclusive possession over a property for a certain period, the term of the lease. The rights included in land ownership apply not only on the horizontal plane, but also three dimensionally. Ownership to a certain tract of land in the form of an estate fee simple absolute also entails ownership to the subsurface. To what extent surface ownership includes the right to the subsurface depends on the nature of the initial Crown grant of the land in question, for instance whether the minerals have been reserved.

Land rights comprise not only estates, but also rights in land that are considered less than estates. These rights recognise instead different types of uses allowed on the land of another. Such user rights, for instance, can be easements or licences. The most common form of easements is a right of way giving a landowner access across a neighbour’s land. Licences are simply personal rights, not interests in land.⁶³⁵ A licence is a personal right to certain privileges in or over the land of another. It is a contractual right or privilege to enter upon and use the grantor’s land in a certain manner or for a certain purpose. The Mining Act recognizes different right holders to

⁶³¹ Public Lands Act, section 1.

⁶³² Public Lands Act, section 15(6).

⁶³³ Public Lands Act, section 60.

⁶³⁴ Moore and Globe (2003), p. 50.

⁶³⁵ Sinclair and McCallum (1997), p. 51.

land when it comes to compensation due to mining activities. Focus in the Act is placed on the owner of the surface rights. However, “different occupants of lands” are also mentioned without any further specification.⁶³⁶

Ontario currently has two land registrations systems to record registered documents that create or affect ownership rights in land; the Registry system and the Land Titles system.⁶³⁷ The Registry system records documents as such (deeds) and the legal validity of the documents is no way assured by the act of registration. The Land Titles system is a form of government guaranteed land registration system, referred to in other legal systems as a cadastre system or Torrens system. The title register mirrors all currently active interests that affect a particular parcel of land. Ontario has been involved in a massive computerized registration reform, POLARIS, since the 1970s. One of its goals is to convert to one land titles system. There are a number of different parcel types in POLARIS. The most common type of parcel is a property parcel including single-family homes. Roads and railroads are also common. Less common parcel types include Indian Land and Crown land.⁶³⁸

6.1.5 The Native or Aboriginal Peoples

The term “Aboriginal people” refers to the descendants of the original inhabitants of Canada. The native or aboriginal peoples of Canada under the definition in section 35 of the Constitutional Act of 1982, include the Indian, Inuit and Métis peoples. While many Indian peoples have signed treaties with the Crown, others have not. For most Indian peoples, the federal Indian Act is the most important part of the legal framework; it regulates the holding of Indian status, local government by Indian band councils and the management of Indian reserves. In contrast, the Inuit of northern Canada do not have reserves and are not affected by the Indian Act, but have entered into land claim settlement agreements.⁶³⁹ Where Indian reserves have been established, the Crown in the right of the federal government owns the the reserve lands in fee simple, but must exercise the rights of ownership for the benefit of the First Nation entitled to occupy the reserve.⁶⁴⁰

Native title to land, also called “aboriginal title”, refers not to an individual’s claim to ownership of a particular parcel, but to the traditional customs that govern a collective’s use of a particular territory.⁶⁴¹ Aboriginal title has been asserted in parts of Canada in exchange for specified reserve lands through the negotiation of treaties. There are, however, vast areas in which no treaties have been negotiated or which

⁶³⁶ According to the proposed amendments of the Mining Act, Bill 173, a definition of surface rights owner is added to the Mining Act as follows; Surface rights owner means, in respect of an area of land, an owner in fee simple of the land, as shown in the appropriate land registry office, who does not own the mining rights for the land.

⁶³⁷ Moore and Globe (2003), p. 8.

⁶³⁸ Ibid at p. 27.

⁶³⁹ Barton (1993), p. 80.

⁶⁴⁰ Sinclair and McCallum (1997), p. 47.

⁶⁴¹ Ibid at p. 46.

the only treaties are treaties of peace and friendship without the surrender of any land rights.

Treaties or agreements relating to land were not entered into during the first stages of European settlement. However, British colonial policy was to come to terms with aboriginal rights through the British purchase of land from the Indians in the name of the Crown.⁶⁴² Many reserves have been established pursuant to treaty, particularly in Ontario. The signing of the Robinson-Huron and the Robinson-Superior Treaties in 1850 was encouraged by mineral discoveries and the desire to open the region north of the Great Lakes to settlement. These treaties provided for a surrender of aboriginal title to land with the exception of certain described reserves. The federal government and the provinces also entered into several agreements respecting treaties and reserves between 1891 and 1924.

Modern ways of dealing with Native land claims is through land claim agreements where native groups may receive freehold ownership of a proportion of lands in the settlement area if they surrender aboriginal title. Some of these lands include full mineral rights, but most are subject to a reservation of mines and minerals to the Crown. Control and management of mineral, timber, oil and gas resource development on Indian reserves is firmly vested in the federal authority of Indian and Northern Affairs Canada (INAC). Under the Indian Act and the Indian Mining Regulations, the Department issues permits and leases for the removal of minerals from First Nation reserve lands.⁶⁴³

A majority of the different Indian Bands have signed treaties and have reserves in Ontario. In addition to those lands, all Natives have interests in their traditional lands where their forefathers hunted and fished. Many bands in the north are becoming more and more insistent that those engaged in mineral exploration on their traditional lands have their consent, which usually requires providing benefits to the First Nation community to offset any environmental/social impacts caused by the mineral related activities. The issue of consulting with the First Nations in mining operations has been addressed by the Supreme Court of Canada. The Court held that there is always a duty of consultation with aboriginal people regarded such lands. The First Nations have no special additional rights to those of the surface rights owners and other occupants mentioned in the Mining Act as to compensation issues.

Natural resource development has often been the catalyst bringing issues about aboriginal title to courts. Native legal issues affect mineral activity in several ways. First, on lands controlled by native peoples, such as Indian reserves or land set aside under land claim agreements in northern Canada, special regimes govern title to minerals and the process of exploration and development. Native rights such as hunting, trapping and fishing rights can be relevant when mineral activity encroach on them. In areas outside the reserves often claimed as traditional lands, a mining operation has a duty to consult with the aboriginal people. Aboriginal title and other aboriginal rights are, as mentioned earlier, protected under section 35 of the Constitution Act of 1982, which states that existing Aboriginal and treaty rights of

⁶⁴² Barton (1993), pp. 86, 89.

⁶⁴³ Bartlett (1990), p. 139 and information received at the homepage of Indian and Northern Affairs Canada at June 2009.

the Aboriginal peoples of Canada are hereby recognized and affirmed. This section does not, however, define the extent of existing rights.

6.1.6 The Development of Mining Legislation

The earliest mining operations in Ontario were iron mining and smelting in the southeast of the province beginning in 1820. There were no statutory provisions for mining before 1864.⁶⁴⁴ Prior to 1864, a location system was used as opposed to the claim system for acquiring rights to Crown minerals. According to the location system, a mining location could be applied for and purchased and a Crown patent of the land would be issued. A location had to be surveyed and paid before a security of title for exploring could be obtained. The investment costs could be high since the minimum size of a location was large. The area was limited to 161.9 hectares in 1853. With this system, the government had no possibility of preventing speculators from buying large areas of land and holding it without development, as happened with the major ore bodies at Sudbury.⁶⁴⁵

A claim system was introduced with the enactment of the 1864 Gold Mining Act by the United Province (Ontario and Quebec). A miner was allowed free entry to prospect, stake and work a claim without the delay and expense of purchasing a large parcel of land.⁶⁴⁶ The Act applied only to gold, and the legislation was influenced by the “gold rush legislation” from other provinces and countries such as British Columbia, Australia and California.

The General Mining Act was enacted in 1869 applying to all minerals. This Act contained rules about both staking claims and as to the acquisition of locations. However, the claim system with free entry principles and mechanisms for assessment prevailed when the Mines Act of 1906 came into force.⁶⁴⁷ Just prior to that, Northern Ontario had experienced a great gold rush in 1903. According to Barton, the Mines Act of 1906 was the first modern mining law of Ontario. Mining Divisions were then established for all parts of the province, each with a Mining Recorder.⁶⁴⁸

For a long period, changes to the Mining Act were only minor. Mining leases became the main kind of production tenure in 1963. With significant amendments and an overhaul in 1989, the earlier system of mining patents or freehold interest in mineral rights was finally abolished with the enactment of the current Ontario Mining Act of 1990. A new section of the Mining Act included the requirements for mine planning and reclamation with closure plans as well as regulations about financial security to cover the costs of mine closures. The Mining Act and its regulations have been amended several times during the 1990s and in the beginning of this century. Some changes were made in respect to the restoration of mining lands, in other words, land used for mining purposes. The Mining Act is

⁶⁴⁴ Barton (1993), pp. 126-127.

⁶⁴⁵ Ibid at pp. 130-131.

⁶⁴⁶ Barton (1993), p. 127.

⁶⁴⁷ Barton (1993), pp. 130-131. Aston (1999), p. 56.

⁶⁴⁸ Barton (1993), pp. 132-133.

continuously under review by a non-governmental advisory group, the Mining Act Advisory Committee, consisting of different stakeholders.⁶⁴⁹

Steps were taken in 2008 by the Government to modernize the Mining Act. A “Discussion Paper” was released, outlining five policy issues: The mineral tenure system, aboriginal rights, regulatory processes for exploration on Crown Land, land use planning in Ontario’s Far North, and private rights and interests (mineral rights/surface rights issues).⁶⁵⁰ In the spring of 2009, Bill 173, Mining Amendment Act of 2009 was introduced by a First Reading.⁶⁵¹ This Bill aims to create a balance between preserving the competitiveness of Ontario for exploration and mining while addressing the concerns of Aboriginal communities and private landholders. Consultation with Aboriginal communities is formalized. A dispute resolution process is established for disputes relating to Aboriginal consultation. The Bill enables a claim to be staked by map staking, eliminating the need for prospectors to enter onto property to stake mining claims. The list of lands removed from staking has been expanded. The Bill makes various changes regarding the staking of mining claims where there is a surface rights owner and includes requirements for notifying surface rights owners that a claim has been staked. A graduated regulatory scheme for early exploration, with exploration plans required for lower impact activities, and exploration permits required for activities with higher impact, is also introduced. In addition, the Bill creates a new requirement for prospectors to successfully complete a prospector’s awareness program in order to obtain a prospector’s licence. Much of the proposed Act enables processes that will be detailed in the regulations, to be developed in the subsequent two years.⁶⁵² The Bill received Royal Assent on October 28, 2009. As mentioned many sections of the Act will not come into force until proclamation of the Lieutenant Governor.

6.1.7 Administration of the Mining Act

The Ministry of Northern Development, Mines and Forestry (MNDMF) is the Ministry responsible for the mining industry in Ontario.⁶⁵³ The Mines and Minerals Division at the Ministry has four branches: The Mineral Development and Lands Branch which is the focus here, the Ontario Geological Survey Branch, the Diamond

⁶⁴⁹ Some recommended changes in December 2004 concerned new relationships with surface rights owners, such as improving the system of notification when staking and exploration work take place, as well as new definitions of areas restricted from staking. Rayner (email 2nd May 2005).

⁶⁵⁰ Ministry of Northern Development and Mines (2008), *Modernizing Ontario’s Mining Act – Finding A Balance Discussion Paper*.

⁶⁵¹ A bill is considered to be passed by the Legislative Assembly once it has received three readings; upon receiving Royal Assent, the passed bill becomes an Act.

⁶⁵² Explanatory Note extracted from the Bill. Legislative Assembly of Ontario. Ministry of Northern Development and Mines, News Releases April 30, 2009. *Ontario Take Bold Steps to Modernize Mining Act*.

⁶⁵³ The former name of the Ministry before July 2009 was Ministry of Northern Development and Mines.

Sector Unit Branch and the Aboriginal Relations Unit Branch. The Aboriginal Relations Unit was established in 2008 to build better relationships between industry, First Nations and Métis communities and the government.

The vision of the Ministry is a minerals sector that is healthy, competitive and sustainable. The four key strategic objectives according to Ontario's Mineral Development Strategy are: Promoting long-term sustainability and global competitiveness, supporting modern, safe and environmentally sound exploration and mining, clarifying and modernizing mineral resource stewardship, and promoting community development and opportunities for all.⁶⁵⁴

The Mineral Development and Lands Branch is organized in different sections paralleling all the phases of a mining sequence or project. The branch consists of the Mining Lands section and the Mines Group. The Minister of Northern Development, Mines and Forestry may appoint officers of the Ministry to exercise powers and perform duties under the Mining Act.⁶⁵⁵ The Provincial Recording Office is part of the Mining Lands section and administers and facilitates the activities that provide for public access and the acquisition of Crown mineral rights regulated by the Mining Act. This office records mining claims.

The Provincial Mining Recorders at the office are empowered and have the responsibility of hearing and determining disputes between persons with respect to mining claims. If disputes cannot be solved by the Mining Recorder and/or if a decision is appealed, the Mining and Lands Commissioner is to resolve it as discussed below. The Staff at the Provincial Recording Office provides assistance and information regarding mining claims and the requirements of the Mining Act for recording documents. Several Mining Lands Consultant Offices provide services for clients in strategic locations in the province. Information about claims is kept in a mining claim register (abstract) that can be accessed on the Internet through the Mining Claims Database. Claim maps are available on-line and show the location of staked mining claims in the province and provide a link to mining claim information (CLAIMaps).

The Dispositions Office, another part of the Mining Lands Section, has the function of administering land that has been leased or granted (in fee simple) for mining purposes. The office, acting as landlord on behalf of the Crown, charges annual rents per hectare for leases. It also is responsible for the collection of the Mining Land Tax. The office also prepares new lease documents for mining purposes and checks that the requirements of the Mining Act have been met. The formal granting of a lease has to go through the Ministry of Natural Resources as main manager and grantor of Crown lands. The office also maintains a database essential to the administration of mining leases and patents.

The role of the Mines Group is to encourage, promote and facilitate a sustained economic development of Ontario's mineral resources in an environmentally responsible manner. The Mines Group consists of the Mineral Development and Commodities Program, Mine Rehabilitation, Inspection and Compliance Program, Financial Assurance and Abandoned Mines and Rehabilitation Program. This section

⁶⁵⁴ Ministry of Northern Development and Mines (2006), p.1.

⁶⁵⁵ Mining Act section 5.

administers part VII of the Mining Act that principally deals with the rehabilitation of mines and land used for mining purposes. No advanced exploration activity can take place without a plan of rehabilitation. Mineral Development Officers assist prospectors with exploration, advanced exploration or new mine development. They provide information and advice on permit requirements as well as arrange meetings with all the relevant ministries in the early stages of project planning in order to discuss and facilitate permit concerns. Another task is advising and assisting with public and First Nation consultation as well as assisting with conflict resolution.

The Mines Group assesses rehabilitation costs associated with mine closure or advanced exploration projects, negotiates and decides adequate financial assurances with mine owners and manages these financial assets on behalf of the Province. This section ensures that the mine sites in Ontario are developed, operated and closed out in a manner consistent with sound environmental and public safety closure designs.

The Ministry worked in 2008 to develop more efficient and effective permit and approval requirements for mineral development. A “one window” coordination process for mineral development projects was developed in addition to a project definition template and a practitioner’s guide.⁶⁵⁶

The Mining and Lands Commissioner is a judicial officer with the authority to settle all disputes under the Mining Act, either as first instance or on appeal from the mining recorders. A decision by the Commissioner may be appealed to the Divisional Court. The final court is the Supreme Court. The Mining and Lands Commissioner is organised within the Ministry of Natural Resources. This Ministry is also responsible for granting rights according to the Aggregate Resources Act and for granting rights to salt, oil and gas development. This is partly regulated in the Mining Act as well as in the Oil, Gas and Salt Resources Act.

6.1.8 Land Use and Environmental Legislation Significant to Mineral Development

In addition to the Mining Act and its regulations, several other statutes, both provincial and federal, affect the permit process for a mining project. Certain of the main statutes, due to land use issues and environmental requirements, are only listed and briefly dealt with below. Other related acts are also discussed in the text as well.

- Public Lands Act (R.S.O. 1990, c. P.43)
- Provincial Parks and Conservation Reserves Act, 2006 (S.O. 2006, c.12)
- Endangered Species Act, 2007 (S.O. 2007, c.6)
- Fisheries Act (federal)
- Ontario Water Resources Act (R.S.O. 1990, c. O.40)
- Environmental Assessment Act (R.S.O. 1990, c. E.18)
- Environmental Protection Act (R.S.O. 1990, c. E. 19)
- Canadian Environmental Assessment Act (federal)
- Environmental Bill of Rights, 1993 (S.O. 1993, c. 28)

⁶⁵⁶ Ministry of Northern Development and Mines, *Annual Report 2008-09*.

- Planning Act (R.S.O. 1990, c. P.13)
- Ontario Heritage Act (R.S.O. 1990, c. O.18)

The Public Lands Act contains the primary rules for governing the administration of Crown lands. The term “public land” means Crown land. The Ministry of Natural Resources administers this Act. The Act forms a framework for the management of Crown lands that also affects other acts dealing with land tenure and land use on Crown land, such as the Mining Act.

According to the Public Lands Act, certain activities, such as disruptive mineral exploration on Crown lands, might be prohibited unless they are carried out through the issuance of a work permit. A work permit, for example, is required for water crossings, roads and camps. A work permit may also be needed under the Forest Fire Prevention Act (R.S.O. 1990, c. F.24) and The Lakes and Rivers Improvement Act (R.S.O. 1990, c. L.3), legislation also administered by the Ministry of Natural Resources. The Lakes and Improvements Act regulates any disruptive activity in a watercourse that would hold back, push forward or divert water. The Forest Fire Prevention Act regulates any disruptive activity in or within 300 metres of a forest or woodland in a fire region designated by the Ministry of Natural Resources. The Crown Forest Sustainability Act, 1994 (S.O. 1994, c. 25), administered by the Ministry of Natural Resources together with the Public Lands Act, requires a special license for cutting Crown timber and a permit for cutting trees during the construction of roads, for instance. A work permit for mineral activity is not to be refused for work required or permitted under the Mining Act, unless the proposed work is known to be contrary to an existing law.⁶⁵⁷ The Provincial Parks and Conservation Reserves Act contains regulations that limit or prohibit mineral exploration and exploitation within areas that are part of a provincial park or conservation reserve.

An important land use strategy affecting mining activities is the *Ontario Living Legacy* (OLL). This includes the largest expansion of parks and protected areas in Ontario’s history. Announced in 1999, the strategy established 378 new parks and protected areas. The goal of the OLL is to protect 12 % of northern and central Ontario. Mining will continue to be excluded from all existing and new provincial parks. Mineral exploration may, according to strategy document, occur under controlled conditions with respect to new provincial parks that are identified through further analysis and consultation as having provincially significant mineral potential (psmp areas). If a part of a park is to be developed for a mine, it is deregulated as part of the park, and appropriate replacement lands are placed under regulation.⁶⁵⁸ A conflict, however, has arisen between the conservation of lands under Ontario’s Living Legacy and ongoing mining activity in these areas. The Ministry of Northern Development, Mines and Forestry has been defending lawsuits where claim holders are maintaining that property investments have been impaired by enclosing their property within an OLL Park. In March 2002, the Ministers of Natural Resources and Northern Development and Mines made a commitment that there would be no

⁶⁵⁷ Prospectors and Developers Association of Canada (PDAC) (1997).

⁶⁵⁸ Ministry of Natural Resources (1999), p. 20.

exploration on untenured lands (not brought to lease) within the OLL sites and promised the development of a process to address existing mineral tenure in such areas.⁶⁵⁹

The Endangered Species Act protects endangered species of flora and fauna. The federal Fisheries Act protects fish and aquatic life, requiring that there be no net loss of fishery habitat as a result of a disruptive activity. When a working permit is needed for mineral activity, certain conditions attached to a required work permit can be included to ensure that there is no violation of the Fisheries Act.

The Environment Protection Act, together with the Ontario Water Resources Act, provides the basis of the control and regulation of environmental pollution of both air and water. The Environmental Protection Act establishes emissions standards, waste management regulations, etc. The Ontario Water Resources Act regulates water and sewage works and water taking permits. Both statutes are similar in function and are administrated by the Ministry of Environment.

The Environmental Assessment Act sets out the fundamental requirements for an environmental assessment document. Assessments are not routinely required for mining projects.⁶⁶⁰ This Act is also administered by the Ministry of Environment. If a mining project obtains federal funding, or requires certain federal permits, for instance if a fish habitat is disrupted, such must be reviewed by the federal government according to the Canadian Environmental Assessment Act.

The Environmental Bill of Rights contains regulations about public participation processes with minimum levels of public notice and consultation for environmentally significant decisions. The Environmental Registry, in which information must be kept about projects affecting the environment, is the main window through which Ontarians or other parties may participate in environmental decision-making.

The Planning Act delegates power to the municipalities to pass by-laws regulating the development, subdivision and general use of land within developed areas. There are nearly 450 municipalities in Ontario. By-laws prohibit the use of land except for the purposes set out in the by-law. These laws are commonly known as land use control by-laws or zoning by-laws. Zoning by-laws divide the municipality into specific areas. Official plans are a statement of planning or development covering broad areas of a municipality. A mining project must be consistent after rehabilitation with a land use control as set out in a municipal by-law. The Planning Act contains a subdivision control restricting the division of existing parcels of land into smaller units.⁶⁶¹ This prohibition on subdivision applies to most real property transactions but not a transfer to or from the Crown. This control affects land abutting only on a horizontal plane. Mining rights on the land are affected, but not mining rights in or under land.⁶⁶² The Ministry of Municipal Affairs and Housing is responsible for the Planning Act.

⁶⁵⁹ Environmental Commissioner of Ontario, *Annual Report 2002/2003*, p. 175. Ministry of Northern Development and Mines (2001).

⁶⁶⁰ Barton (1993), p. 17.

⁶⁶¹ Planning Act, section 50(3).

⁶⁶² Planning Act, section 50(2.1).

According to the Planning Act, certain policy statements relating to municipal planning can be issued from time to time in different policy areas, including mineral resources and aggregates. The current Provincial Policy Statement came into effect in 2005. Any decisions affecting planning matters “shall be consistent with” this policy statement.⁶⁶³ The policy on minerals is that mineral resources are to be protected for long-term use. Mineral mining operations are to be protected from development and activities that would preclude or hinder their expansion. In areas adjacent to or in known mineral deposits, and in significant areas of mineral potential, development and activities that would preclude or hinder the establishment of new operations or access to the resources, mining will only be permitted if resource use is not feasible, or the proposed land uses or development serve a greater long term public interest; and issues of public health, public safety and environmental impact are addressed.

The provincial policy statement also prescribes that natural heritage features and areas are to be protected from incompatible development. Prime agricultural areas are to be protected for long-term agricultural use. Extraction of minerals is permitted in prime agriculture areas provided that the site is rehabilitated. Mineral aggregate resources are to be protected for long-term use. As much of the mineral aggregate resource as is realistically possible in the context of other land use planning objectives is to be made available as close to the markets as possible to supply local, regional and provincial needs. Existing mineral aggregate operations will be permitted to continue without the need for official plan amendments.⁶⁶⁴

The Ontario Heritage Act regulates the protection of heritage buildings and archaeological sites. As a condition for approval of development, a municipality or approval authority is to require an archaeological assessment. The Act prohibits anyone from disturbing an archaeological site without a licence. The Ministry of Culture maintains a database of archaeological site locations and a register of archaeological fieldwork reports.

6.2 Prospecting and Exploration Activities

No permission is required for obtaining data by means of aerial surveys of any land.⁶⁶⁵ “Minor” activity, hobby mineral collecting, requires no special licence or permit in contrast to large scale/commercial mineral collecting. The difference between the two is the amount of rock taken home at the end of the day, the threshold limit. Hobby mineral collection means collecting for personal pleasure, where the samples collected are for the collector’s personal collection without commercial interests. Ontario has developed a Mineral Collecting Policy that recognizes the special needs of hobby collectors including guidelines for the activity of such. Recreational gold panning is considered mineral collecting. However, Ontario is not known as a place where gold can easily be found in streams, mainly

⁶⁶³ Planning Act, section 3.

⁶⁶⁴ Ministry of Housing and Planning (2005), pp.1, 15, 17-19.

⁶⁶⁵ Prospectors and Developers Association of Canada (PDAC) 1997.

because glaciers scoured and dispersed any placer gold concentrations that might have existed.⁶⁶⁶

6.2.1 Prospector's Licence

A "Prospector's Licence" is required according to the Mining Act in order to prospect or explore on a commercial basis.⁶⁶⁷ Any natural person who is of the age of eighteen years or older has the right to obtain a licence upon application made in the prescribed form and upon the payment of the required fee.⁶⁶⁸ A prospector's licence entitles an individual to prospect and record mining claims on Crown land. No restrictions exist for persons of other nationalities. Birth date and signature as supporting pieces of identification are essential for the application.⁶⁶⁹ A licence may be issued by any mining recorder. No discretion is reserved to the authorities to refuse a licence to a person meeting the easy statutory criteria.

A prospector's licence is valid for five years and can be renewed within 60 days of expiry. A licence is to be dated on the day of its issue and expires at midnight on the day of the fifth anniversary of the licensee's birth date.⁶⁷⁰ Every licence is to be numbered and cannot be transferred to another person.⁶⁷¹ A permanent prospector's licence can be issued when a licensee has held a prospector's licence for a total of 25 years.⁶⁷² It is not possible for a person to hold more than one licence.⁶⁷³ A company employee can request a licence but not the company as such. However, mining claims can be transferred from the company employee's name to the company name. To conduct business in Ontario, a company incorporated outside of Canada must also have an Extra Provincial Corporations Licence as required under the Extra Provincial Corporations Act.

A person cannot enjoy the benefits of the free entry system without a prospector's licence. A person needs it as evidence of the miner's right to enter and prospect on lands where Crown minerals exist without being found a trespasser.⁶⁷⁴ According to Sinclair and McCallum, a licence as such is a personal right giving the holder permission to do something that without the permission would be a trespass.⁶⁷⁵ Trespass is prohibited by law but the same law contains an exception. Anyone who has a legal right to go on the land is not trespassing. The Mining Act gives the holder of a prospector's licence the right of entry on land open for staking. The purpose of a prospecting licence, according to Barton, may be described as identifying persons in the business of mining, especially of prospecting and

⁶⁶⁶ Ministry of Northern Development and Mines (2006).

⁶⁶⁷ Mining Act section 18(1).

⁶⁶⁸ The fee is \$ 25.50 (CAD).

⁶⁶⁹ Mining Act section 19(1), (2).

⁶⁷⁰ Mining Act section 19(2), 21(1).

⁶⁷¹ Mining Act section 20, section 19(4).

⁶⁷² Mining Act section 21(6).

⁶⁷³ Mining Act section 23.

⁶⁷⁴ Barton (1993), p. 211.

⁶⁷⁵ Sinclair and McCallum (1997), p. 52.

exploration.⁶⁷⁶ This identification is of value not only to recorders and the administrators of the legislation, but also to members of the public, such as landowners who may insist on seeing the licence document. The licence also confirms the right to enter lands where the minerals are owned by the Crown, whether the surface is owned by the Crown or a private landowner. A prospecting licence is generally subject to cancellation or suspension for any contravention of the mining legislation. The penalty generally extends to the right to apply for another licence.⁶⁷⁷

6.2.2 Lands Available for Exploration and Mining

The holder of a prospector's licence may prospect or search for minerals and stake out a mining claim on Crown lands and on private land where the minerals are owned by the Crown.⁶⁷⁸ This right is one of the cornerstones of free entry.⁶⁷⁹ The first stage of exploration activity is to select an area for staking a claim. Physical ground staking then gives the claimholder the exclusive right to prospect in the chosen area. In order to identify what land is open for staking, the Ministry's CLAIMaps Web can provide guidelines in order to determine the status of a particular parcel of land.

No mining claim is to be staked on land reserved or set apart as a town site by the Crown, upon land laid out into residential lots on a registered plan of subdivision, or upon any lands used for railway purposes without the consent of the Ontario Northland Transportation Commission or except with the consent of the Minister.⁶⁸⁰ No mining claim is to be staked on land where the mining rights are private, for instance, in areas where a claim has been brought to a lease, where surface rights have been subdivided for summer resort purposes except where the Minister certifies discovery of valuable mineral, on land used for development of water power or for a highway, in an Indian reserve, or on land where an unclear situation exists due to mining rights.⁶⁸¹ Prospecting is also prohibited on that part of a lot used as a garden, orchard, vineyard, nursery, plantation or pleasure ground, or upon crops that may be damaged. Neither can prospecting occur on a part of a lot where there is a dwelling, outhouse, manufactory, church or a cemetery, public building, spring, artificial reservoir, dam or waterworks. In such cases, prospecting and staking can only occur with the prior consent of the surface rights holder or by order of the recorder or the Commissioner. The meaning of the word "part" of the lot is not more closely defined and no distances are mentioned. If a dispute arises between the prospector and the owner of land that is exempted from prospecting or

⁶⁷⁶ Barton (1993), p. 215.

⁶⁷⁷ Ibid at p. 213.

⁶⁷⁸ Mining Act section 27.

⁶⁷⁹ Barton (1993), p. 152.

⁶⁸⁰ Mining Act section 29.

⁶⁸¹ Mining Act section 30.

staking, such as land used as gardens, etc., the mining recorder or the Commissioner is to resolve the issue.⁶⁸²

Prospecting or staking of mining claims is prohibited in provincial parks according to the Mining Act and the Provincial and Conservation Reserves Act.⁶⁸³ The protected areas include 329 provincial parks and 292 conservation reserves, representing about 9 % of the Province.⁶⁸⁴ A valuable water power source producing 150 horsepower or more is not to be included in a mining claim. Where a mining claim is adjacent to a highway or road maintained by the Ministry of Transportation, no surface mining operation is to be carried out within 45 metres of the limits of the highway or road without the written consent of the Minister.⁶⁸⁵

The Government also has broad discretion according to the Mining Act to withdraw land from mining activities. The Minister may by order withdraw any lands from prospecting and staking where the mining rights or surface rights are the property of the Crown. The Minister may also, in contrast, reopen land that earlier had been withdrawn.⁶⁸⁶ The areas affected by withdrawals can be large (for parks, wilderness areas or native land claim settlements) or small (for testing bedrock aggregate or hydro development sites).⁶⁸⁷ According to Barton, withdrawals contribute to land use management on an “all or nothing” basis. Barton posits that one goal often is to protect infrastructure, whether planned or existing. Withdrawal can also be used to deal with local land use conflicts, for example, where mineral exploration is meeting hostility from landowners.⁶⁸⁸ A withdrawal does not prohibit exploration (work of existing claims), only prospecting (investing of or searching for minerals), sale or lease.

6.2.3 Marking Out and Recording a Claim

In order to receive the exclusive right to explore an area, a staking of a claim must be done on the ground. It is the physical staking that gives the primary right, not its recording. Staking according to Barton is not intended to require specialist skills and equipment, but instead, to be a workable means for a prospector to mark out in a reasonably clear and permanent way the ground for which they wish to obtain exclusive mineral rights.⁶⁸⁹ It is very important to follow staking procedures correctly since the foundation to a title for mineral rights is initially acquired through claim staking as such. A mining claim is a square or rectangular area of open Crown land or Crown mineral rights (on private land) that a licensed prospector marks out with a series of claim posts and blazed lines. Mining claims are staked in a square or rectangular shape with boundaries running north, south, east and west

⁶⁸² Mining Act section 32(1) and (2).

⁶⁸³ Mining Act section 31, Provincial Parks and Conservation Reserves Act section 20.

⁶⁸⁴ Ministry of Natural Resources, *Welcome to Ontario Parks*.

⁶⁸⁵ Mining Act sections 33,34.

⁶⁸⁶ Mining Act section 35(1).

⁶⁸⁷ Barton (1993), p. 169. Lessard (e-mail 10th of October 2008).

⁶⁸⁸ Barton (1993), p. 170.

⁶⁸⁹ *Ibid* at p. 241.

astronomically. A claim can range in size from 16 hectares (a 1-unit claim) to 256 hectares (a 16-unit claim). A single unit claim is laid to form a 16-hectare square with boundary lines running 400 metres. Multiples of single units, up to a maximum of 16 units (256 hectares) may be staked in a square or rectangular configuration. There is, however, no limit as to how many claims can be staked at a time.

There are detailed regulations and also guidelines as to how mining claims are to be staked.⁶⁹⁰ The usual method for marking claim boundaries is to cut blazes into trees and cut underbush with an axe. In special designated areas with sensitive lands, more gentle methods may be used such as attaching flagging tape to trees or painting them. Claim posts are used to establish the corners of the mining claims. Ontario uses four posts for defining the claim corners (two-post systems exist in other provinces). Every claim post must stand 1.2 metres above the ground when erected, be squared or faced on four sides for 30 centimetres from the top, and be squared or faced for 10 centimetres across each side. The post can be constructed from a standing tree, commercial timber or a loose post. Using old posts is prohibited. Corner posts are erected at four main corners as follows: No. 1 – northeast corner, No. 2 – southeast corner, No. 3 – southwest corner, No. 4 – northwest corner and affixed with pre-numbered claim tags. The claim tag number identifies the claim on a claim map and in the records of the Provincial Mining Recorder after it is accepted for recording. Where it is impractical or impossible to erect a post, for instance in water, the corner post is to be erected at the nearest practicable point to where the boundary line is interrupted and witnessed to the proper location. This is called a witness post and is to be inscribed like a corner post plus the letters WP as well as the distance and direction of the true location of the corner of the claim.

The boundaries of a mining claim extend downwards vertically on all sides. Mining claims can, as mentioned earlier, be staked either in a single unit (16 hectares) or in a block consisting of several single units (256 hectares). A multiple unit claim must be square or rectangular. The length of any boundary of a mining claim may not exceed 3, 200 metres and may not exceed four times the length of any other boundaries (i.e. the maximum length is 3, 200 metres, 8 claims lengths if the width is 800 metres, 2 claim lengths). When multiple-units are staked, special line posts are erected at 400 metre intervals along the boundaries. Line tags are also affixed to the line posts and inscribed with the claim number and the direction and distance from the last corner post. A common post can be used if two mining claims are staked at the same time by the same licensed prospector.

A mining claim is governed by the lot and concession lines established by the existing survey in a surveyed territory, such as a township. The claim must fit into the orientation of the “grid system” as such. Depending on how a township is surveyed (sizes of lots may differ between 260 hectares, 130 hectares, 80 hectares, 60 hectares and 40 hectares), the minimum size of a claim might vary from normally 16 hectares to 20 or 15 hectares. For instance, in a township surveyed into lots of 80 hectares, a mining claim of a minimum size must contain 20 hectares and consist of

⁶⁹⁰ Ontario regulations; 7/96 Claim staking, 356/98 Staking in Designated Areas. Ministry of Northern Development and Mines, *A Guide to Staking Mining Claims*.

the northeast, northwest, southeast or southwest quarter of a lot.⁶⁹¹ The astronomic north, south, east and west does not apply in a surveyed territory since the grid system used when measured governs the orientation of the claim.

When staking a claim, the distinction made according to the staking regulations, of land being open for staking for less than 24 hours, and land open for staking for 24 hours or more, is of vital importance. Lists of lands reopened for prospecting and staking in Ontario are publicized annually on the 1st of June. When areas of high interest become open to staking, two or more parties quite often compete for the same area. To keep order in the competition, the Mining Act and its regulations contain rules for staking that specifically apply to the first 24 hours that the land is open. These rules must be strictly followed. On lands opened less than 24 hours, all claims must be staked by a single licensee in a clockwise direction beginning at post No. 1 at the northeast corner of the claim.⁶⁹² The licensee must start and finish at the No. 1 (NE) corner post. Staking may not begin before 8:00 a.m. Eastern Standard Time. Only the recording licensee can erect, tag and inscribe the post. The date and time for starting as well as for the completion must be inscribed on the No. 1 post.

If the area to be staked has been open for more than 24 hours, the staking may start at any corner or line post and proceed in either a clockwise or counterclockwise direction. The date and time for completion of staking must be inscribed on one of the corner posts after the work has been carried out. When staking lands have been open for more than 24 hours, an unlicensed helper may blaze the lines and construct posts, but cannot inscribe the posts without a licence. A common post can be used if two mining claims are staked at the same time by the same licensed prospector.⁶⁹³

According to the Mining Act, no governmental officer appointed under the Act is to either directly or indirectly purchase or gain an interest in any mining lands, mining rights or mining claims situate in Ontario. However, every officer acting under the Mining Act who makes a discovery of valuable mineral is to stake out and record the parcel on behalf of the Crown according to the Mining Act.⁶⁹⁴ This provision has seldom or perhaps never been used in practice. Important information about valuable minerals is instead announced to everyone who is interested on equal terms.⁶⁹⁵

A licensee who has staked a mining claim is to file an application to record the claim with the Mining Recorder no later than 31 days after the day on which the staking out was completed. A special form, "Application to Record Staked Mining Claim(s)", has to be filled out and signed. A sketch or plan showing the claim as well as a proof of payment of the required fee to the recorder has to be attached to the application.⁶⁹⁶ A good sketch shows other mining claims as well, private property tied onto, buildings and topography such as rivers, lakes, power lines, etc. However,

⁶⁹¹ Ontario regulation 7/96 Claim staking sections 11-16.

⁶⁹² Ontario regulation 7/96 Claim staking section 10(2).

⁶⁹³ Ministry of Northern Development and Mines, *A Guide to Staking Mining Claims*, p. 18.

⁶⁹⁴ Mining Act section 36.

⁶⁹⁵ Information received during study visit at Ministry of Northern Development and Mines in June 2004.

⁶⁹⁶ Mining Act sections 44(1), (1.1).

the description of a claim in an application to record is secondary to the staking on the ground.⁶⁹⁷ The Provincial Recording Office uses the information in the application to create a claim record and to plot the claim's location on provincial claim maps. When the applicant is not resident in Ontario, the name, residence and post office address of a person resident in Ontario upon whom service may be made must be included in the application.⁶⁹⁸

If, in the recorder's opinion, an application to record a mining claim complies with all the requirements for staking and recording the claim, the recorder is to record the claim and file it, along with the sketch or plan and certificate. If a person staking land open for staking fails to apply to record the claim within the period set (31 days), he is not entitled to have the mining claim recorded or to stake the land again and a mining recorder may refuse or cancel any such staking. If two licensees file applications to record the staking of all or part of the same lands, then the applicant with the earliest completion time will have priority. Recorded claims with a later completion time may be adjusted or cancelled.⁶⁹⁹

Ontario had 35,184 active mining claims at the end of August, 2006. These claims encompassed 228,618 claim units. Prior to that, 5,071 claims had been cancelled during 2005 covering 42,669 claim units. Active mining claim units reached 363,000 in 2008, exceeding 2007's record level of 308,000.⁷⁰⁰

The requirements of staking are detailed and can take time to fulfil. A prospector staking a claim in the field may fail to exactly comply with the statutory requirements, for instance, by not placing all the posts or not inscribing all the required information accurately on the posts. The errors may or may not be significant. According to Barton, with all the possible errors that may occur, it is arguable that there is no claim in the country that is staked in perfect compliance with the legislation.⁷⁰¹ According to the Mining Act, the staking out of a mining claim is to be in substantial compliance even if there is a failure to comply with a number of specific staking requirements, if the failure to comply is not likely to mislead any licensee desiring to stake a claim in the area and it is apparent that an attempt has been made in good faith by the licensee to comply with the requirements of the act and regulations.⁷⁰²

Most questions about the adequacy of a staking are raised in disputes where two prospectors have staked the same ground. Staking disputes arise frequently because the reward for success in contesting someone else's staking is acquisition of the ground for oneself. What constitutes a sufficient level of compliance with the staking requirements is a major issue because if a staking is sufficiently in compliance, it brings a valid mining right into existence and the ground no longer is open for staking by another party.⁷⁰³

⁶⁹⁷ Barton (1993), p. 256.

⁶⁹⁸ Mining Act section 56.

⁶⁹⁹ Mining Act section 44(2) and (3)

⁷⁰⁰ Ministry of Northern Development and Mines, Mining Recorder Business Statistics and *Annual Report 2008-09*.

⁷⁰¹ Barton (1993), p. 267.

⁷⁰² Mining Act section 43

⁷⁰³ Barton (1993), p. 267.

Ontario has elaborate dispute procedures. To guarantee security of tenure, no dispute as to a mining claim will be accepted after the claim has been on record for more than one year, or after the first prescribed unit of assessment work (work on the claim) has been performed and filed and, if necessary, approved.⁷⁰⁴ A dispute may be filed against a recorded claim by anyone. The dispute must be in writing and a special form must be used. The disputant must outline why the claim is illegal or invalid. According to Barton, a disputant is normally a person claiming an interest through a subsequent staking, making an application to record at the same time.⁷⁰⁵

The Mining Recorder has significant power to resolve disputes. The Mining and Lands Commissioner reviews certain decisions of the recorders and hears other cases as first instance.⁷⁰⁶ Disputes are heard in the first instance by the Provincial Mining recorder unless they are transferred to the Commissioner. The recorder according to the Mining Act is directed to adopt the cheapest and simplest methods of resolving the issues arising that affords to all interested parties an adequate opportunity of knowing the issues in the proceedings and of presenting material and making representations on their behalf.⁷⁰⁷

6.2.4 Work and Reporting Requirements (Maintenance and Loss of Claims)

Once a claim is staked, the prospector must perform “assessment work” in order to maintain the claim in good standing.⁷⁰⁸ The assessment work that must be performed on a claim is an integral part of the acquisition of mineral title under the free entry system. The recorded holder of a mining claim does not own the land and has no title (permit for mineral extraction) until a lease is granted. In order to apply for a lease and get an interest and title to land relating to mining rights and/or surface rights, certain exploration work must be performed. This work must be reported to the Ministry of Northern Development, Mines and Forestry for approval within specified time limits.⁷⁰⁹ A special regulation applies for assessment work in addition to the main rules in the Mining Act.⁷¹⁰ Claims are not limited in time and can be maintained indefinitely just by completing the required assessment work annually. If the assessment work is not done, however, the claimholder can lose his claim. The land affected then returns to the Crown and may be staked by someone else.

A claimholder is not required to complete any assessment work within the first year of recording a mining claim. In the second and all subsequent years, a minimum of \$400 (CAD) of assessment work per 16 hectares claim unit per year is to be reported until an application for a lease is submitted.⁷¹¹ Prospecting work that has

⁷⁰⁴ Mining Act section 48(5)

⁷⁰⁵ Barton (1993), p. 354.

⁷⁰⁶ Ibid at p. 354.

⁷⁰⁷ Mining Act section 111 (1), Barton (1993), p. 355.

⁷⁰⁸ Mining Act section 65.

⁷⁰⁹ Mining Act section 65(2).

⁷¹⁰ Ontario Regulation 6/96 Assessment work.

⁷¹¹ Ontario Regulation 6/96 Assessment work, section 2.

been done within 12 months prior to the recording of a mining claim can be credited as well. This prior type of work refers to prospecting and regional surveys, such as airborne geophysics and ground exploration. A prospector's licence is not needed to hold a mining claim.

The claimholder has the right to carry out a wide range of mineral exploration activities that can be credited for assessment work. However, the claimholder according to the Mining Act has no right to take, remove or otherwise dispose of any minerals found in, upon or under the mining claim.⁷¹² For the purpose of testing mineral content, the Minister may give written permission (bulk sampling) with conditions to mine, mill and refine mineral substance from a mining claim that has not been brought to lease.⁷¹³ A mining claim includes the right to all minerals except sand, gravel and peat.

Information as to assessment work performed must be filed by the anniversary date of the recording of the claim.⁷¹⁴ This is crucial, as a failure to file by this date may result in the forfeiture of the claim. The cancellation or lapse of the claim is automatic and the claim is open for staking out if the prescribed work is not duly performed and reported. In practice, according to Barton, cancellation is not as draconian as it may seem.⁷¹⁵ The usual pattern that explorationists follow is to stake a number of claims in a year, but to record work on only the few that appear to merit a second look. A high proportion of the claims are therefore dropped by the first anniversary date of the claim. Not doing the prescribed assessment work is the main reason why claims are cancelled.

A claim may also be cancelled after an investigation. All claims are liable for inspection by the mining recorder and may be cancelled for irregularities or fraud in the staking process. Normally, however, after one year from recording of the claim or after the first prescribed unit of assessment work has been performed, no such inspection is to take place unless ordered by the Minister.⁷¹⁶ Using a mining claim for non-mineral purposes can also lead to a claim being cancelled. According to the Mining Act, when it appears land is being used other than as mining land or for a purpose other than that of the mineral industry, the Minister may direct the Commissioner to hold a hearing.⁷¹⁷ Depending on the outcome, the mining claim may be cancelled or be found valid. As mentioned earlier, after the first unit of assessment work has been filed and approved, disputes of mining claims by third parties will not be accepted. A holder of a mining claim may also abandon the claim at any time by filing a notice of abandonment with the recorder.⁷¹⁸ It is also possible to partly abandon a claim. Several prescribed conditions must then be met, such as that the remaining claim must be in the form of a rectangle and be at least one claim unit in size.

⁷¹² Mining Act section 50(1) and (2).

⁷¹³ Mining Act section 52(1), Ontario Regulation 192/06 Permission to Test Mineral Content.

⁷¹⁴ Mining Act section 65(2).

⁷¹⁵ Barton (1993), p. 321.

⁷¹⁶ Mining Act section 75.

⁷¹⁷ Mining Act section 54.

⁷¹⁸ Mining Act section 70.

Ontario does not permit the payment of cash instead of assessment work. The exception to this is when an application for lease is filed.⁷¹⁹ Many different exploration activities can be credited after the recording of mining claims, such as prospecting activities, trenching, shaft sinking and underground work, land surveys, geological surveys, geochemical surveys, geophysical surveys, drilling assays and analyses.⁷²⁰ Through the “list” of credited activities for assessment work, the rights that follow from a recorded claim can be discerned. Expenditures for transportation, food and lodging are eligible as well, but only if the work is carried for the purpose of exploration. A prime concern of active explorationists is knowing precisely what activities currently earn credit for assessment work.⁷²¹ If a claimholder has several claims, he or she can spread the credit around them in order to keep them in good standing. This is called grouping. All assessment work is filed on the mining claims concerned.

Certain physical work on the claim may require site rehabilitation under the Mining Act. Advanced mineral activities might also need permission according to other statutes, as discussed further in the next part about development. The Public Lands Act frequently exempts activities related to mineral exploration from the need of work permits on Crown land by the Ministry of Natural Resources. Drilling and mechanical stripping, for example, require no work permit.⁷²² However, as mentioned earlier, the construction of roads or the installation of water crossings, e.g., a bridge or a culvert constructed to provide access to two points separated by water, require work permits according to the Public Lands Act and the Lakes and Rivers Improvements Act. Building construction defined as structures consisting of a roof, wall or floor also requires a work permit. Floating structures, docks, boathouses, tents or ice huts are exempted from a permit requirement. However, on land located in certain specified lake or river areas, a work permit is required for disruptive mineral exploration activities. In these circumstances, disruptive mineral exploration activities involve cutting, mechanical stripping and diamond drilling.⁷²³

Ontario has enacted regulations related to the Environmental Protection Act that protect a prospector who is in the process of evaluating the mineral potential of another party’s mineral interest from liability for environmental contaminants.⁷²⁴ A prospector who has not taken an ownership interest by a lease will only be

⁷¹⁹ According to the proposed amendments to the Mining Act, Bill 173, payments in place of assessment work will be possible.

⁷²⁰ Ministry of Northern Development and Mines, *A Summary of the Assessment Work Requirements*.

⁷²¹ Barton (1993), p. 315.

⁷²² www.mnr.gov.on.ca/MNR/crownland/p7973529.html 2004-04-22, Mining Act section 37.

⁷²³ Ontario Regulation 349/98 Public Lands Act, Work Permit –Disruptive mineral exploration activities. With the proposed amendments to the Mining Act, Bill 173, the legislation would create a new position within the Ministry, a “Director of Exploration”, and no person would be permitted to carry out any prescribed activity on a mining claim, lease or licence of occupation without first preparing and submitting to the Director an “exploration plan”.

⁷²⁴ Ontario Regulation 504/95 Environmental Protection Act, Exemption-Prospectors. Wakefield, Oliver and Fordyce (1998), p. 8.

responsible for any aggravation of an existing environmental impairment. This exemption can be seen in the light that prospecting activities are often carried out near former mines where land still can be polluted.

6.2.5 Surface Rights Owners and Claimholders

The holder of a mining claim, according to the Mining Act, does not have any right, title or claim to the surface rights of the claim other than “the right to enter upon, use and occupy such part or parts thereof as are necessary for the purpose of prospecting and the efficient exploration, development and operation of the mines, mineral and mining rights therein”.⁷²⁵ This right is prior to any subsequent right to the user of the surface rights. The Mining Act grants the right to enter upon both Crown and private lands, and to use them for mining purposes.⁷²⁶ Even so, it is always preferable to obtain the surface owner’s consent and to establish good relations with him.

The Mining Act also requires that the holder of a mining claim notify the surface rights owner of his intention to perform assessment work on that claim.⁷²⁷ This notice is only given once prior to the commencement of assessment work. The claimholder must also confirm to the mining recorder that the holder of the surface rights has been informed. A special form is used both to inform the surface rights owner and to certify that the notice of intention to perform assessment work has been done. Assessment work may not be recorded if this required notice was not given. The claimholder is entitled to enter and carry out the work the day following the giving of the required notice.⁷²⁸

A surface rights owner is entitled to compensation, according to the Mining Act, if damage occurs to his property because of prospecting, staking out, assessment work or operations on the land.⁷²⁹ A person occupying the land who has made improvements thereon also has the right to compensation from the prospector or claimholder if damage occurs. If an agreement cannot be arranged, either party may apply to the Mining and Lands Commissioner for compensation to be determined after a hearing. This decision may be appealed to the Divisional Court where the amount claimed exceeds \$1,000 (CAD).⁷³⁰ Mineral prospectors can be required to give security for compensation to the surface owner. The Commissioner may issue an order to that effect and prohibit the prospector from carrying out further prospecting, staking or work until it is paid.⁷³¹ If compensation is not paid by the due date, the surface owner gets a lien for it on the claim.

The type of loss compensable is not mentioned in the Mining Act, but examples mentioned in documentation provided by the Ministry include, for instance,

⁷²⁵ Mining Act section 50(2).

⁷²⁶ Mining Act section 51.

⁷²⁷ Mining Act section 78(1) - (3).

⁷²⁸ Barton (1993), p. 194. Proposed amendments to the Mining Act, Bill 173 contain enhanced notification of private landowners, after claimstaking and prior to exploration.

⁷²⁹ Mining Act section 79(1) - (2).

⁷³⁰ Mining Act section 79(4).

⁷³¹ Mining Act section 79(5).

compensation for costs of repairing or replacing a fence damaged during drilling.⁷³² Any person, on the other hand, who damages mineral exploration workings or claim posts, line posts, tags or surveyed boundary markers, is to compensate the holder of the mining claim or the leaseholder of mining lands for any damages sustained.⁷³³

The Commissioner or Recorder may reduce the area of a mining claim staked out according to the Mining Act where the surface rights have been granted (private land), if in his opinion an area less than the prescribed area is sufficient for working the mines and minerals therein. Such part of the surface rights necessary for the occupation and utilization of buildings may also be excluded from any mining claim by the Commissioner or Recorder.⁷³⁴

The transfer of a mining claim that has not been brought to lease is not restricted by the Mining Act. However, such a transfer must be made in writing on a special form provided by the Ministry.⁷³⁵ Due to this, the recorded licensee (the holder of a prospecting licence) and the recorded holder of a claim can be different persons, or the claimholder can be a company. Even if a prospector licence has expired, the claimholder does not lose a mining claim. A company may acquire a claim by a transfer from an employee holding a licence and then can continue to hold and maintain it without a licence.⁷³⁶

6.2.6 Exploratory Licence of Occupation

An Exploratory Licence of Occupation (ELO) is a licence that allows exploration of tracts of land and/or land under water under specific terms as set by the Minister on a case-by-case basis.⁷³⁷ Such a licence is issued in special circumstances, at the discretion of the Minister according to the Mining Act, usually for areas with a lack of rock on the surface, where there are no roads, or for lands sensitive to the environment. The licence, although having its own terms and conditions, is treated much as a mining claim as is possible. The licence confers the right to conduct exploration, requires annual assessment work, and can be converted to a lease. The licensee does not normally have the right to mine.

The applicant for a exploratory license of occupation is required to carry out public consultation in order to help determine the licence's impact, if any, on the environment. The Ministry of Northern Development, Mines and Forestry reviews any comments received during the public consultation process and a decision on how to proceed is made. Comments from the consultation process are also used in the development of the terms and conditions of the licence. To assist in determining the potential for any significant impact the licence could have on the environment, meetings are held between Ministry of Northern Development, Mines and Forestry,

⁷³² Ministry of Northern Development and Mines, *Frequently asked questions about mineral staking in Ontario*.

⁷³³ Mining Act section 79(3).

⁷³⁴ Mining Act section 80(1-2).

⁷³⁵ Ontario Regulation 195/06 Forms section 3.

⁷³⁶ Barton (1993), p. 213.

⁷³⁷ Mining Act section 176(3).

Ministry of Natural Resources, Ministry of the Environment and other local agencies. If the Ministry of Northern Development, Mines and Forestry is positive as to the licence request, it is forwarded to a Cabinet (Lieutenant Governor) for an Order-in-Council, which allows the Minister to issue the licence. An annual rent for the licence must be paid by the holder. During the year of 2000, the Ministry of Northern Development and Mines received three applications for Exploratory Licence of Occupation to allow mineral exploration in areas not open to claim staking.⁷³⁸

6.3 Mine Development Activities

A claim can be converted to a mining lease any time after the first unit of assessment work has been completed and, if necessary, approved.⁷³⁹ A lease permits the holder to develop and exploit the minerals within the described area. The acquisition of a lease often marks the transition from the stage of mineral exploration to that of mine development.⁷⁴⁰

6.3.1 Mining Lease for Mining Purposes

The right to go to lease is a statutory right available upon the claimholder fulfilling the obligations of the Mining Act. A mining lease gives the holder the right to all minerals on the land with the exception of sand, gravel and peat. Today, a lease is the highest form of title that can be obtained from the Province for the exploitation of minerals. However, a patent, being a higher form of title, may be issued in special circumstances subject to the approval of the Lieutenant Governor in Council.⁷⁴¹ A lease is issued for 21 years providing conditions are met according to the Mining Act.⁷⁴² Leased mining lands are to be explored and developed for mining purposes only.

The lease is regarded as an interest in land and is registered under the Land Titles Act or the Registry Act. Information as to ownership of leases is accordingly to be found in the Land Registry Office. It therefore disappears from the horizons of the mining recorders and the Mining Commissioner, according to Barton, and is dealt with as any other lease of real property.⁷⁴³ The mining lease has replaced the patented mining claim or Crown grant that is a freehold interest in mining rights. The patent option was eliminated in 1989, but many such rights still exist today since there is no time limit. According to Harries, by leasing the rights, politicians can say

⁷³⁸ Ministry of Northern Development and Mines (2001).

⁷³⁹ Mining Act section 81(1).

⁷⁴⁰ Barton (1993), p. 333.

⁷⁴¹ Mining Act section 176(3). Lessard (email 5th of September 2006).

⁷⁴² Mining Act section 81(3).

⁷⁴³ Barton (1993), p. 337.

that they are “not giving away our people’s birthright and are guaranteeing the use and development of our resources”.⁷⁴⁴

6.3.2 Application for and Grant of a Mining Lease

Mining leases can be issued for mining and surface rights, mining rights only or surface rights only.⁷⁴⁵ The claimholder must specify if the lease application will be for mining rights only or surface and mining rights. Surface rights cannot be obtained if they are not in the Crown, unless they are acquired by some other means, such as purchase from the owner or by an agreement. Such arrangements are not subject to mining legislation.⁷⁴⁶ Though as already mentioned, the holder of a mining claim and a lessee of mining rights have a statutory right to enter upon private lands and use them for mining purposes provided that compensation for damage is paid. Consequently, an application for a mining lease concerning mining rights must contain an agreement with the surface rights owner (if not the Crown) about surface rights compensation (for damage, etc.), if any has been paid. If the surface rights owner and the claim holder disagree on this point, the matter can be brought to the Mining and Lands Commissioner. An agreement between a surface rights owner and an applicant for a mining lease must include the description of the surface rights only property, the mining claim number, a statement that the compensation has been paid, the date and the signature of both parties.⁷⁴⁷ The application fee for a lease is \$ 75 (CAD).

A typical requirement for a lease in unsurveyed territory is that a survey of the property (claim) must be carried out by a licenced Ontario Land Surveyor before a lease can be granted.⁷⁴⁸ The survey eliminates the boundary problems that can accompany claims staked in a rough and ready manner.⁷⁴⁹ The cost of a survey is to be paid by the claimholder and can be quite expensive. Sometimes a client might decide at this point that it is too costly to proceed. If after a survey it turns out that the area of a mining claim exceeds 15 % of the prescribed size, the holder will be required to perform additional assessment work or pay a fee instead of the work.

The Minister of Natural Resources grants the lease. Of importance is the fact that a mining lease is issued solely for the purposes of the mining industry. If the lease is used for purposes other than for mining, the lease can be cancelled. Every lease contains reservations or conditions of different kinds, such as for public roads, highways, railways, navigable waters and fishing. Every lease of Crown land is also to contain a reservation to the Crown of all timber and trees standing.⁷⁵⁰ All timber and trees that have been staked out remain the property of the Crown. However, the claimholder or lessee of lands, after permission or licence, may cut down such trees

⁷⁴⁴ Harries (1994), p. 69.

⁷⁴⁵ Mining Act section 81(4), section 84.

⁷⁴⁶ Harries (1997), p. 164.

⁷⁴⁷ Mining Act section 81(2).

⁷⁴⁸ Mining Act sections 95, 96.

⁷⁴⁹ Barton (1993), p. 333.

⁷⁵⁰ Mining Act sections 86, 87, 92.

on the lands so staked or acquired as may be necessary for building, fencing or fuel purposes, or for any other purpose necessary for the development or working on the minerals thereon. Deposits of sand, gravel and peat are normally reserved to the Crown in a mining lease containing surface rights, together with a right to enter and remove them without compensation.

The holder of a mining lease enjoys all the rights that the holder of a claim enjoys and in addition, unrestricted rights to exploit and produce the minerals. The Crown can put conditions or reservations into the lease pursuant to the Mining Act and Public Lands Act. When a claim has been brought to a lease, assessment work is no longer required. The only duty imposed is that the lessee must pay an annual rent for the lease. The Crown as landlord charges this rent and the Ministry of Northern Development and Mines is responsible for its collection. The fee or annual rent for a lease is \$ 3 (CAD) per hectares for mining rights only or for mining rights and surface rights. The fee must be paid for each year, the first year in advance, and a lease might be terminated if the rent is in arrears for two years or more. Mineral interests, as mining leases, are not freely transferable. Consent from the Ministry is needed in order to transfer or mortgage a lease to another person or company. The transaction is not considered valid without such consent.⁷⁵¹

Every operator of a mine must send in an annual report about the nature of the work performed and sums spent on mining and exploration, the quantity and value of mineral production, etc.⁷⁵² All ores and minerals removed from any lands acquired under the Mining Act must be treated and refined in Canada, unless the Lieutenant Governor in Council issues an exemption.⁷⁵³ A mining tax also has to be paid annually to the Minister of Finance according to a profit-based formula in the Mining Tax Act.

Leases due to expire may be renewed for further terms of 21 years, provided that the lessee can prove that the mining lease is being used for mining purposes. The Minister's consent (as landlord) to renew mining leases is needed under the Mining Act. The lessee must show that the production of minerals has occurred continuously for more than one year since the issuance or last renewal of the lease, or demonstrated to the satisfaction of the Minister a reasonable effort to bring the property into production.⁷⁵⁴ According to policy guidelines of the Ministry of Northern Development, Mines and Forestry, a lease being used for mining purposes may be renewed if a mineral deposit has been located that has the potential of being worked under favourable conditions.⁷⁵⁵ The lessee has to meet at least one out of five criteria where documentation of exploration and production work is of importance. A renewal fee must be paid of \$75.00 (CAD) per lease.

If a claimholder wants to apply for surface rights only due to a phase of mine development, such as for constructing shafts or buildings, or disposing of tailings,

⁷⁵¹ Mining Act section 59.1.

⁷⁵² Mining Act section 155(1).

⁷⁵³ Mining Act section 91(1), (3).

⁷⁵⁴ Mining Act sections 81(6) and (8).

⁷⁵⁵ MNDM Policy L.P. 104-2, Criteria to renew lease.

the Minister may lease such rights if they are available.⁷⁵⁶ In an application only for surface rights, the applicant must outline why the surface rights are needed and describe the area, as well as provide the first year's rent and a proof of ownership of the mining rights with the application. Surface rights are sometimes needed to reach adjacent land areas even if the mining rights for those areas are not needed. Often, however, mining rights and surface rights are applied for at the same time. Where the surface rights are owned by the province and available, the chances of obtaining them for mining purposes are good. If, however, the Minister certifies that the land in question is suitable for agriculture purposes, a mining claim staked thereon does not give the claimholder any rights to the surface rights.

In the event such lands are necessary to the carrying on of mining operations, the Minister may determine that a limited part of the surface rights can be granted.⁷⁵⁷ Where a mining claim includes land covered with water or bordering on water, the surface rights cover a width of no more than 120 metres from the high water mark that may also be reserved for the Crown.⁷⁵⁸ Where a highway or road maintained by the Ministry of Transportation crosses a mining claim, the surface rights of 90 metres along both sides of the highway may also be reserved for the Crown.

The Mining Commissioner, after a hearing by interested parties, may grant rights and easements required for mining development according to the Mining Act, for instance when surface rights cannot be obtained.⁷⁵⁹ Several rights are mentioned in the Act, such as the right to open and construct ditches and tunnels, the right to discharge or drain water, the rights of way or passage through or over any land or water, the right to transmit electricity, and the right to deposit tailings. Compensation must be paid to the surface owner and is to be determined by the Mining Commissioner if the parties cannot agree.

6.3.3 Closure Plan

Before advanced exploration or mining can take place, the Mining Act requires that a closure plan be filed with the Director of Mine Rehabilitation at the Ministry of Northern Development, Mines and Forestry.⁷⁶⁰ The Minister may appoint one or more officers or employees of the Ministry as Directors of Mine Rehabilitation.⁷⁶¹ Advanced exploration activities may include underground exploration, large bulk samples, stripping or trenching on large areas or installation of a mill for test purposes on site.⁷⁶²

A closure plan is a plan to rehabilitate a site or mine hazard. A part of the closure plan is the financial assurance for carrying out the rehabilitation work. A public consultation process of notifying and providing information to parties directly

⁷⁵⁶ Mining Act section 84.

⁷⁵⁷ Mining Act section 39.

⁷⁵⁸ Mining Act section 40.

⁷⁵⁹ Mining Act section 175.

⁷⁶⁰ Mining Act section 140.

⁷⁶¹ Mining Act 153(2).

⁷⁶² Mining Act section 139.

or indirectly affected by a mining project is included within the system of closure plans. The proponent (the party proposing the project) or miner has to initiate the process. Significant responsibility is placed on the miner since the system of closure plan is constructed more like a certification process within the Mining Act than a review and approval process as was the main solution prior to the year 2000. It is possible for a miner to choose to submit a closure plan for approval instead of filing or using the certification process according to the Mining Act. However, approval in practice is not done.⁷⁶³ The process and requirements of a closure plan are regulated in detail in the regulations to Mining Act.⁷⁶⁴

The requirement of a closure plan applies to projects of underground mining of minerals, surface mining of metallic minerals, the surface mining of non-metallic minerals excluding aggregates and advanced exploration on mining lands (i.e. lands or mining rights patented or leased, located, staked out, used or intended to be used for mining purposes and surface rights granted solely for mining purposes). Closure plans apply to all stages of mining from advanced exploration, through development, production, temporary suspension, inactive to final closure, as well as abandon mine sites. The closure plan must consider the long-term physical and chemical effects on air and water and should be re-evaluated as the project progresses since the plan for a new mine must be based on projected conditions.

A file or acceptance of a closure plan does not replace or alter any statutory requirements exacted by other Ministries, including possible approvals or permits. A miner must therefore review the applicable legislation and any requirements during the earliest planning stages for the project. The Ministry of Northern Development and Mines' Mineral Development Officer will coordinate an inter-governmental meeting with the miner to identify all required permits. The functions of Mineral Development Officers are regulated in the Mining Act. They are to co-ordinate and expedite communication between the mining industry, the public and affected ministries and agencies of Government of Ontario.⁷⁶⁵

As a first step in the process of filing a closure plan, a Notice of Project Status has to be submitted to the Ministry of Northern Development, Mines and Forestry at least 45 days before the proposed date of commencement of advanced exploration or mine production.⁷⁶⁶ The Notice of Project Status is to contain an operating plan including a description of the project, a site plan, the location of points of access to the site, the targeted minerals, the operating schedule for the project and its expected duration and the number of workers, a map of the project boundaries, information on the uses of land and water adjacent lands, as well as the names of the owners, occupants and any other proponents of lands that make up the project site and of immediately adjacent lands.

⁷⁶³ Lessard (email 10th of October 2008).

⁷⁶⁴ Schedule 1 of Ontario Regulation 240/00, Mining Act, Mine Development and Closure under part VII of the Act.

⁷⁶⁵ Mining Act section 153 (1).

⁷⁶⁶ Mining Act sections 140, 141, Ontario Regulation 240/00 to Mining Act section 5.

Public notice is required for all projects subjected to a closure plan.⁷⁶⁷ However, the Director of Rehabilitation may or may not require a proponent to give public notice for advanced exploration projects. This depends on whether the Director finds that there is sufficient public interest or issues associated with the project and on the review of other relevant ministries. The minimum requirements for public notice are a newspaper notice and holding a public information session in the area where the project is located. Public notice is to be given at least seven days before holding the public information session. No closure plan is to be filed before the public notice has been given if required. The proponent is to provide the Director with the names of the persons who attended the public information session and any written comments provided by them no later than 15 days after session.⁷⁶⁸ Consultation with aboriginal peoples must be highlighted in the closure plan.

A notification of the project is also to be posted on the Environmental Bill of Rights registry for a period of thirty days for public comment. This is to reach parties who might be directly or indirectly affected by the project or more interested parties who have the opinion that they will be affected by the project. Other Ministries with legislative and policy requirements for public consultation are also to be informed about a mining project in order to avoid confusion and repetition of effort, i.e. mainly the Ministry of Environment, Ministry of Natural Resources and Ministry of Municipal Affairs and Housing.⁷⁶⁹

After public notice has been given, the proponent or developer is to file the closure plan or submit it for approval with the Director. The Director can return the closure plan for refile if it does not address all the prescribed reporting requirements. The proponent has to include a certificate to the closure plan as to statements are made by him about compliance with the Mining Act and the regulation. The proponent is also to certify that he has conducted reasonable and good faith consultations with appropriate representatives of all aboriginal peoples affected by the project, and that the amount of financial assurance is adequate and sufficient to cover the cost of rehabilitation work. Financial assurance can be in cash, a letter of credit from a bank named in the Bank Act (Canada), a bond of a guarantee company approved under the Insurance act, a mining reclamation trust as defined in the Income Tax Act (Canada), Compliance with a corporate financial test or other forms of security.⁷⁷⁰

6.3.4 Environmental Approvals and Environmental Assessment

An approved or filed closure plan does not mean that all the regulatory obligations are fulfilled. Therefore it is important that any permits required are identified early in the process of filing a closure plan. Major permits as to approval processes, in addition to those in the Mining Act, kick in at the advanced exploration phase and

⁷⁶⁷ Mining Act sections 140(1), 141(1).

⁷⁶⁸ Ontario Regulation 240/00 Mine Development and Closure section 8(3).

⁷⁶⁹ Ministry of Northern Development and Mines, *Guidelines for Public Notice and Consultation for Exploration and Mining Activities*.

⁷⁷⁰ Mining Act section 145.

the mining phase. The amount of permits or approvals needed accorded to different statutes differs from project to project, even if certain statutes always apply. Several of the statutes affecting a mining project in addition to the Mining Act have been dealt with in the introduction of this chapter.

As mentioned earlier, the Environmental Protection Act and the Ontario Water Resources Act require certifications of approval for industrial sewage, permits to take water, site waste disposal, etc. The two most important environmental approvals established under the Environmental Protection Act are the general environmental approval and the approval of waste management systems and facilities. Both of these approval processes involve obtaining certificates of approval setting out the specific conditions governing the operation. Under the Ontario Water Resources Act, no party can take more than 50,000 litres of water in a single day without a permit to take water. The requirement of obtaining approvals to construct sewage systems comes from the Ontario Water Resources Act.⁷⁷¹ Construction permits might be needed in an organized Township with zoning by-laws. The federal Fisheries Act requires a permit if mining and exploration activities could lead to a harmful alteration, disruption or destruction of a fish habitat. The number of approvals or licences connected to a mining project can be numerous and very complex due to overlapping province and federal responsibilities.

In Ontario, an environmental assessment is not routinely required for a mining project. However, many other circumstances might trigger such an assessment on a both provincial and federal level. The Canadian Environmental Assessment Act provides that all projects obtaining federal funding or requiring certain federal permits, such as harmful effects on fish habitat, or use of water, must be reviewed by the federal government. This review may take the form of a comprehensive study procedure and public hearings by panel reviewers or less detailed screening assessment.⁷⁷² Based on the findings of the environmental assessment report, the responsible federal authority must make a decision regarding the project (not proceed, further assessment needed, proceed or proceed with conditions).

The Ontario Environmental Assessment Act applies to private undertakings such as mining only if the project is specifically designated. It is possible for a concerned party to request a designation under the act for an unresolved issue. The Minister of the Environment decides whether or not to designate the project. Different kinds of work permits, such as water crossings or water wells, might also require an assessment according to the Act. If a project is designated, the Minister must review the assessment and may approve it if it is consistent with purpose of the act. The public has an opportunity to comment. Public consultation and the duty to consult with First Nations are also part of an environmental assessment generally. In case of a public hearing, the Environmental Assessment Tribunal has a decision-making function. Any person can request that the Minister refer the matter of assessment to the Tribunal. The decision of the Minister to refer the matter to a hearing is discretionary.

⁷⁷¹ Pickfield (1989).

⁷⁷² Wakefield, Oliver and Fordyce (1998), p. 9.

6.3.5 Responsibilities when Mining Lease Expires

A lessee of mining rights is liable for all mine hazards on, in or under the lands, regardless of when and who created the mine hazards. When a lease expires and is not renewed, the lessee is liable for rehabilitation of the land for two years after the expiry.⁷⁷³ The Minister may cause a notice of termination to be registered in the land registry office. When a lease is terminated, the lease and any “underlying claims” cease and the lands are vested in the Crown. The lands are not open for prospecting, staking out or lease until a date as fixed by the Deputy Minister.⁷⁷⁴

⁷⁷³ Mining Act section 153.3(1), (2)

⁷⁷⁴ Mining Act section 183.

7. Country Survey – Western Australia

This chapter describes the legal system of Western Australia with respect to exploring and mining minerals. It is divided into three parts: Background, Prospecting and Exploration Activities, and Mine Development Activities.

7.1 Background

This background description concerns the Mining Act, its administration and development. It also addresses state agreements, and state and federal jurisdiction. The relationship between the ownership of lands and of minerals is described here, as is the status of the landowner. Certain attention is given to mineral development and the situation of Native Peoples. Finally, land use and environmental legislation significant to mineral development is addressed. This section begins with a system overview.

7.1.1 System Overview and Characteristics

The ownership of most minerals in Western Australia is vested in the Crown. However, the discovery and development of these resources is carried out by the private sector. The process of obtaining mineral rights is self-initiated. The rights to explore and mine in a specified area (“tenement”) are documented in a license or lease issued by a regulatory agency. Mineral titles are granted on a “first-come, first-served” basis.

The Mining Act 1978 is used to obtain exploration and mining titles. The right to mineral titles lies in the grant. The mineral rights granted according to the Mining Act are based on the three basic stages of development of a mine: initial prospecting and exploration, further detailed exploration, as well as assessment and mining. However, mining according to the Mining Act is defined to include prospecting and exploration activities. The process of granting mining tenements has to comply with the Native Title Act 1993 (Commonwealth). Native title rights and interests exist in accordance with the laws and customs of the indigenous peoples.

Three categories of land are open for mining: Crown land, public reserves and private land. Different rules for land access apply to these different categories of lands. Seven mining tenements or exploration and mining titles are available under the Mining Act, namely: a prospecting licence, a special gold prospecting licence, an exploration licence, a retention licence, a mining lease, a general purpose lease and a miscellaneous licence. The last two tenements are used for infrastructure related to mining. The holder of an exploration or mining right is required to meet expenditure or work commitments and comply with conditions imposed on the titles or tenements. The Environmental Protection Act applies parallel to the Mining Act.

A prospecting licence has a maximum area of 200 hectares and must physically be marked out. A special gold prospecting licence is limited in area to 10 hectares and may be marked out. An exploration licence is based on longitudes and latitudes (graticular or block system). The minimum size for an exploration licence is one block, and a block is approximately 310 hectares in size. The maximum size for an exploration licence is 70 blocks, except in designated areas where 200 blocks are permitted.

A retention licence is a “holding title” for a mineral resource that has been identified as a result of exploration activity, and for economic reasons, it may not be possible to exploit the deposit. The area depends on the resource identified. A new concept within the Mining Act is that the holder of a prospecting or exploration licence can gain “retention status”, which means that a new title, such as a retention licence, is not required.

A mining lease is explicitly granted for the purposes of mining, or when there is a reasonable prospect of mining taking place. The holder needs to demonstrate, by way of a mineralisation report submitted to the Director Geological Survey, that the proposed mining lease contains significant mineralization. Mining leases must be marked out and no size restriction applies. A general purpose lease is for purposes, such as operating machinery and depositing tailings. It must be marked out and the maximum area is 10 hectares. A miscellaneous licence is for purposes such as roads, pipelines or water. It must be marked out, however, there is no maximum area.

7.1.2 The Mining Act and its Application

The main legislation creating the framework for exploration and development of minerals in Western Australia is the Mining Act 1978 and the Mining Regulation 1981.⁷⁷⁵ The legislation applies to minerals owned by the Crown, which is the most common situation. If the minerals are privately owned, the act does not apply. As an instrument of government policy relating to mining, the Mining Act establishes the basic ground rules for finding and securing rights to mine minerals.⁷⁷⁶ The Mining Act has a broad definition of minerals, defined to include all naturally occurring substances (other than soil and petroleum) obtained or obtainable from any land by mining operations.

There are a number of materials defined in the Mining Act as minerals only when they occur on land owned by the Crown. These include limestone, rock, gravel, shale (other than oil shale), sand (other than mineral sands, silica sand or garnet sand) and clay (other than kaolin, bentonite, attapulgite or montmorillonite).⁷⁷⁷ For example, a sand quarry on Crown land is subject to the Mining Act, while a sand quarry on private land is not. A sand quarry on private land is regulated under the Local Government Act 1960 and the Extractive Industries By-Laws promulgated

⁷⁷⁵ The Mining Act as amended by the Mining Acts Amendment 1981 came into operation on 1 January 1982. The Mining Act is a modification of older legislation.

⁷⁷⁶ Hunt (2001), p. 13.

⁷⁷⁷ Mining Act section 8(1), Simmons, p. 3.

under the Act.⁷⁷⁸ The Mining Act applies to mining of uranium but there are no specific provisions within the act. A person discovering uranium anywhere in Australia must report that discovery in writing to the Commonwealth Minister according to the Commonwealth Atomic Energy Act 1953.⁷⁷⁹ A special act applies to oil, namely the Petroleum and Geothermal Energy Resources Act 1967. Oil shales and coal, on the other hand, are regulated in the Mining Act. A special provision, however, applies to iron ore and the authorization of the Minister is required to explore for iron ore.

The Mining Act deals with both underground mining of minerals and surface mining. Mine as a noun means any place in, on or under which mining operations are carried on; mine as a verb includes any manner or method of mining operations. No distinctions are made between smaller or larger mining operations within the Act. Neither is any distinction made between individuals or companies who want to explore and develop minerals. However, a number of large mining operations for minerals other than gold are regulated by State Agreements as discussed further below. The Mining Act also does not differentiate between exploration and productive mining.⁷⁸⁰

Environmental protection and rehabilitation are regulated under the Mining Act for all operations through standard or similar conditions and endorsements on granted mineral titles. These conditions are placed on granted rights to minimise impacts on or injury to the environment. The requirements of a rehabilitation plan and security bonds are also imposed as conditions before a mining activity can begin. In addition, the Mining Act is to be read and construed to be consistent with the Environmental Protection Act 1986. Any provision of the former act in conflict with the Environmental Protection Act is inoperative to the extent of the inconsistency.⁷⁸¹

7.1.3 State Agreements or Mining Agreements

The State has used state agreements as a tool for encouraging and facilitating large scale, capital intensive mining projects ever since the rapid expansion of the mining sector during the 1950s and 1960s. State agreements are essentially contracts between the Government of Western Australia and proponents of major resource projects ratified by an Act of the State Parliament.⁷⁸² These ratified agreements represent a central pillar of the State system of mining regulation.⁷⁸³ State agreements cover matters such as the provision of infrastructure, e.g. railways, roads

⁷⁷⁸ Hunt (2001), p. 22.

⁷⁷⁹ Hunt (1997), p. 406.

⁷⁸⁰ Mining Act section 8(1), Mining includes fossicking, prospecting and exploring for minerals, and mining operations. To fossick means to search for, extract and remove rock, ore or minerals, other than gold or diamonds in quantities not exceeding the prescribed amount and by means not prohibited under the regulations as samples or specimens for the purpose of a mineral collection, lapidary work or a hobby interest.

⁷⁸¹ Mining Act section 6(1).

⁷⁸² Department of Industry and Resources, *State Agreements*.

⁷⁸³ Fitzgerald (2002), p. 49.

and port facilities, the construction of special townships, water and drainage, power and welfare facilities. Many agreements also contain incentive arrangements providing favourable legislative and financial treatment for the project.⁷⁸⁴

State agreements are not compulsory or mandatory. However, major project developments requiring long-term certainty, land tenure and complex approvals in possibly remote areas of the State are often established under state agreements. Since a Government contract cannot in itself override State legislation, numerous provisions in the agreements inconsistent with existing legislation, such as the Mining Act, would be invalid and ineffective without statutory ratification. The Mining Act also prescribes that nothing in the act is to affect the provisions of any ratified agreement.⁷⁸⁵ However, the Mining Act establishes the basic ground rules for finding and securing rights to mine minerals.

When a large deposit of minerals has been located and secured by the regulations in the Mining Act, and the miner wishes to mine on a scale requiring a ratified agreement, this is done through case-by-case negotiations with the State.⁷⁸⁶ In general terms, the approach of the State according to Hunt is that it will not act towards the formulation of a ratified agreement for a resource development unless the project is of major importance and the State is satisfied that the development is warranted and the developer is firmly committed to it.⁷⁸⁷

Apart from gold, the agreements cover a wide range of minerals including iron ore, alumina, diamonds, salt, coal and nickel. There are more than sixty Agreements Acts between resource developers and the State of Western Australia. All have similar general provisions, but as they are negotiated on a case-by-case basis, there are project specific clauses making each agreement unique.⁷⁸⁸ Each mining agreement contains a promise by the State Government to grant the developer exclusive rights to exploit the particular resource in return for the investor's undertaking to finance, develop and operate the project. The unique feature of the agreements is that they are designed to "lock in" both parties, as they can only be changed by mutual consent.⁷⁸⁹ A mining agreement is subservient to the Environmental Protection Act at all times. Governments have become cautious about taking agreements to Parliament without a project having completed the processes within the latter Act.⁷⁹⁰

7.1.4 State and Federal Jurisdiction

Australia has a constitutional division of legislative power between the Federal and State Parliaments. The power to legislate with respect to onshore minerals remains

⁷⁸⁴ Independent Review Committee (2002) "The Keating report", p. 204.

⁷⁸⁵ Mining Act section 5(1).

⁷⁸⁶ Hunt (2001), p. 13.

⁷⁸⁷ Ibid at p. 16.

⁷⁸⁸ Department of Industry and Resources, *State Agreements*.

⁷⁸⁹ Independent Review Committee (2002) "The Keating report", p. 203.

⁷⁹⁰ Independent Review Committee (2002) "The Keating report", pp. 205-206.

with the States, and each State has its own legislation.⁷⁹¹ A mining operation may still be subject to Federal law, such as federal legislation concerning trade, commerce, taxation, defence or aboriginal interests.⁷⁹² When a state law is inconsistent with a federal law, the Commonwealth enactment prevails.⁷⁹³ The Commonwealth can exercise a wide range of constitutional powers to regulate most aspects of mineral development within the States. The Commonwealth has dramatically expanded its role in environmental protection and natural resource developments.⁷⁹⁴ For instance, the Commonwealth Environment Protection and Biodiversity Conservation Act gives the Commonwealth powers to intervene in State approval processes for projects that may significantly impact on matters of national environmental significance. There is also a growing area of joint Commonwealth/State specification of standards and procedures such as the Strategic Framework for Mine Closure.⁷⁹⁵

As to offshore minerals, Australia, or the Commonwealth, has sovereignty over its territorial sea and jurisdiction to exploit the mineral resources under the continental shelf. However, following an agreement negotiated between the Commonwealth Government and the States in 1979, the Commonwealth conferred power on the States and Northern Territory to enact laws for matters including mining operations in respect of coastal waters and granted them proprietary rights to the sea bed.⁷⁹⁶ The different States have drafted complementary offshore mineral legislation using the Australian Government Offshore Minerals Act 1994 as a model. In Western Australia, the Offshore Minerals Act 2003 applies to the mineral resources of the seabed within the first three nautical miles of the territorial sea. The Mining Act 1978 in Western Australia also applies for offshore areas to a limit of three nautical miles seaward of the base line (“State Waters”). Generally, the baseline is the lowest astronomical tide along the coast.⁷⁹⁷

7.1.5 Ownership of Lands and Minerals

When the Australian colonies were annexed by the Crown beginning in 1788, the law of England became the law of the colonies, including the English system of land law. The legal regime under which individuals own land in Australia is called tenure. The Crown is the owner of all land in Australia and all private owners are tenants of the Crown.⁷⁹⁸ The Crown grants land to citizens subject to the conditions contained in Crown grants. Ownership by the Crown is vested in the State legislature except for

⁷⁹¹ Constitution sections 52, 90.

⁷⁹² Hunt (2001), pp. 8-9.

⁷⁹³ Constitution section 109.

⁷⁹⁴ Fitzgerald (2002), p. 71.

⁷⁹⁵ Australian Minerals & Energy Environment Foundation (2002), p. 48.

⁷⁹⁶ Hunt (2001), p. 10.

⁷⁹⁷ Department of Industry and Resources, *Commonwealth of Australia Offshore Minerals Act 1994*. Simmons, p. 2.

⁷⁹⁸ Chambers (2001), p. 83.

land that has been acquired by the Commonwealth, such as land held for defence purposes. The Mining Act does not apply to Commonwealth owned land.⁷⁹⁹

Estates in real properties in Western Australia derived initially from the Crown include fee simple (freehold), leasehold and various other estates and interests such as pastoral leases and easements.⁸⁰⁰ A fee simple or freehold estate is an estate of unlimited duration.⁸⁰¹ A leasehold interest or leasehold estate is a limited right or lease for a limited period. A pastoral lease is a lease granted over Crown lands for the purposes of commercial grazing of stock. A maximum area up to 500,000 hectares may be held by one party, and the term of a lease may not exceed 50 years.⁸⁰² An easement is a right attached to one particular piece of land that allows the owner of that land to use the land of another in a particular manner or to restrict its use by that other person to a particular extent.⁸⁰³ The most common form of easements is a right of way giving a landowner access across a neighbour's land. Of all land in Western Australia, 7 % is held in freehold title and the remaining 93 % is Crown land. One-third of Crown land is held under pastoral lease with 528 in existence. All pastoral leases will expire in 2015.⁸⁰⁴ The main areas of private land are to be found in the southwest, in the older settled areas of mainly farmland in the wheat belt.

The basic common law rule is that minerals, with the exception of gold and silver, are part of the land itself and belong *prima facie* ("as things first seem") to the owner of the soil. The origins of this common law rule may be traced back to the Case of Mines in 1567 in England. The principle of the owner owning the minerals within the land has virtually been abolished by statute in Western Australia.⁸⁰⁵ Generally speaking, all minerals are the property of the Crown. The Mining Act states that "all gold, silver and any other precious metal existing in its natural condition on or below any land is the property of the Crown."⁸⁰⁶ The expression "precious metal" is not defined.⁸⁰⁷ There are, however, also privately owned minerals in grants made before the Land Act 1898 came in force on 1 January 1899. Since that day, all new Crown grants in fee simple or freehold have provided that all minerals are reserved to the Crown.⁸⁰⁸ In grants before 1899, minerals other than gold, silver and precious metals are the property of the owner of the land.

Where the owner of the land also owns the minerals, the Mining Act then only applies in relation to gold, silver and precious metals. The owner of such land may explore or mine minerals other than gold, silver or precious metals how he wishes.⁸⁰⁹

⁷⁹⁹ Hunt (2001), p. 34.

⁸⁰⁰ Brown (2004), p. 21.

⁸⁰¹ Tooher and Dwyer (2002), p. 37.

⁸⁰² Land Administration Act 1997 part 7.

⁸⁰³ Brown (2004), p. 185.

⁸⁰⁴ Department for Planning and Infrastructure (2005), *Government Land Administration at a Glance*.

⁸⁰⁵ Hunt (2001), p. 28.

⁸⁰⁶ Mining Act section 9(1)(a).

⁸⁰⁷ Forbes and Lang (1987), p. 24.

⁸⁰⁸ Mining Act section 9(1)(b), Land Administration Act 1997 section 24.

⁸⁰⁹ Hunt (2001), pp. 29-30.

As also mentioned earlier, limestone, rock or gravel, sand and clay, with certain exceptions, are not defined as minerals in the Mining Act 1978 when they occur on private land. Even if the Mining Act has no application to privately owned minerals, there is a provision permitting privately owned minerals to be brought within the operations of the Act.⁸¹⁰ The owner of any private land alienated before 1 January 1899 can lodge an application if he wants to mine minerals.

The Mining Act makes a distinction between three categories of land, namely Crown land, reserved land and private land. All land is open for exploration and mining activities, but different approval mechanisms operate for these land categories.⁸¹¹ Crown land is defined to mean all land in the State except land granted by the Crown in freehold and leasehold (private land), and land reserved for a town site or for any public purpose. Crown land includes reserves for common and public utilities, leases for the use and benefit of the Aboriginal inhabitants, and leases for grazing, timber and pastoral purposes.⁸¹² The Mining Act classifies various reserves that may be open to mining, such as national parks, state forests and timber reserves, aboriginal reserves and town site reserves. Different rules apply in relation to mining on these reserves and varying degrees of access are available. Private land is defined as any land that has been or may be alienated from the Crown for any estate of freehold or any conditional purchase lease.⁸¹³

A single registration system based on a title system (Torrens) applies for both Crown and freehold land in Western Australia.⁸¹⁴ All dealings affecting any land must be lodged and registered with the Registrar of Titles at Landgate. As an Authority, Landgate maintains the State's official register of land ownership and survey information. Separate title to minerals is recognised under the Torrens system. The registration of rights in respect of minerals granted by the Mining Act has not been included within this land registration system.⁸¹⁵

7.1.6 The Native or Aboriginal Peoples

The Aborigines and Torres Strait Islanders are early inhabitants of Australia. When the English settlers colonised Australia, the local laws of the natives, and particularly, any rights to the land, were ignored. English law was applied instead. In contrast to the practise in the British settlements in North America, the governors of the Australian colonies never negotiated treaties for the purchase of Aboriginal land.⁸¹⁶ Australia was treated as a settled colony taken to be deserted and

⁸¹⁰ Mining Act section 37.

⁸¹¹ Simmons, pp. 10-11. Mining Act sections 18-22 (Crown land), sections 23-26A (Public reserves), sections 27-39 (Private land).

⁸¹² Mining Act section 8(1).

⁸¹³ Mining Act section 8(1).

⁸¹⁴ The Torrens system was established in 1858 in South Australia following the proposal by Sir Robert Torrens. This system had a great influence on the development of land registration in many countries.

⁸¹⁵ Bradbrook, MacCallum and Moore (2002), p. 601. Land Administration Act section 5.

⁸¹⁶ Chisholm and Nettheim (2002), p. 11.

uninhabited. Aboriginal people did not exist, with the land regarded as “*terra nullius*” (no-one’s land).

For a long time, the Aboriginal people had no rights to land except such rights as might be given under Australian law, such as some restored land. In Western Australia, a large area is now set apart for Aboriginal reserves, approximately 8 %, but it is held under Crown management and control, e.g., no legislative provisions for Aboriginal land rights applies.⁸¹⁷ Government policy since 1986 in Western Australia emphasizes the provisions of 99-year leases to Aboriginal Communities resident on Aboriginal lands.⁸¹⁸

The Australian High Court in *Mabo v Queensland* determined in 1992 that Torres Strait Islanders had rights to their land before the arrival of the colonisers. The High Court held that native title rights survived the British settlement and were recognized by the common law of Australia. In acquiring political sovereignty over Australia, the Crown did not acquire absolute and beneficial ownership, but merely “radical title” to the land burdened by native title.⁸¹⁹ This declaration finding traditional land ownership rights of the indigenous inhabitants of Australia has affected the way mining companies can obtain secure tenure for their exploration and mining activities.⁸²⁰ In 1993, the Commonwealth Government in response to the *Mabo* decision passed the Native Title Act 1993 (Cth, NTA).

Native title consists of the rights of indigenous people to their traditional land and waters as now recognised at common law.⁸²¹ The term “native title” in the *Mabo* case is defined as “the interests and rights of indigenous inhabitants in land, whether communal, group or individual, possessed under the traditional laws acknowledged by and the traditional customs observed by the indigenous inhabitants”.⁸²² According to Bartlett, native title to minerals has been extinguished throughout Australia due to the *Western Australia v Ward* case of 2002.⁸²³ Hunt maintains that native title has been extinguished on land that is freehold or leasehold (private).⁸²⁴ This still entails that most land has the potential of having native title rights and interests. Native title is also not extinguished by the grant of a pastoral lease. Whenever a mineral exploration or mining title therefore is applied for over land other than private land, it is essential to consider the impact of the Native Title Act.⁸²⁵ Native Title rights are not rights granted by the Government and cannot be withdrawn by the Crown, although they can be extinguished by an act of Government.⁸²⁶

⁸¹⁷ Bartlett (2000), p. 15.

⁸¹⁸ Industry Commission (1991b), p. 76.

⁸¹⁹ Fitzgerald (2002), p. 104 and Chambers (2001), p. 86.

⁸²⁰ Hunt (2005), p. 661.

⁸²¹ Bartlett (2004), p. 1.

⁸²² Chambers (2001), p. 217.

⁸²³ Bartlett (2004), pp. 600-601. This decision, according to the Ministerial Inquiry (2002) “The Bowler report”, p. 92, has removed any doubt as to the risk of compensation claims being made against holders of mineral titles based on the value of minerals.

⁸²⁴ Hunt (2005), p. 665. See also Bartlett (2000), pp. 265-266.

⁸²⁵ Hunt (2005), p. 661.

⁸²⁶ House of Representatives. Standing Committee on Industry and Resources (2003) “The Prosser report”, p. 85.

The Native Title Act provides a mechanism for determining whether native title exists, as well as the rights and interests that comprise that title, in addition to providing protection to native title. The Native Title Act sets out procedures for future acts affecting native title. Future acts are proposed activities or developments that might affect native title by extinguishing it or creating interests that are inconsistent with the existence or exercise of native title.⁸²⁷

The grant of a mineral title affecting native title rights is included as a future act.⁸²⁸ The Native Titles Act gives native title claimants a right to negotiate with the Government and mining companies in relation to the grant of exploration and mining tenements, but does not confer a right of veto. In order to decide whether a grant of mineral rights will affect native title, a determination must first be made as to whether native title exists in the area. This requires a hearing by the Federal Court, a process that can take several years.⁸²⁹ For cases where future acts such as prospecting and exploration activities have minimal impact on native title, the Government can use expedited procedures, meaning that a mining tenement can be granted without a negotiation process.⁸³⁰ Otherwise, the right-to-negotiate procedure starts with the Government giving notice of the proposed grant of the mineral title to the public and any registered native title parties.⁸³¹ This procedure gives Aboriginal people, who have not yet made a native title claimant application, the opportunity to lodge a claim. Representative Aboriginal/Torres Strait Islander bodies or Native Title Representative Bodies are organisations set up to represent native title applicants. The State Government's native title policy emphasizes the need for native title matters to be settled through agreement.

Native title and Aboriginal heritage issues are closely interrelated.⁸³² Aboriginal sites are protected under the Western Australian Aboriginal Heritage Act 1972.⁸³³ It is an offence to disturb any Aboriginal site or material, which can include burial grounds, symbols, carved trees, caves and stone structures. Where a development might impact upon an Aboriginal site, developers are to make a reasonable effort to identify any sites within the development area. The accepted method is to commission an Aboriginal heritage survey. The practice has developed of undertaking Aboriginal heritage surveys with local Aboriginal communities before commencing land disturbing activities.⁸³⁴ If disturbing a heritage site is unavoidable, consent to proceed must be given by the Minister for Aboriginal Affairs. The developer must demonstrate that they have taken all necessary steps to avoid disturbing the site in question, including completion of a complete Aboriginal Heritage survey and proper consultation with the Aboriginal communities. The State Government of Western Australia has undertaken to submit applications for

⁸²⁷ House of Representatives. Standing Committee on Industry and Resources (2003) "The Prosser report", p. 85.

⁸²⁸ Hunt (2005), p. 663.

⁸²⁹ *Ibid.*

⁸³⁰ Native Titles Act section 32.

⁸³¹ Native Titles Act section 29.

⁸³² Hunt (2005), p. 679.

⁸³³ Western Australian Aboriginal Heritage Act sections 16-18.

⁸³⁴ Hunt (2001), p. 284.

exploration and prospecting licences to an expedited procedure under the Native Title Act only after the tenement applicant provides evidence that arrangements are in place to identify and protect Aboriginal sites within the tenement application.⁸³⁵

7.1.7 The Development of Mining Legislation

When minerals were first discovered in 1842, there were no specific mineral laws. Freeholders owned any minerals in their land subject to the rule that gold and silver belonged to the Crown. Mineral lands (land required for its mineral content) were sold under the same conditions as ordinary agriculture lands.⁸³⁶ The gold rushes in New South Wales and Victoria by 1851, however, sparked the development of mining legislation.

The first mining legislation in Western Australia was the Gold Regulations Ordinance 1854. For minerals other than gold, the Mineral Lands Act 1892 came into force based on a system of claim and lease. The first comprehensive gold mining code was established by the Goldfields Act 1895.⁸³⁷ The principles of the free miner were then established, whereby any holder of a miner's right could enter and take possession of unoccupied Crown lands for mining gold. A long-term miner could obtain a lease.

The first Mining Act was enacted in 1904 based on the philosophies that land should be utilised for the purpose for which it is most valuable, that no person should hold any mineral rights without being required to develop them, and that minerals are owned by the State and only made available to miners by lease.⁸³⁸ The Mining Act 1904 was concerned mainly with the regulation of gold mining, since the value of other minerals at that time was relatively insignificant in comparison.⁸³⁹ The need to update the 1904 Act did not manifest itself until the development of large-scale bauxite and iron ore projects in the 1960s.⁸⁴⁰ The 1904 Act and its regulations and administrative machinery were not capable of dealing adequately with the discovery and development of vast deposits of iron ore, nickel and bauxite.⁸⁴¹

Due to the difficulties of introducing new comprehensive mining legislation, the current Mining Act 1978 was finally enacted and introduced in 1978. However, as a result of lobbying interest groups, principally farmers and prospectors, each group believing itself to be disadvantaged by the new legislation, the act was amended in 1981 before eventually coming into operation on 1 January 1982.⁸⁴² The most significant development in the Australian mining legislation according to Forbes and

⁸³⁵ The State Government established a Technical Taskforce in April 2001 to assess how mineral and petroleum, and land title applications, can be processed with greater efficiency while at the same time recognising and protecting the rights of indigenous people.

⁸³⁶ Forbes (1996), pp. 2-3 and Hunt (2001), p. 2.

⁸³⁷ Hunt (2001), p. 2.

⁸³⁸ *Ibid* at p. 3.

⁸³⁹ Fitzgerald (2002), p. 281.

⁸⁴⁰ Fitzgerald (2002), p. 281.

⁸⁴¹ Hunt (2001), p. 4.

⁸⁴² Hunt (2001), p. 6 and Fitzgerald (2002), p. 284.

Lang was the introduction of large exploration titles, known as exploration licences, in Western Australia. These titles meant, according to Forbes and Lang, that in several states, “the Minister was given a broad discretion in ruling up applications and in the event of grant, in determining the applicable terms and conditions – a far cry indeed from the days of the free miner”.⁸⁴³ The Mining Act 1978, however, also kept many of the older concepts, such as miner’s rights and prospecting licences based on pegging as a source of title. A major achievement of the new mining act according to Hunt was to reduce the number of tenements.⁸⁴⁴ There were 39 different types of tenements under the older Mining Act 1904. Due to changes in the definition of minerals, a wider range of minerals was encompassed within the more modern definition put in the Mining Act 1978.⁸⁴⁵

The Mining Act 1978 has been amended frequently over the years, approximately forty times.⁸⁴⁶ The changes effected 2006 resulting from the Mining Amendment Bill 2004 and 2005 were significant and to ensure the effective operation of the legislation.⁸⁴⁷ Prior to the amendments, most mining leases had been held for exploration purposes, not mining. Exploration titles had a limited term of five to seven years. If exploration was not completed, it was necessary to convert to a mining lease. The requirement to convert did not depend on whether a mineable ore body had been identified. The new system is designed to ensure that mining leases can only be applied for when significant mineralisation has been discovered and that exploration is carried out on an exploration or prospecting title.

7.1.8 Administration of the Mining Act

The Department of Mines and Petroleum (DMP) is the Government department responsible for the mining industry sector in Western Australia.⁸⁴⁸ The Department’s role within the mineral sector includes providing an efficient and fair system of regulation of the sector that will help companies gain secure access to minerals, and to minimise social and environmental impacts. An overall responsibility of the Department is to attract and facilitate investments in Western Australia and also to provide geological information within the field of exploration and mineral development.

⁸⁴³ Forbes and Lang (1987), pp. 7-8.

⁸⁴⁴ Hunt (2001), p. 30.

⁸⁴⁵ Bradbrook, MacCallum and Moore (2002), p. 605.

⁸⁴⁶ Hunt (2001), pp. 7-8.

⁸⁴⁷ The overhaul of the mining legislation incorporated recommendations from the government commissioned Technical Taskforce on Native Title, the Bowler Inquiry in Greenfields Exploration in Western Australia and the Keating Review of the Project Development Approvals System.

⁸⁴⁸ The former Department of Industry and Resources (DoIR) has been restructured into three departments; Department of Mines and Petroleum, Department of State Development and the Department of Commerce. The new departments began operating on January 1, 2009.

The Mining Act is administered by the Minister.⁸⁴⁹ The Minister may delegate authority to any officer at the Department.⁸⁵⁰ Western Australia is divided into mineral fields. There is a mining registrar responsible for each mineral field. The functions of the mining registrars are organised within the Department of Mines and Petroleum. All types of tenements or mineral rights, including mining leases, are administered by the mining registrar. The Native Title Act process connected to the grant of mineral titles is also managed by the Department of Mines and Petroleum, as are Aboriginal heritage issues and land-access planning for exploration and mining.

Under the Mining Act, Wardens are appointed to hear objections and disputes to any grant of any tenement. Any person holding office as a stipendiary magistrate and any other fit and proper person may be appointed as a warden.⁸⁵¹ The Warden has an important administrative function in the processing of an application of a mining tenement, in addition to the Department of Industry and Resources. The Warden is able to grant prospecting licences subject to conditions. Where there is no objection, the Mining Registrar has the same power. For exploration and mining leases, the Warden provides recommendations to the Minister who decides on the grant and conditions. There is no appeal process within the Mining Act against the Minister's decision.⁸⁵² However, a decision by a Warden can be appealed to the Minister. A grant or recommendation concerning the grant of mining tenements has always been regarded as the primary administrative function of the Warden.⁸⁵³ Most objections against tenements are raised by the holders of competing mining tenements or by landholders or occupiers. These objections are heard by the Warden in open court. Only a person with a stipendiary magistrate may preside in a Warden's court. The Court operates to determine objections lodged against tenement applications and to deal with competing applicants. Any party may appeal a decision of the Warden's court to the Supreme Court of Western Australia.

The Department of Mines and Petroleum has several roles in relation to the environment. Environmental officers are appointed to set and ensure compliance with environmental conditions, according to the Mining Act, on granted tenements for exploration and mining. The Mining Act also provides for an environmental inspection regime where the environmental officers within the Department may enter and inspect operations for the protection of the environment. The Department of Mines and Petroleum works to improve the transparency, certainty and timeliness of its approval processes connected to mining tenure applications and mining environmental approvals.⁸⁵⁴

The Department of State Development operates to facilitate the procedures for a proponent involved in an industrial or resource related project such as mining. The Department supports major resource, industrial and infrastructure projects. The purpose is to deliver more timely approval outcomes, and create greater certainty for

⁸⁴⁹ Mining Act section 10(1).

⁸⁵⁰ Mining Act section 12(1).

⁸⁵¹ Mining Act section 13(1).

⁸⁵² Independent Review Committee (2002) "The Keating report", p. 90.

⁸⁵³ Simmons, p. 9.

⁸⁵⁴ See Department of Mines and Petroleum, *Approvals Performance Report – First Quarter 2009*.

project proponents, especially when multiple approvals are required according to legislation in addition to the Mining Act. Certain guidelines for proponents and State Government agencies have been developed.⁸⁵⁵

7.1.9 Land Use and Environmental Legislation Significant to Mineral Development

In addition to the Mining Act and its regulations, several other statutes, both State and Federal, affect the permit process of a mining project and require compliance. Certain statutes have been dealt with above under the heading of Native or Aboriginal Peoples. Other main statutes, due to land use and environmental issues connected to mineral development, are listed and dealt with hereunder:

- Land Administration Act 1997
- Conservation and Land Management Act 1984
- Wildlife Conservation Act 1950
- Environmental Protection Act 1986
- Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
- The Rights in Water and Irrigation Act 1914
- Planning and Development Act 2007
- Aboriginal Heritage Act 1972
- Aboriginal Affairs Planning Authority Act
- Native Title Act 1993 (Commonwealth)

The Land Administration Act 1997 contains the primary rules for governing the administration of Crown lands. The Act codifies all processes relating to the sale, transfer or lease of Crown land. No specific permit is required for mineral prospecting and development according to this Act. However, the Act contains basic sections about minerals being reserved to the Crown, a definition of mining rights (same as Mining Act 1978) and how to deal with overlapping situations between leases or easements and mining tenements. Under the Land Administration Act, land may be reserved for one or more purposes in the public interest. The Act also provides that more important reserves may be classified as class A, then requiring the approval of both Houses of Parliament for any significant changes to the reserve. The Act is administrated by the Department of Regional Development and Lands.

The Conservation and Land Management Act 1984 applies to reserves and State forests. These lands are managed by the Department of Environment and Conservation (DEC), which also administers the act. Different types of reserves are declared and classified under the Act, such as national parks, nature reserves, conservation parks, State forests and timber reserves. The Act does not generally protect the reserved land from mining and development projects. However, it is through the Mining Act that mineral explorers or developers can gain approvals to

⁸⁵⁵ Department of Industry and Resources (2005), *Integrated Project Approval System*.

mineral resources on reserved land. The Mining Act provides different rules relating to mining on the various types of reserves declared under the Conservation and Land Management Act and under the Land Administration Act dealt with above.

As of 2002, National parks and nature reserves occupy 4 % of the State. However, land managed for conservation by the Department of Environment and Conservation is about 9 %.⁸⁵⁶ The Western Australian Government has committed to the creation of additional parks and reserves to protect biodiversity.⁸⁵⁷

The Wildlife Conservation Act 1950 applies to rare flora and threatened fauna. The Department of Environment and Conservation administers the approvals required to carry out activities that have an impact on threatened ecological communities.

The Environmental Protection Act 1986 provides the basis of the control and regulation of environmental pollution. The Act defines the term “environment” as living things, their physical, biological and social surroundings and interactions between all of these. The Act applies to all proposals, including mineral exploration and mining, likely to have significant environmental impact. Environmental impact assessments (EIA) are required for projects that have significant impact on the environment. The environmental impact assessment includes specific points for public involvement.

The Environmental Protection Act also includes a process for approving certain operations with a significant potential to pollute the environment separate from the EIA process. A work approval is required for construction and a licence for operation. Work approvals and licensing is a two-step approval process. These approvals are designed to ensure that the operations of the approval holder do not produce discharges or emissions that could cause pollution that may interfere with health of any person. According to the Environmental Protection Act, certain clearing permits are also required for the clearing of native vegetation that can affect certain exploration and mining activities.

The Act is administered and assessed by the Department of Environment and Conservation and the Environmental Protection Authority. The Environmental Protection Authority (EPA) is an independent authority with the broad objective of protecting the State’s environment. A Memorandum of Understanding (MoU) has been signed between the Environmental Protection Authority and the Department of Mines and Petroleum in relation to onshore exploration and mining development proposals.⁸⁵⁸ According to the MoU, the Department of Mines and Petroleum is the decision-making authority under the Environmental Protection Act. However, mineral exploration or development activities that result in ground disturbance and are likely to have significant impact on the environment are to be referred to the Environmental Protection Authority. Under section 20 of the Environmental Protection Act, the Department of Environment and Conservation has delegated the

⁸⁵⁶ Ministerial Inquiry (2002) “The Bowler report”, p. 98. Department of Conservation and Land Management Annual Report (2003/2004).

⁸⁵⁷ The Western Australian State Sustainability Strategy 2003, p. 142.

⁸⁵⁸ *Memorandum of Understanding* signed 17/12/04.

powers and duties of certain clearing provisions to the Department of Mines and Petroleum for activities regulated under the Mining Act.

The Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth) sets out the national environmental impact assessment and approval regimes. The Act is separate from the Environmental Protection Act. It identifies a number of matters of national environmental significance that are subject to assessment and approval by the Commonwealth. The matters identified as triggers include World Heritage properties, Ramsar wetlands, nationally threatened species and ecological communities and nuclear actions.

The Rights in Water and Irrigation Act 1914 regulates water resources and water taking permits or licences. The Act is administered by the Department of Water.

The Planning and Development Act 2005 brings together what previously were three separate planning acts, including the former Town Planning and Development Act 1928. It regulates urban and regional planning, and property development processes. Land use in Western Australia is generally governed by town planning schemes; both regional and local. Every city, town or shire is divided into zones. The purpose of a zone is to keep similar uses in one area and exclude other uses that do not fit or are harmful. Any project on land situated within the boundaries of a Town Planning Scheme must be approved under the Planning and Development Act. These approvals are generally the responsibility of the Local Government Authority, a City, Town or Shire Council.

The provisions of any such zoning scheme or local laws may not operate to prohibit or affect the granting of a mining tenement or the carrying out of any mining operations authorised by the Mining Act.⁸⁵⁹ In the event a mining operation, if granted, would be contrary to the provisions of a town planning or local laws, the Minister administering the Planning and Development Act is to be consulted and his recommendations obtained.⁸⁶⁰ When there is a conflict between planning policy and the mining, the Mining Act takes precedence. It has been generally understood within the mining industry that there is no requirement as to obtaining a building licence for the construction of a treatment plant and other buildings located on a mining lease.⁸⁶¹ However, the Mining Act provides no exception from not obtaining a building licence before commencing the construction of a building on a granted tenement.⁸⁶² Responsible departments for the Planning and Development Act are the Department of Planning, Western Australian Planning Commission and Local Authorities.

Under the Planning and Development Act, certain Statements of Planning Policy apply within different key sectors, such as environment and natural resources, urban growth and settlement, and the economy and employment. Planning strategies, schemes and decision-making for minerals according to the statements should

⁸⁵⁹ Mining Act section 120(1).

⁸⁶⁰ Mining Act section 120(2).

⁸⁶¹ Hunt (2001), p. 215.

⁸⁶² *Mineral Titles Update* (2005), p. 5.

identify and protect important and economic mineral resources to enable mineral exploration and mining in accordance with acceptable environmental standards.⁸⁶³

7.2 Prospecting and Exploration Activities

No permission is required for obtaining data in respect of any land by means of aerial surveys.⁸⁶⁴ However, in order to carry out prospecting activities legally on Crown land, a “miner’s right” is required according to the Mining Act.⁸⁶⁵

7.2.1 Miner’s Right

Each person prospecting must have a miner’s right. A miner’s right may be obtained for a fee at the Department of Mines and Petroleum.⁸⁶⁶ A company incorporated may also hold a miner’s right. A miner’s right, on the other hand, cannot be issued in a registered business name. A certain application form has to be used.⁸⁶⁷ However, no information other than the name is required and there are no restrictions with respect to foreign citizens.

Possession of a miner’s right allows the holder to prospect on Crown land not subject to a mining tenement.⁸⁶⁸ The rights conferred by it, however, are not exclusive. A miner’s right is not transferable and is not limited in term. The right can be described as a basic and general right to conduct prospecting activities on Crown land. The holder of a miner’s right is authorised to prospect for minerals (including gold), conduct geological mapping, conduct tests for minerals, undertake limited sampling using handheld equipment and to remove samples up to 20 kilograms, mark out mining tenements, take water and fossick for rocks.⁸⁶⁹ The holder of a miner’s right is not permitted to conduct activities such as “strip mining”, i.e., the using of front-end loaders and bulldozers or similar machinery to strip the surface of soil or vegetation.⁸⁷⁰ With a miner’s right, the search for minerals may not disturb the land to any great extent.⁸⁷¹

When prospecting on a pastoral lease defined to be Crown land, the pastoralist must be notified, and in certain situations, written consent must be received as

⁸⁶³ Statement of Planning Policy No. 2, *Environment and Natural Resources Policy* 2003 p. 2054. Government Gazette WA.

⁸⁶⁴ Mining Act section 155A.

⁸⁶⁵ Mining Act section 20.

⁸⁶⁶ The fee is \$ 25 (AUD) (2009).

⁸⁶⁷ Mining Regulations section 3.

⁸⁶⁸ A mining tenement is defined to mean a prospecting licence, exploration licence, retention licence, mining lease, general purpose lease or miscellaneous licence granted or acquired under the Mining Act section 8(1).

⁸⁶⁹ Fossicking means the search and removal of rock, ore or minerals, other than gold or diamonds, as samples or specimens for the purpose of a mineral collection, lapidary work or a hobby interest, as set out in the Mining Act section 8(1).

⁸⁷⁰ Department of Industry and Resources (2003), *Miner’s Right*.

⁸⁷¹ Chambers (2001), p. 170.

discussed further below. According to Hunt, the miner's right, which once was the basis for acquiring a mining title, is now much less important because the right is not exclusive.⁸⁷² One benefit, however, according to Hunt, is that a miner's right is a form of identification to protect the holder from any possible claim by a pastoral lessee that the former is trespassing when entering onto a pastoral lease for the purpose of marking out a mining tenement.

When prospecting, the holder of a miner's right must fill in or make safe all holes, pits, trenches and other disturbances on the surface of the land made while searching. The holder must take all necessary steps to prevent fire, damage to trees, property or livestock.⁸⁷³ A miner's right holder is liable to pay compensation for any loss or damage caused.⁸⁷⁴

The holder of miner's right can get access to areas of Crown land within granted exploration licences since 2001 by applying for a certain permit called a "20A permit" according to the Mining Act.⁸⁷⁵ Increased access to granted exploration licences was given after extensive consultation with mining industry groups.⁸⁷⁶ Although the consent of the exploration holder is not required, the Department Mines and Petroleum will notify the licence holder. Activities of the licence holder are always to take precedence over prospecting activities of a permit holder. No prospecting may take place within 100 metres of any activity being undertaken by or on behalf of the licence holder. A 20A permit is issued for three months, a maximum size of 10 blocks and limits prospecting activities to a depth of two metres below the natural surface.

7.2.2 Lands Available for Exploration and Mining

The holder of a miner's right may search for minerals and mark out mining tenements on Crown land as mentioned above. The possession of the right does not authorise these activities on private land or reserve land even if the Crown owns the minerals. For the purpose of the right to entry for marking out in connection with an application for a mining tenement, any person may enter on any land and set up pegs and undertake any other activities necessary for marking out.⁸⁷⁷ However, person may not enter on any private land for the purpose of marking out without a permit to enter.⁸⁷⁸ There are also various requirements for entry on reserve areas.

There are no general maps showing specific areas for prospecting. However, each of the Mining Registrars is linked to an electronic mapping system called TENGRAPH. This mapping system shows the ground occupied by mining tenements and the areas available for prospecting and exploration, including restrictions on

⁸⁷² Hunt (2001), pp. 37-38.

⁸⁷³ Mining Act sections 20(3)(a) and (b).

⁸⁷⁴ Mining Act section 123.

⁸⁷⁵ Mining Act section 20 A, Mining Regulation 4A-4P.

⁸⁷⁶ Department of Industry and Resources (2003), *Section 20 A Permit System. Access to Prospect on Crown land within an Exploration Licence.*

⁸⁷⁷ Mining Act section 104(1).

⁸⁷⁸ Mining Act section 104(3).

land, e.g., National Parks.⁸⁷⁹ The Department of Mines and Petroleum is required under the Mining Regulations to keep a register for each mining tenement. The register is stored and retrieved electronically, and is available from the website of Mineral Titles Online, MTO.

A basic principle is that all Crown land in Western Australia that is not already the subject of a granted mining tenement is open for mining, i.e. fossicking, prospecting and exploring for minerals and mining operations.⁸⁸⁰ However, entry on certain classes of Crown land is restricted except for the purpose of entering to mark out a mining tenement. This includes land that is: currently under crop (or within 100 metres of that crop), used or situated within 100 metres of a yard, stockyard, garden, cultivated field, orchard, vineyard, plantation, airstrip or airfield, situated within 100 metres of any land that is in actual occupation and on which a house or other substantial building is erected, the site of or situated within 100 metres of any cemetery or burial ground, where the land is a pastoral lease, the site of or situated within 400 metres of the outer edge of any water works, race, dam, well or bore (unless the excavation was previously made and used for mining purposes by a person other than the pastoralist).⁸⁸¹ Written consent is required of any occupier (usually a pastoral lessee) before conducting activities on these lands.

A Warden may order access to these areas, other than where there is a house, where the Warden is satisfied that the land is required for mining purposes. Compensation for loss or damage to the land is to be agreed on between the parties or determined by the Warden.⁸⁸² The holder of a miner's right or of a mining tenement may pass over Crown land within the "buffer zone" of 100 metres from a crop or yard, etc. The right to pass through that buffer zone is limited to the purpose of gaining access to other land for the purpose of prospecting, exploring, mining, marking out or fossicking.⁸⁸³ Before passing through the buffer zone, or when entry on a pastoral lease where the pastoralist is living, the pastoralist should be notified (consent is not required).⁸⁸⁴ When passing or repassing, the holder is to take all necessary steps to prevent fire, damage to trees, livestock, etc.

The Minister has a certain authority to set aside land (not being Crown land subject to a mining tenement) for mining or exempt it therefrom.⁸⁸⁵ Some examples of the reasons for such exemptions are to protect ground as a site for toxic waste disposal, for gravel deposits, for ground the subject of negotiations for a mining agreement and the discovery of mineralisation by government geologists.⁸⁸⁶ The Minister may exempt vacant Crown land from mining without giving any reason.⁸⁸⁷ If land is set aside for mining purposes, the Minister may call for applications for the

⁸⁷⁹ Department of Industry and Resources (2002), *Prospecting in Western Australia*.

⁸⁸⁰ Mining Act section 18.

⁸⁸¹ Mining Act section 20(5).

⁸⁸² Department of Industry and Resources (2003), *Miner's Rights*.

⁸⁸³ Hunt (2001), p. 42.

⁸⁸⁴ Department of Industry and Resources (2003), *Miner's Rights*.

⁸⁸⁵ Mining Act section 19

⁸⁸⁶ Hunt (2001), p. 35 and Roberts (email 23 May 2006).

⁸⁸⁷ Hunt (2001), p. 36.

grant of a mining tenement over that land.⁸⁸⁸ The applications are to be determined under such terms and conditions as the Minister finds appropriate. For instance, according to Hunt, the Minister could introduce a cash bidding system for a prospective area.⁸⁸⁹ When inviting applications, the Minister's practice according to Hunt has been to require a statement of the minimum amount of money proposed to be spent.⁸⁹⁰ The power of setting aside land for mining purposes offers a competitive or bidding system rather than the general principle under the Mining Act of "first-come, first-served".⁸⁹¹

Mining that by definition includes prospecting and exploration cannot be carried out on various types of reserved land without the prior written consent of the Minister for State Development (Mines).⁸⁹² This consent can only be given after consultation with the "responsible" Minister for the reserved land areas. In the case of National Parks, Class "A" conservation reserves and State forests in the South West, the responsible Minister must concur with the grant of mining tenement.⁸⁹³ After the consent of each of the Ministers for State Development (Mines) and the "responsible Minister", reserved land may be marked out as a mining tenement. No mining lease may be granted unless both Houses of Parliament by resolution consent, and then only on such terms and conditions as are specified in the resolution.⁸⁹⁴ It is Government policy that no exploration and mining will be permitted within national parks and class A nature reserves. Proposals to create new national parks and nature reserves or extensions to existing ones have to be approved by the Minister of State Development (Mines) according to the Mining Act.⁸⁹⁵

State forests and timber reserves may be marked out as mining tenements subject to prescribed conditions and restrictions.⁸⁹⁶ Before exploration or other activities can take place, the Minister of State Development (Mines) must first consult with and obtain the concurrence of the responsible Minister.⁸⁹⁷

Before consenting to mining on land reserved as a town site, the Minister of State Development (Mines) must first consult the Minister responsible for the Land Administration Act and the council of the municipality in whose districts the land is situated and obtain their recommendations.⁸⁹⁸ If any land reserved as a town site is the subject of a mining tenement, and the land is required for community purposes, the Minister of State Development (Mines) may require the tenement holder to surrender that land to a depth of 30 metres from the lowest part of the natural

⁸⁸⁸ Mining Act section 19(4)

⁸⁸⁹ Hunt (2001), p. 36.

⁸⁹⁰ Ibid at p. 37.

⁸⁹¹ Ibid.

⁸⁹² Mining Act sections 24 and 25.

⁸⁹³ Classification of land as Class "A" means that the land remains forever dedicated to the declared purpose unless changed by an Act of Parliament, Land Administration Act 1997 sections 43, 45. Hunt (2001), p. 44.

⁸⁹⁴ Mining Act section 24(4).

⁸⁹⁵ Mining Act section 16(3), Ministerial Inquiry (2002) "The Bowler Report", pp. 99-100.

⁸⁹⁶ Mining Act section 26(2) (b), Conservation and Land Management Act 1984 section 128.

⁸⁹⁷ Mining Act section 24(6).

⁸⁹⁸ Mining Act section 25(3).

surface. The tenement holder may continue to explore for minerals on the surrendered land only with the Minister's approval and subject to such conditions as the Minister thinks fit.⁸⁹⁹ With regard to aboriginal reserves, an entry permit must be obtained from the Department of Indigenous Affairs prior to entering an aboriginal reserve.

It is the practise of the Department of Mines and Petroleum when determining applications for mineral tenure to impose a "no mining" condition in respect to reserved land where 50 % or less of the land applied for is affected by reserved lands. The imposition of the "no mining" condition means that the holder of the mining tenement cannot access the reserved lands for exploration or mining until the Minister for State Development (Mines) gives consent. The adoption of the "no mining" condition allows earlier grant of titles.⁹⁰⁰

A basic principle is that private land is open for mining provided that the Crown owns the minerals.⁹⁰¹ However, no person (except the owner in occupation of the land) may search for minerals on private land without a permit to enter issued by the Warden.⁹⁰² The application to enter must be lodged with the mining registrar together with a map on which the private land is clearly shown. Permits are issued for 30 days and authorise the holder to enter on land, search for minerals, take samples and mark out a mining tenement.⁹⁰³ The Warden may fix a security that must be paid to him before issuing the permit. The security is to be held to compensate the owner or occupier of land for any damage caused by the permit holder.⁹⁰⁴ The permit holder must hand a copy of the permit to the occupier on the private land on the first occasion that the holder enters upon that land. If the owner is not present, the copy can be left at the occupier's dwelling or sent by post within forty-eight hours of the holder's entering on the land.⁹⁰⁵ Where the warden has refused to grant a permit application, the applicant may appeal to the Minister.

Western Australian mining legislation has incorporated a virtual "veto" provision since 1970 that allows private landowners to effectively prevent mining and exploration on private land to a depth of 30 metres on certain areas of land; mainly farm land.⁹⁰⁶ Where the owner and occupier do not consent, a mining

⁸⁹⁹ Mining Act section 26A(1)-(3).

⁹⁰⁰ Department of Industry and Resources (2003), *Grant of Mining Tenements Involving Reserved Lands, Town sites, Foreshore, Seabed and Navigable Waters etc.*

⁹⁰¹ Mining Act section 27.

⁹⁰² Mining Act section 28.

⁹⁰³ Mining Act section 30, Mining Regulations section 5.

⁹⁰⁴ Hunt (2001), p. 50.

⁹⁰⁵ Mining Act section 31.

⁹⁰⁶ Ministerial Inquiry (2002) "The Bowler Report", p. 104. According to the Mining Act section 29(2) the following applies: Except with written consent of the owner and occupier of that land a mining tenement in respect of the natural surface and to within a depth of 30 metres thereof is not to be granted in respect of private land that is: in regular use as a yard, stockyard, garden, orchard, vineyard, plant nursery or plantation; under cultivation (i.e. land being used for agricultural purposes and includes in addition to cropping land used by a person for the grazing of stock); land that is the site of a cemetery or burial ground, land that is the site of a dam, bore, well or spring; land that is for agricultural purposes and includes in addition to cropping land used by a person for the grazing of stock); land that is situation

tenement may consequently only be granted in respect of land below a depth of 30 metres from the natural surface.⁹⁰⁷ This is commonly referred to as a grant of subsurface rights.⁹⁰⁸

7.2.3 Marking Out and Applying for a Mining Tenement

The two main tenements for exploration titles are prospecting licences and exploration licences. A prospecting licence is designed for the prospecting of minerals on a comparatively small scale.⁹⁰⁹ An exploration licence permits exploration over a very large area of land.⁹¹⁰ A special prospecting licence for gold is a minor tenement limited in area that may be marked out in respect of land within an existing prospecting or exploration licence (the primary tenement) that has been in force for one year.⁹¹¹ There cannot be a valid application for a special prospecting licence where the primary tenement has expired.⁹¹² A retention licence is used to retain ground containing a mineral resource that has been identified as a result of exploration activity, and for economic reasons it may not be possible to exploit the deposit.⁹¹³ Only the holder of a prospecting or exploration licence (or a mining lease) may apply for a retention licence.⁹¹⁴ However, the holder of a prospecting or exploration licence can get retention status, entailing that a new title, such as a retention licence, is not required. The holder must establish an inferred resource for retention status to be granted.⁹¹⁵ The mining tenements above are mainly connected with prospecting and exploration activities and are therefore dealt with here in this part. The focus is on the two tenements, the prospecting licence and the exploration licence.

All tenements have to be applied for in a prescribed form entailing that a certain form must be used.⁹¹⁶ However, before an application for a prospecting licence or a special prospecting licence can be filed, the land that is the subject of the application must be marked out by pegging.⁹¹⁷ No title is acquired by marking out since title to all mining tenements lies in the grant.⁹¹⁸ A prospecting licence may not exceed 200

within 100 metres of any private land referred to above; a separate parcel of land having an area of 2000 square metres or less.

⁹⁰⁷ Mining Act section 29(2).

⁹⁰⁸ Hunt (2001), p. 53.

⁹⁰⁹ Mining Act sections 40-56.

⁹¹⁰ Mining Act sections 56C and 57A.

⁹¹¹ Mining Act sections 56A, 70 and 85B.

⁹¹² Hunt (2001), pp. 73 and 94.

⁹¹³ Mining Act sections 70A-70N.

⁹¹⁴ Mining Act section 70A-70B.

⁹¹⁵ This is to be done according to the Joint Ore Reserves Committee Code. This is a Code of practice that sets minimum standards for public reporting in Australia and New Zealand for exploration results, mineral resources and ore reserves.

⁹¹⁶ Mining Regulations section 64, Form No. 21.

⁹¹⁷ Mining Act section 105.

⁹¹⁸ Hunt (2001), p. 69.

hectares.⁹¹⁹ A special prospecting licence for gold has a maximum size of 10 hectares. The shape of these tenements should be rectangular. Where the presence of existing mining tenement boundaries make it necessary or desirable to vary the shape, each boundary is to be straight and where possible, at right angles to an adjacent boundary or parallel to an opposite boundary.⁹²⁰

The standard procedure for marking out tenements is by affixing a post firmly in the ground projecting at least one metre above the ground, at or as close as practicable to each corner or angle of the land concerned. Second, two clearly identifiable trenches are to be cut, or two clearly identifiable rows of stones placed, at least 1 metre long from each post in the general direction of the boundary lines. A notice of marking out is to be affixed firmly to one of the posts, known as the datum post.⁹²¹ Common posts and trenches or rows of stones may be used for marking out adjoining tenements by the same holder or applicant. The notice of marking out should include information about the approximate area, boundary description and time and date marking out was completed. If the ground applied for is identical to any surveyed land, it is only necessary to place a datum post in one of the corners and attach the notice. Where the area is covered by sea or waters, it is not necessary to mark out the area.⁹²²

An exploration licence needs not be marked out. Its boundaries are defined by the lines of predetermined latitudes and longitudes. The lines are known as graticules and the units of land created are called graticular sections. The basic graticular section under the legislation is one minute of latitude by one minute of longitude, which is one block. One block is approximately 286 hectares (the size varies depending on if it is in the north or the south of the State) and is the minimum area allowed for an exploration licence. The maximum size is in general is 70 blocks, approximately 21,700 hectares. However, in order to encourage activity in more remote or relatively unexplored areas of the State, the Minister may designate areas where up to 200 blocks may be granted.⁹²³ The designated areas include most of the State, with the exception of the Goldfields and the Gascoyne.

Each block has a unique reference number, a block identifier. The number comprises three components or levels, e.g., plan name (twenty-two 1:1000 000 plans that in total cover the State), primary number (each plan is divided into a 5 minute x 5 minute area) and graticular section (each primary number is divided into twenty-five one minute by one minute areas to give the basic graticular section).⁹²⁴ The system of graticular sections has been used since 1991 to describe the area of an application for an exploration licence.⁹²⁵ Some restrictions apply for the shape of an exploration licence if the size is more than one block. The licence must constitute a

⁹¹⁹ Mining Act section 40.

⁹²⁰ Mining Regulations section 92.

⁹²¹ Mining Regulations section 59(1), Form 20.

⁹²² Department of Industry and Resources (2003), *Marking Out and Applying for Mining Tenements*.

⁹²³ Mining Act section 57(2aa) and 57A.

⁹²⁴ Department of Industry and Resources, *Exploration Licences Graticular Boundary System*.

⁹²⁵ Hunt (2001), p. 79.

single group such that each block has at least one side in common with another in the group.⁹²⁶

No marking out is required for a retention licence and there is no area restriction. The area of land under a retention licence will be such, as in the opinion of the Minister, is sufficient to include the land on which an identified mineral resource has been located.⁹²⁷

An application for a prospecting licence must be lodged at the office of the Mining Registrar of the mineral field in which the land is situated. This must be done within 10 days if the tenement has been marked out.⁹²⁸ A copy of the application (with the received tenement number) must also be affixed to the datum post within 14 days of the date of the application. According to Hunt, marking out is a series of events that begins when the first action is commenced, such as putting in the first post, and is completed when the form is affixed to the datum post.⁹²⁹ Compliance with the requirements of marking out a prospecting licence is required in Western Australia and failures can be fatal to the tenement application. The application for tenements must be accompanied by a map clearly showing the boundaries of the land applied for.⁹³⁰ For an exploration licence, the application must include a description identifying the block(s). It is not necessary to survey the land that is the subject of an application for a prospecting or exploration licence unless a dispute arises to the position of land, in which case the Warden or Minister may order a survey.⁹³¹

If more than one application is received for a mining tenement covering the same area, the titles are awarded to the person who applies first in time, e.g., the applicant who first complies with the initial requirements.⁹³² Only in exceptional cases has the Minister refused a first-in-time application based on the opinion that such a grant would be against public interests. The Minister refused Cazaly Ltd's exploration licence application for the Shovelanna iron ore deposit in the Pilbara in 2006 in favour of an application from Rio Tinto. Due to a delay in the delivery of the renewal application to the local Mining Warden, the exploration licence over the Shovelanna deposit had lapsed. The Minister ruled that it was in the public interest to refuse the Cazaly application as Rio Tinto had intended to renew the licence.⁹³³

In the case of an application for a prospecting licence, compliance entails marking out the land in the prescribed manner, and for an exploration licence, lodging the application with the relevant mining registrar.⁹³⁴ However, according to Hunt, the principle of first-come, first-served basis is effectively lessened because the discretion to grant or refuse a mining tenement (except a prospecting licence) rests

⁹²⁶ Mining Act section 57(2b).

⁹²⁷ Mining Act section 70B(4)(a).

⁹²⁸ Mining Regulations section 64(1).

⁹²⁹ Hunt (2001), p. 172.

⁹³⁰ Mining Regulations section 66, Department of Industry and Resources (2003), *Marking Out and Applying for Mining Tenements*.

⁹³¹ Mining Act sections 47, 58(2).

⁹³² Mining Act section 105A(1).

⁹³³ Roberts (email 23 May 2006).

⁹³⁴ Hunt (2001), p. 193.

with the Minister who is not bound to give any reason for the grant or refusal.⁹³⁵ In cases of competing applications, where two or more applicants complied with the initial requirements in respect of a piece of land at the same time, a system of ballots (selection of applicants drawing lots) applies, conducted by the Warden in open court.⁹³⁶

Other specific application requirements for prospecting and exploration licences are that a security of the amount of \$ 5000 (AUD) must be lodged with the mining registrar within 28 days.⁹³⁷ For an exploration licence, a statement must be lodged with the application specifying the proposed method of exploration, details of the proposed work program, an estimate of the amount of money proposed to be expended and the applicant's technical and financial resources.⁹³⁸

An applicant of a mining tenement must advertise a copy of the application in a newspaper as specified by the "Director General of Mines" within 14 days.⁹³⁹ If the application relates to land held under a pastoral lease, a copy of the application must be sent to the pastoral lessee. If the application relates to private land, a notice must be sent to the local government or municipality, the owner and occupier of land and each registered mortgagee. As mentioned, written consent from the owner and occupier of private land must be given on certain land, mainly land under cultivation, before a mining tenement can be granted. However, it is not necessary to serve a copy of a sub-surface application with respect to private land, i.e., for rights and land below a depth of 30 metres from the lowest part of the natural surface.⁹⁴⁰

7.2.4 The Granting of Mining Tenements

Any person may lodge an objection to an application for a mining tenement within 35 days of the filing of the application. The objector must specify the reasons for the objections using a special form for this purpose.⁹⁴¹ The objector is required to serve a copy of the objections on the applicant. If no objections are lodged, the Mining Registrar is authorised to grant applications for prospecting licences provided that the applicant has complied with all the formalities.⁹⁴² The Mining Registrar considers the application for an exploration licence and forwards a recommendation to the Minister.⁹⁴³

In the event objections have been lodged and accepted, the application for a prospecting or exploration licence must be heard by the Warden in open court.⁹⁴⁴ Any landowner, occupier and mortgagee of private land are each specifically entitled

⁹³⁵ Hunt (2001), p. 193.

⁹³⁶ Mining Act section 105A(3).

⁹³⁷ Mining Act section 52, 60(1), Mining Regulations section 112 and Form 32.

⁹³⁸ Mining Act section 58.

⁹³⁹ Mining Regulations section 64(5).

⁹⁴⁰ Mining Act section 33(1a).

⁹⁴¹ Form 16.

⁹⁴² Mining Act section 42(1), (2) prospecting licence, 59(1), (2) exploration licence.

⁹⁴³ Mining Act section 59(2) and (3).

⁹⁴⁴ Mining Act section 42(3) and 59(4).

to be heard in relation to an application. The Warden is not otherwise obliged to hear objections.⁹⁴⁵ Most objections against tenement applications are raised by holders of competing mining tenements, landholders or occupiers.⁹⁴⁶

The applicant for a special prospecting licence for gold must give notice of the application to the primary tenement holder who then has a possibility to lodge an objection to the mining registrar. If there is no objection, the mining registrar may grant the application. If there is an objection, the Warden must obtain a report from the Director of Geological Survey. The Warden may refuse or recommend the application to the Minister, who in turn may or may not grant the application. A special prospecting licence for gold may be granted if it is found that prospecting could be carried out without affecting the prospecting or exploration activities of the primary tenement holder. No mining can be carried out to a greater depth than 50 metres under a special prospecting licence for gold. It also cannot be transferred without the prior written consent of the holder of the primary tenement. The term of a special gold prospecting licence is between three months and four years, in multiples of three months, and not renewable. An individual can hold up to ten such licences.

Where a mining tenement has been granted for subsurface rights of relevance on private land, the holder can also apply to the Minister for surface rights as well. The owner of the land must then be notified. The Minister may grant the application if the owner of the land has consented in writing to the grant. This written consent must be filed at the Department of Industry and Resources together with a copy of the certificate of title for the land.⁹⁴⁷ Compensation must be paid or agreed upon before mining (including exploration) can take place on the surface or to a depth of 30 metres.⁹⁴⁸ The compensation is to include compensation for being deprived of the possession of the surface or any part of the surface of the private land and for damage thereon. Compensation is not payable for the value of any minerals as the Crown owns the minerals. However, according to Hunt, in practice the owner of private land may be paid sums of money for the value of minerals found since that often is the only way the miner can obtain a farmer's consent to the grant.⁹⁴⁹ The amount of compensation is to be determined by agreement between the parties. In default of agreement, the Warden's court upon an application will determine the compensation.⁹⁵⁰

Due to the processes under both the Native Title Act and the Future Act dealt with earlier, the State must give notice of a proposed grant of a mining tenement to the registered native title holders and claimants, representative Aboriginal bodies, etc. However, if land affected is wholly private property, the application is determined without reference to the Native Title Act. The notice specifies a day as the "notification day" and persons have three months from this day to become native

⁹⁴⁵ Hunt (2001), pp. 180-181.

⁹⁴⁶ Simmons, p. 18.

⁹⁴⁷ Hunt (2001), p. 55.

⁹⁴⁸ Mining Act section 35.

⁹⁴⁹ Hunt (2001), p. 221.

⁹⁵⁰ Mining Act section 123(3).

title parties in relation to the notice. Any person who is then a registered native title claimant four months after the notification day has a right to negotiate regarding the grant of a mining tenement.⁹⁵¹ If the parties are not able to negotiate an agreement within six months after the notification day, any person may apply to the National Native Tribunal for a determination.⁹⁵² If the grant of a mining tenement is not likely to directly interfere with the carrying out of community or social activities of native title claimant holders, the right-to-negotiate procedure can be replaced by the expedited procedure as mentioned earlier, in order to facilitate the grants. If the right-to-negotiate procedure is not observed, the grant of the mining tenement will be invalid to the extent (if any) it affects native title.⁹⁵³ A mineral title that affects native title may be granted if there is compliance with the right-to-negotiate procedure or the mineral title has been authorised under an indigenous land use agreement.⁹⁵⁴

When granting a prospecting or exploration licence, or any tenement for that matter, conditions may be imposed by the mining registrar, Warden or Minister.⁹⁵⁵ These are in addition to any conditions that may be prescribed in respect of reserved land.⁹⁵⁶ Various standard conditions and endorsements are placed on mining tenements following a grant to regulate the activities that may be carried out by the holders of those tenements. For instance, one condition can be that the licensee must prospect for minerals and surface holes drilled are to be filled or made safe. A main endorsement is drawing the lessee's attention to the provisions of the Aboriginal Heritage Act 1972.⁹⁵⁷ Environmental conditions are put on the grant to prevent injury on land or ensure that the land after exploration activities is adequately rehabilitated, etc. Some conditions, such as that minerals of economic interest discovered must be reported in writing, are to be attached to every prospecting or exploration licence.⁹⁵⁸ If mechanised equipment or ground disturbing equipment is used on a prospecting or exploration licence, prior approval is needed from the Minister or officer responsible for environmental management. This is a recent statutory condition that previously was applied administratively on the grants for these tenements. The applicant has to lodge a programme of work that must be approved.⁹⁵⁹ Expenditure conditions are also put on the grant as discussed further below.

A prospecting or exploration licence authorises the holder to enter upon land for the purpose of prospecting minerals with employees, contractors and such vehicles, machinery and equipment as may be necessary or expedient.⁹⁶⁰ The licence permits prospecting and exploration for minerals, respectively, and the undertaking of

⁹⁵¹ Department of Industry and Resources (2004), *Guidelines for Consultation with Indigenous People by Mineral Explorers*.

⁹⁵² Hunt (2001), p. 272.

⁹⁵³ Ibid.

⁹⁵⁴ Hunt (2005), p. 665.

⁹⁵⁵ Mining Act section 40(1) and 57(1).

⁹⁵⁶ Hunt (2001), pp. 62 and 84.

⁹⁵⁷ Simmons, p. 16.

⁹⁵⁸ Mining Act section 46 and 63.

⁹⁵⁹ Mining Act section 46(aa) and 63(aa).

⁹⁶⁰ Mining Act section 48(a) and 66(a).

operations and works necessary for those purposes including digging pits, trenches and holes, sinking bores and tunnelling. A prospecting or exploration licence holder may excavate, extract or remove earth, soil, rock, stone, fluid or mineral bearing substances not exceeding a prescribed amount, 500 tonnes for a prospecting licence and 1000 tonnes for an exploration licence. However, the Minister may approve the taking of greater amounts.

Prospecting and exploration licences give the holder the right to prospect and explore, respectively, for all minerals contained within the land except for iron ore. The State has required control over the mining of iron, claiming that orderly development of the many iron ore deposits in the State is necessary.⁹⁶¹ Every prospecting and exploration licence granted on Crown land contains a reservation in favour of the Crown to take rock, stone, clay, sand or gravel for any public purpose.⁹⁶² Certain physical exploration work requires a programme of work to be approved if involving ground disturbing activities or the clearing of native vegetation. In sensitive areas, stringent conditions are applied under the Environmental Protection Act. A mining tenement granted in respect of private land also confers a right of way. The right of way must be marked clearly on a map that must be lodged with the mining registrar.⁹⁶³

There is no limit on the number of prospecting and exploration licences that may be held by one person. A prospecting licence remains in force for a period of four years from the date on which it was granted.⁹⁶⁴ The Minister may, if satisfied that a prescribed ground for extension exists, extend the term of a prospecting licence by one period of 4 years.⁹⁶⁵ Grounds for extension can be, for instance, difficulties or delays arising from environmental governmental requirements or the requirement of an Aboriginal survey for the land.⁹⁶⁶ The possibility to extend a prospecting licence has recently been re-introduced in the Mining Act. For a prospecting licence where “retention status” has been approved, more than one extension is possible. An exploration licence remains in force for a period of five years from the date of the grant.⁹⁶⁷ However, at the end of the fifth year of term, a compulsory surrender of the area will be required of 40 % of the licence.⁹⁶⁸ There is no relinquishment requirement if the licence was granted in respect of only one block. The holder of an exploration licence may apply to the Minister to extend the term of the licence for one period of five years, followed by additional two-year periods, provided the reason for the extension is within the grounds described in the mining regulations.⁹⁶⁹ The rules for surrender and extension with regard to an exploration licence were changed in 2006.

⁹⁶¹ Hunt (2001), p. 188.

⁹⁶² Mining Act section 112.

⁹⁶³ Mining Regulations section 9.

⁹⁶⁴ Mining Act section 45(1).

⁹⁶⁵ Mining Act section 45(1a).

⁹⁶⁶ Mining Regulations section 16A.

⁹⁶⁷ Mining Act section 61(1).

⁹⁶⁸ Mining Act section 65(3).

⁹⁶⁹ See also Department of Mineral and Resources (2002), *Policy Guidelines. Extension of Terms for Exploration Licences*.

After the expiration of the term of a prospecting or exploration licence, the holder may not mark out or apply for the ground again during a three-month period.⁹⁷⁰ This restriction does not affect the right of the licensee to mark out and apply for a mining lease over that ground, provided that they have demonstrated to the satisfaction of the Director Geological Survey that significant mineralization exists, or submitted a mining proposal (notice of intent) to mine.⁹⁷¹

In June 2008, 6,260 prospecting and 5,427 exploration licences were in force. During the period between 1 July 2007 to 30 June 2008, 2,549 prospecting and 1,515 exploration licences were granted.⁹⁷²

7.2.5 Work and Reporting Requirements

Granted prospecting and exploration licences are subject to a prescribed annual minimum expenditure commitment. The holder is not personally required to spend; the requirement is to expend or cause to be expended.⁹⁷³ A report on operations of mining tenements must be lodged at the Department of Mines and Petroleum covering all work done and monies expended on the tenement area.⁹⁷⁴ The report must be filed within 60 days of the anniversary date of the commencement of the term of the licence.

The expenditure required for a prospecting licence is not less than \$ 40 (AUD) per hectare per year with a minimum of \$ 2,000 (AUD) per year. For an exploration licence covering only one block, the annual expenditure required is not less than \$ 10,000 (AUD). For two blocks, the minimum annual expenditure is \$ 15,000 (AUD), and for more than two blocks, \$ 20,000 (AUD).⁹⁷⁵ There is no prescribed annual expenditure for a retention licence. However, the Minister determines the level of expenditure on the grant. Failure to file an operation report is an offence and may result in forfeiture. When the minimum required expenditure is not expected to be met for a particular year, an application for exemption must be completed by the tenement holder.⁹⁷⁶ Reasons for exemptions can be, for example, that title is in dispute, or that time is required to evaluate work done.⁹⁷⁷ A technical report (mineral exploration report) must also be submitted to the Department annually.⁹⁷⁸ This report is to contain data where sample is taken, technique used, etc., and must be related to exploration activities stated in the operation report.

⁹⁷⁰ Mining Act sections 45(2) and 69(1).

⁹⁷¹ Hunt (2001), pp. 61 and 79, and Roberts (email 23 May 2006).

⁹⁷² Department of Industry and Resources, *Annual Report 2007/2008* p. 25.

⁹⁷³ Hunt (2001), pp. 63 and 85.

⁹⁷⁴ Form 5, Expenditure Report, Mining Act sections 51 and 68, Mining Regulations sections 16 and 22.

⁹⁷⁵ Fees 2009.

⁹⁷⁶ Form 18.

⁹⁷⁷ Department of Industry and Resources (2003), *Expenditure Report (Form 5) And Applying for Exemption From Expenditure Conditions*.

⁹⁷⁸ Mining Act section 115.

Any person or the Department of Mines and Petroleum may apply to the Warden for the forfeiture of a prospecting or exploration licence based on a failure to comply with expenditure conditions.⁹⁷⁹ An application for forfeiture must be made during the expenditure year or within eight months after its expiration (the tenement year). The application must be heard in open court if relating to an exploration licence. If the Warden finds that the holder of a prospecting or exploration licence has failed to comply with the requirements of expenditure, the warden may recommend the forfeiture of the licence or impose a penalty. According to Hunt, this system of complaints enables the industry to be self-regulating to a large degree.⁹⁸⁰ The Department simply does not have adequate enough resources to police the expenditure conditions. The policy behind the expenditure conditions and the system of forfeiture complaints for non-compliance according to Hunt is that prospective land should not be left idle, and that, to the extent that the holder does not work that land, others should be given the opportunity to do so.⁹⁸¹ The possibility for any party to seek forfeiture is limited to non-compliance with expenditure conditions for an exploration licence, but can also apply for other grounds when it relates to a prospecting licence, e.g., the failure to comply with other conditions in the grant.⁹⁸² A mining tenement can also be surrendered wholly or partly by the holder before it expires. A surrender must be lodged with the mining registrar.⁹⁸³

A prospecting licence may be transferred freely and without any requirement for consent at any time.⁹⁸⁴ This also applies to an exploration licence, except from the first year where consent might be needed from the Minister in certain circumstances.⁹⁸⁵ The holder of a mining tenement must in any event apply for the transfer.⁹⁸⁶ All transfers take priority according to the date and time of their registration.

7.3 Mine Development Activities

A mining lease is the appropriate tenement for the development of an ore body discovered by prospecting or exploration. The holder of a prospecting, exploration or retention licence has the right to apply for a mining lease and have such granted (conversion).⁹⁸⁷ The right to convert to a mining lease long was not dependent on whether an economic ore body had been identified. As a consequence, most leases are still held for exploration, not mining, purposes since if the exploration was not completed within the limited term, it was still necessary to convert to a mining lease. The granted prospecting or exploration licences could be kept in force until the lease

⁹⁷⁹ Mining Act sections 96, 98.

⁹⁸⁰ Hunt (2001), p. 140.

⁹⁸¹ Ibid at pp. 141-142.

⁹⁸² Hunt (2001), p. 152.

⁹⁸³ Mining Act section 95, Mining Regulations section 43, Form 12.

⁹⁸⁴ Hunt (2001), p. 64.

⁹⁸⁵ Ibid at pp. 86-87.

⁹⁸⁶ Mining Regulations section 75.

⁹⁸⁷ Mining Act section 49, 67, 70L.

applications were determined. As part of the changes in 2006, mining leases will be granted only when there is a reasonable prospect of mining taking place.⁹⁸⁸ This means that the right to convert to a mining lease is no longer automatic. The Minister is not bound to grant a mining lease if no significant mineralisation has been indicated or no “notice of intent” to mine is submitted with the application. However, it should be mentioned that no mining lease may be granted within National Parks or class A reserves unless both Houses of Parliament by resolution consent and then only on such terms and conditions as are specified in the resolution.⁹⁸⁹

7.3.1 Mining Lease for Mining Purposes

It is not necessary to hold a prospecting or exploration licence before applying for a mining lease. Any person may apply for a mining lease even if he has no prospecting or exploration licence according to the Mining Act.⁹⁹⁰ If an application for a lease is not made by a holder of a prospecting, exploration or retention licence, the Minister may grant or refuse the mining lease as he thinks fit, irrespective of whether the applicant has or has not complied in all respects with the provisions of the Mining Act. It also does not matter whether the Warden has recommended the granting or refusal of the lease.⁹⁹¹ Discretion is absolute.⁹⁹²

7.3.2 Application for and Grant of a Mining Lease

An application for a mining lease follows the application process earlier dealt with in respect of prospecting and exploration licences, or for tenements as a whole. Before a mining lease can be granted, the application consequently must meet the requirements of the Native Title Act. A lease must be marked out (by pegging). The land that is the subject of a mining lease must also be surveyed, but it is not necessary for a survey to be carried out before the granting of the lease.⁹⁹³

An application for a mining lease must be accompanied by a mining proposal (notice of intent) or a “statement” outlining mining intentions and a mineralisation report prepared by a qualified person due to the changes in 2006. A mining lease will only be approved where the Director Geological Survey considers that there is a reasonable prospect that the mineralisation identified will result in a mining operation.⁹⁹⁴ If there is no significant mineralisation indicated, the Minister cannot grant the mining lease. The mining proposal or statement is to set out information about the mining operations that are likely to be carried out, when mining is likely to

⁹⁸⁸ Mining Amendment Bill 2004, 2005,
<http://www.parliament.wa.gov.au/hansard/hans35.nsf>.

⁹⁸⁹ Mining Act sections 24(4) and 75(9).

⁹⁹⁰ Mining Act section 71. Hunt (2001), p. 105.

⁹⁹¹ Hunt (2001), pp. 114-115.

⁹⁹² Mining Act section 75(7). Fitzgerald (2002), p. 147.

⁹⁹³ Mining Act section 80(1).

⁹⁹⁴ Mining Act section 74 and 74A.

commence, the most likely method of mining, as well as the location and the area of land that is likely to be required for the operation of plant. An applicant for a mining lease must also lodge a standard security that applies to every mining tenement of \$ 5,000 (AUD).

Notice of the mining lease application must be served on all interested parties and a copy of the application must be advertised in a newspaper. A copy of the application must be affixed to the datum post on the ground. A person wishing to object to an application for a mining lease must lodge a notice of objection within 35 days, and may then have an opportunity to be heard by the Warden.⁹⁹⁵ Where more than one application for a lease is made in respect of the same land, the applicant who has first complied with the initial requirements has the right in priority over any other applicant. Compliance with initial requirements in the case of a mining lease means marking out in the prescribed manner.⁹⁹⁶

A mining lease previously had a maximum area of 1,000 hectares. However, since 2006 there are no restrictions, but the Minister has the discretion to grant a mining lease for an area lesser than that applied for. Effectively, a mining lease will be granted over an area sufficient for mining and associated operations.⁹⁹⁷ There is no minimum size. A mining lease has a term of 21 years.⁹⁹⁸ The Minister is to automatically grant the first renewal, but for successive periods has the discretion to renew. There is no limit to the number of mining leases that might be held. A lease can be transferred but written consent of the Minister or of an officer of the Department of Mines and Petroleum is required.

A mining lease entitles the holder to do all acts and things necessary to effectively carry out mining operations. However, prior approval is required for any proposed use of mechanised equipment on a mining lease. The lessee is entitled to use, occupy and enjoy the land for mining purposes and exclude others from the same activities. The lessee owns all minerals lawfully mined from the land under the mining lease.⁹⁹⁹ A mining lease does not permit the mining of iron ore unless the Minister has given permission.¹⁰⁰⁰ The Minister may also restrict a mining lease to certain minerals then specified in the lease if it is in the public interest to do so.¹⁰⁰¹ The right to mine uranium can be excluded, for instance. The term “public interest” is not defined under the act.¹⁰⁰² In this context, it can also be mentioned that the Minister has certain powers to terminate or refuse certain applications for a mining tenement (not only a lease) due to public interest as earlier mentioned.¹⁰⁰³

⁹⁹⁵ Mining Act section 75(1), Mining Regulations section 67.

⁹⁹⁶ Mining Act section 105A(2). Hunt (2001), p. 113.

⁹⁹⁷ Mining Act section 73.

⁹⁹⁸ Mining Act section 78(1).

⁹⁹⁹ Mining Act section 85(2) and (3).

¹⁰⁰⁰ Mining Act section 111.

¹⁰⁰¹ Mining Act section 110.

¹⁰⁰² Hunt (2001), p. 189.

¹⁰⁰³ Mining Act section 111A.

A special gold prospecting licence may be marked out and granted within an existing mining lease if it is considered that prospecting could be carried on without affecting the activities of the “primary tenement” or leaseholder.¹⁰⁰⁴

A mining lease can also be granted in respect of sub-surface rights only, which has relevance on private land. Subsequently, a mining lease can also be sought for surface rights. However, consent is then required from the owner or occupier of land.¹⁰⁰⁵

Standard conditions and endorsements are placed on mining leases.¹⁰⁰⁶ The lessee must, for instance, pay rents and royalties when due and use the land only for mining purposes. When any minerals are produced or obtained, a royalty is payable.¹⁰⁰⁷ The leaseholder must comply with expenditure conditions unless an exemption is granted. Expenditure required is not less than \$ 100 (AUD) per hectare per year with minimum of \$ 5,000 (AUD) if 5 hectares or less otherwise \$ 10,000 (AUD) per year.¹⁰⁰⁸ Reporting requirements also apply for a lease. The lessee must report details of all minerals of economic significance discovered.¹⁰⁰⁹

Environmental conditions are put on the mining lease as well. The Minister may according to the Mining Act impose reasonable conditions for the prevention or reduction of injury on land.¹⁰¹⁰ According to Hunt, the power of subsequently imposed conditions and to vary conditions gives the Minister scope to unilaterally change the contract between lessor and lessee.¹⁰¹¹ The reason for this provision, according to Hunt, is to permit the imposition of environmental controls if necessary at a later date. The Minister may require the holder of a mining lease to lodge a security for compliance with any environmental conditions in addition to the standard security required for all tenements.¹⁰¹²

Breach of the conditions included in the mining lease grant can result in forfeiture. The Minister may fine instead. For a mining lease, as for an exploration licence, any person may apply to the Warden for forfeiture where there is non-compliance with expenditure conditions.¹⁰¹³

7.3.3 Mining Proposal (Notice of Intent) – Plan for Mining

It has long been the practise when granting a mining lease to impose a condition that no mining operations can take place without approval. The following condition, known as a notice of intent (NOI), is imposed on mining leases: “No developmental or productive mining or construction activity being commenced until the tenement

¹⁰⁰⁴ Mining Act section 85B.

¹⁰⁰⁵ Mining Act section 33.

¹⁰⁰⁶ Mining Act section 82.

¹⁰⁰⁷ Mining Act section 86.

¹⁰⁰⁸ Fees 2009.

¹⁰⁰⁹ Mining Act section 82(f).

¹⁰¹⁰ Mining Act section 84.

¹⁰¹¹ Hunt (2001), p. 108.

¹⁰¹² Mining Act section 84A.

¹⁰¹³ Mining Act sections 82(1)(g), 97 and 98(1).

holder has submitted a plan of the proposed operation and measures to safeguard the environment to the State Director of Environment for assessment; and until his written approval has been obtained”.

Since 2006, the notice of intent is instead known as the mining proposal. As mentioned, a mining proposal or a statement of significant mineralisation must accompany the application for a mining lease. However, written approval of the plan is not a prerequisite for the granting of a mining lease. In fact, the lease application must be granted before the Director of Environment can approve the activities in the mining proposal.

The mining proposal is to set out in detail the lessee’s plans to mine. It is to outline the nature of the proposed development, the method of mining, its environmental impact, rehabilitation proposals and all building plans. The Department of Mines and Petroleum has published guidelines on environmental approval for mining projects.¹⁰¹⁴ The Mining Act defines a mining proposal as a document containing information about proposed mining operations in a form required by the guidelines.¹⁰¹⁵ A mining proposal will need to meet various requirements under the Mining Act and demonstrate that the project will comply with the requirements of other relevant State and Commonwealth environmental and other legislation. The mining proposal should include a basic closure plan and contain an outline of the rehabilitation procedures for each project component (i.e., for waste dumps, tailings, plant site and other disturbed areas).¹⁰¹⁶

In addition to the natural environment, the mining proposal should include relevant aspects of the social environment including Aboriginal sites, heritage issues, etc. The proponent is expected to identify key stakeholders in the project and consult with them.¹⁰¹⁷ Briefly and according to the guidelines, a mining proposal should contain information about the objectives of project, its location, the ownership of mining tenements, the history of earlier exploration of mining activities, the existing environment including geology, soils, hydrology, flora and fauna, the social environment (land ownership, aboriginal heritage), and a project description (mining, ore processing, tailings). All likely environmental impacts arising from the proposed project requiring special management procedures must be identified and environmental management commitments must be developed and declared.¹⁰¹⁸

Bonds or environmental security for compliance with conditions imposed on a lease according to the Mining Act are routinely required when a mining proposal is considered for a mining lease. The purpose is to ensure that the State is not exposed

¹⁰¹⁴ Department of Industry and Resources (2006), *Mining Environmental Management Guidelines. Mining Proposals in WA*.

¹⁰¹⁵ Mining Act section 70O(1).

¹⁰¹⁶ Department of Industry and Resources (2006), *Mining Environmental Management Guidelines. Mining Proposals in WA* pp. 5, 22. See also Australian and New Zealand Minerals and Energy Council and Minerals Council of Australia (2002), *Strategic Framework for Mine Closure*.

¹⁰¹⁷ Department of Industry and Resources (2006), *Mining Environmental Management Guidelines. Mining Proposals in WA* pp. 8, 21.

¹⁰¹⁸ Department of Industry and Resources (2006), *Mining Environmental Management Guidelines. Mining Proposals in WA*, pp. 12-23.

to unacceptable costs if mine operators should fail to meet the rehabilitation requirements on their tenements.¹⁰¹⁹ All mining proposals submitted to the Department of Mines and Petroleum must contain a detailed summary and a list of commitments. This information is available for public searches. Small-scale operations having a minimal or low impact upon the environment (LIMOs) would be considered a low impact operation and would require less information.¹⁰²⁰

The Director of Environment's approval to mine under the Mining Act does not override any other environmental approvals required under other statutes, such as the Environmental Protection Act.¹⁰²¹ However, it is only when a mining proposal is lodged that it is possible to determine whether a proposal might have a significant effect on the environment.¹⁰²² If a project is environmentally significant, it must be referred to other authorities, such as the Environmental Protection Authority.

When approval for the project is granted, the mining proposal becomes a legally binding document under the Mining Act. An approval letter to the proponent and tenement holder must then be issued and signed. The mining proposal is listed as a new condition of the mining tenement and all commitments in the mining proposal become legally binding conditions of the lease. It is also a condition for the Director of Environment's approval of mining that an annual environmental report be submitted.¹⁰²³

7.3.4 Mining Tenements for Infrastructure

A general purpose lease is used when using land for operating machinery, depositing or treating tailings or for other specified purposes directly connected with mining operations.¹⁰²⁴ The maximum area of a general purpose lease is 10 hectares or such greater area that the Minister approves. A general purpose lease is limited to a depth of 15 metres below the lowest part of the natural surface, or such other depth that may be specified in the grant, and it must be marked out.¹⁰²⁵ It is not necessary to hold a mining lease to obtain a general purpose lease.¹⁰²⁶ A general purpose lease has a term of 21 years but it may be renewed for further terms.¹⁰²⁷ A general purpose lease follows the same application procedures as for a mining lease. Different conditions are placed in the grant as well. There is no limit to the number of general

¹⁰¹⁹ Environmental Branch Bond Guideline 2003. Mining Act section 84 A.

¹⁰²⁰ Department of Industry and Resources (2006), *Mining Environmental Management Guidelines. Mining Proposals in WA*, pp. 5-6.

¹⁰²¹ The Director of Environment at the Department of Mines and Petroleum, Environment Division.

¹⁰²² Independent Review Committee (2002) "The Keating Report", p. 91.

¹⁰²³ Department of Industry and Resources (2006), *Mining Environmental Management Guidelines. Mining Proposals in WA*, p. 11.

¹⁰²⁴ Mining Act section 87.

¹⁰²⁵ Mining Act section 86(3).

¹⁰²⁶ Hunt (2001), p. 120.

¹⁰²⁷ Mining Act section 88.

purposes leases that may be held. The Minister decides whether to grant a general purpose lease.

A miscellaneous licence is used for purposes such as roads, pipelines, or water as set out in the Mining Act and Regulations, or such other purposes as approved by Director General.¹⁰²⁸ Miscellaneous licences must be marked out and have a term of 21 years. A miscellaneous licence may be granted over all other mining tenements, and underlying holders may object if the proposed purpose is likely to interfere with their mining activities.¹⁰²⁹ There is no maximum area for a miscellaneous licence. There is no limit to the number of licences that may be held. Different conditions are placed in the grant as well. An application for a miscellaneous licence is made in a manner similar to an application for a prospecting licence.¹⁰³⁰ The mining registrar or Warden may grant a miscellaneous licence.

7.3.5 Environmental Approvals and Environmental Assessment

As mentioned above, the approval of the mining proposal does not mean compliance with all obligations. Major permits in approval processes, in addition to those contained in the Mining Act, kick in at the advanced exploration phase or mining phase. The amount and level of permits or approvals needed according to different statutes differs from project to project (type of activities, location etc.) even if some statutes always will apply. Certain of the several statutes affecting a mining project in addition to the Mining Act have been dealt with in the introduction. As mentioned earlier, the Environmental Protection Act requires work approvals for construction and a licence for operation. Water allocation approvals such as ground water well licences are required under the Rights in Water and Irrigation Act. A building licence might be needed on a granted tenement before commencing the construction of a building according to the Planning and Development Act. Land clearing and the removal of soil, flora or fauna may require different approvals or licences according to several acts. The number of approvals and licences connected to a mining project can be numerous and very complex, not least due to overlapping provincial and federal responsibilities. Endorsements are placed on the mining tenements to draw the miner's attention to the provisions of the several acts and regulations that apply in addition to the Mining Act.

If a mining project will have a significant effect on the environment, the Environmental Protection Authority might require a formal environmental impact assessment (EIA) under the Environment Protection Act. Connected to this process is also a public review period where the public can raise issues that have to be responded to by the proponent. In fact, the Environmental Protection Act addresses three levels of environmental assessment; the environmental review and management program, the public environmental review and the consultative environmental review.¹⁰³¹ The environmental review and management programme according to

¹⁰²⁸ Mining Act section 91(1), Mining Regulations section 42 B.

¹⁰²⁹ Mining Act section 91(7).

¹⁰³⁰ Hunt (2001), p. 126.

¹⁰³¹ Bates (2002), pp. 313-314.

Bates is the most comprehensive and detailed level of assessment used for major projects with strategic environmental implications and of state-wide interest. The public environmental review is for projects with significant environmental impacts with major public interest of at least the regional level. The consultative environmental review is for projects that are likely to have easily managed environmental impacts and where public interest is restricted to the local community or special interest groups.

7.3.6 Responsibilities when Mining Lease or Other Tenements Expires

When a mining tenement expires, the tenement holder must remove within three months any building, plant, machinery or other equipment affixed to the land or not.¹⁰³² Where a mining plant is not removed and the holder, after being requested, takes no action, the Minister may direct the mining plant to be sold by public auction and be removed. The Minister is also to determine whether any mining plant should be allowed to remain on any land. No timber or other material used to construct or support any shaft, dam etc. can be removed without the Minister's consent. Where the former holder leaves and does not remove tailings or other mining products upon the land, these products become the property of the Crown three months after the expiration of the lease.¹⁰³³ When a mining tenement expires, or is surrendered or forfeited, the owner of the land to which the mining tenement related may take possession of the land.¹⁰³⁴

¹⁰³² Mining Act section 114.

¹⁰³³ Mining Act section 114(7).

¹⁰³⁴ Mining Act section 113.

8. Comparison

The structure chosen as appropriate to use in this study for comparing the different systems is to detail the activities and rights necessary to the development of a mine, as also done in the country surveys. In this respect, the comparison is from the point of view of the miner or developer, particularly given the different kinds of obligations and restrictions placed on his activities. The mining “sequence” thereby is used as a neutral framework to describe the different legal systems. The comparison is built on the country surveys in chapters four to seven. The concepts and principles found in the different countries/states compared as highlighted below are to some extent also related to the theory or literature segment in Chapter Two. As stated in Chapter Three concerning legal systems and their comparison, generalizations or simplifications in one way or another are inevitable. One aim here is to present an overview of the similarities and differences based on the country descriptions. It is the intention that this comparison serve as a free-standing chapter, which means that certain issues are revisited from the previous chapters encompassing the country surveys. By this, in addition to facilitating the reading, stress can be placed on the more important issues of comparison.

Due to certain difficulties, or in order to “bring out” or emphasize the material, comparison is often made in this chapter between the countries or states within the same legal family (Sweden/Finland and Ontario/Western Australia). One intention is to highlight features and characteristics from the different countries or states. This is done even when no information is found in the comparative perspective.

This chapter is divided into two parts; Legal Framework and Institutional Arrangements, and Mineral Rights – Obtainment and Operation. The first part serves as a comparative background to the second and main part.

Table 1. Quick Facts about the Countries/States Compared.

Country/State	Land Area, km²	Private Land, %	Population, m.	Population Density/km²
Sweden	450 000	43	9.3	21
Finland	338 400	60	5.3	16
Ontario	1 076 400	13	13	14
Western Australia	2 645 600	7	2.2	0.8

Table 2. Exploration Expenditure and Metal Production. Some Comparative Data 2007, Million US Dollar (MUSD).

<u>Country/State</u>	<u>Exploration Expenditure</u>		<u>Value of Metal Production at Mine Stage</u>		<u>Main Metal Produced</u>
	MUSD	% of world total	MUSD	% of world total	
Sweden	110	0.9	3 100	0.7	Iron ore, copper, zinc, lead
Finland	95	0.8	440	0.1	Chromite, copper, zinc, nickel
Ontario	525	4.4	5 900	1.4	Nickel, copper, gold, PMGs (platinum group metals)
Western Australia	605	5.0	26 600	6.1	Iron ore, nickel, gold, bauxite

Source: Raw Materials Group 2008.

Note: Exploration expenditure in Western Australia is for the period 2007 07 01 – 2008 06 30.

8.1 Legal Framework and Institutional Arrangements

This part is structured into the following sections: Mining Legislation, Environmental and Land Use Legislation, and Administrative Regimes.

8.1.1 Mining or Mineral Legislation

Mining legislation is a major instrument for granting mineral rights when minerals are state-owned or otherwise controlled. Mining legislation and its application are the focus of this study and consequently, also of this comparison in addition to other significant legislation for the operation of mineral rights. However, ratified State Agreements in Western Australia represent a central pillar of that State system of mining regulation as well, but only for major projects, particularly where the State is encouraging downstream processing. Different aspects, such as the definition or classification of minerals, whether minerals are privately or state owned, or whether minerals are found on private land, are important aspects to initially consider. Whether minerals are privately owned, or possessed and part of the land property law or land law, is of importance in terms of the acquisition of such rights. Another issue is that certain legislation may be applicable to the operation of these rights as mentioned in Chapter Two. Certain substances, such as oil and gas, might be

regulated through other specific legislation outside of the mining legislation. This is the case in Western Australia. A specific section of the mining legislation can also deal with such substances or a combination, such as in Ontario. The table below gives an overview of examples of special legislation dealing with different types of minerals in the countries/states compared.

Table 3. Minerals and Special Legislation (examples).

Country/State	Minerals	Legislation
Sweden	Concession minerals Peat (energy) Sand, gravel Minerals in the sea	Minerals Act Peat Act Environmental Code (permit for extraction) Continental Shelf Act
Finland	Extractable (claimable) minerals Sand, gravel Minerals in the sea	Mining Act Soil Excavation Act (permit for extraction) Law on the Economic Zone of Finland
Ontario	Natural occurring metallic and non-metallic minerals (sand, gravel, peat excluded) Sand, gravel Oil, gas, salt	Mining Act Aggregate Resources Act (surface mining) Mining Act, Oil, Gas and Salt Resources Act
Western Australia	Natural occurring substances (other than soil, meteorite, construction materials* and petroleum) Sand, limestone, rock, clay, shale and gravel (construction materials) on private land Oil Minerals in the sea *Construction materials=basic raw materials	Mining Act Local Government Act, Extractive Industries By Laws (extraction) Petroleum and Geothermal Energy Resources Act Mining Act/Commonwealth of Australia Offshore Minerals Act

Table 4. Mining Acts and Regulations.

Country/State	Mining Acts	Implementing Regulations
Sweden	Minerals Act (1991:45)	Minerals Ordinance (1992:285)
Finland	Mining Act (1965/503)	Mining Decree (1965/663)
Ontario	Mining Act (R.S.O. 1990, Chapter 14)	<u>Regulation (main)</u> <ul style="list-style-type: none"> • 6/96 Assessment work • 7/96 Claim staking • 195/06 Forms • 113/91 General • 240/00 Mine Development and Closure
Western Australia	Mining Act 1978	Mining Regulation 1991

The Minerals Act (*minerallagen*) in **Sweden** applies solely to that termed concession minerals, approximately 69 in number. These minerals are listed in three groups: the metal ores, industrial minerals and rocks, as well as oil, gaseous hydrocarbons and diamonds. The range of statutorily regulated minerals was broadened with the implementation of the Minerals Act in 1991. Minerals not enumerated in the act; e.g. feldspar, olivine, calcite, limestone, sand and gravel, comprise “landowner minerals” and the right of extraction (if any) belongs to the owner of the land. Ownership to land is indivisible, making it impossible for one person to own the vegetation and another person to own other fixtures such as sand.

The Mining Act (*gruvlagen*) in **Finland** covers about 50 metals and 30 minerals. These minerals are listed in four groups: metals, industrial minerals (for instance, feldspar, calcite and olivine), precious stones, and marble and soapstone. Of the extractable minerals, iron, aluminium, quartz and feldspar may be sought, claimed and exploited only if they occur in bedrock. Non-claimable minerals (for example, sand and gravel) and the right of extraction (if any) belong to the owner of the land. Ownership to land is indivisible.

The Mining Act in **Ontario** applies to minerals owned by the Crown. It is typical for the rights to minerals (mining rights) to be held separately from the rights to the rest of the land (surface rights). When the Crown has granted mineral rights so that they are privately owned, the Mining Act is not applicable. Since the beginning of the 20th century, the Crown has reserved the mineral rights in most new land grants, but historically there have been different practises. Minerals according to the act mean all naturally occurring metallic and non-metallic minerals including natural gas, petroleum, coal, salt, quarry and pit material, gold, silver and all rare and precious minerals and metals, but does not include sand, gravel and peat. Sand and gravel are regulated under the Aggregate Resources Act. For some non-metallic minerals, such as limestone and marble, both acts may apply.

The Mining Act in **Western Australia** applies to minerals owned by the Crown. If the minerals are privately owned, the act does not apply. However, the

Crown since the end of the 19th century has reserved all minerals in new land grants. Minerals according to the act are defined to include all naturally occurring substances (other than soil and petroleum) obtained or obtainable from any land by mining operations. There are a number of materials defined as minerals only when they occur on land owned by the Crown. If occurring on private land, the following are defined as not minerals: limestone, rock, gravel, shale (other than oil shale), sand (other than mineral sands, silica sand or garnet sand) and clay (other than kaolin, bentonite, attapulgitite or montmorillonite). A sand quarry on Crown land is subject to the Mining Act while a sand quarry on private land is not. A special provision applies to iron ore and the authorization of the Minister is required to explore for iron ore.

Comments: In Sweden and Finland, the state has a decisive influence on the minerals listed in the mining or mineral acts even if nothing is stated about ownership. More minerals are covered by the Mining Act in Finland than in Sweden. In Ontario and Western Australia, the issue of mineral ownership is crucial. Due to the private ownership of minerals (“minerals to owner”), it is not sufficient to look only at how minerals are defined in the mining acts. It can be important to check whether certain minerals occur on private land, as is the case in Western Australia. In Ontario, due to the definition of aggregates in the Aggregate Resources Act and related regulations, a further investigation about applicable legislation might be needed concerning some non-metallic minerals.

Table 5. Types of Mineral Rights (exclusive) Granted by Mining or Minerals Acts.

Sweden	Finland	Ontario	Western Australia
Exploration permit (<i>undersökningstillstånd</i>)	Claim right (<i>inmutnings rätt</i>)	Claim	Prospecting Licence Special Gold Prospecting Licence
Exploitation concession (<i>bearbetningskoncession</i>)	Mining concession (<i>utmål</i>)	Lease	Exploration Licence Retention Licence Mining Lease General Purpose Lease Miscellaneous Licence (mining tenements)

Table 6. Information on Mineral Rights.

Sweden	<ul style="list-style-type: none"> • Mineral rights register • Real property register (exploitation concession)
Finland	<ul style="list-style-type: none"> • Mining register • Real property register (mining concession)
Ontario	<ul style="list-style-type: none"> • Mining claim abstract • Land Registry Office (leases)
Western Australia	<ul style="list-style-type: none"> • Mining tenement register

8.1.2 Environmental and Land Use Legislation

In all the countries/states compared, important legislation in addition to the mining legislation exists in order to render mineral rights operational. However, the Mining Act in Ontario contains several provisions concerning the rehabilitation of a mine, such as the requirement of a closure plan before extraction can take place. In Sweden and Finland, the mining acts only contain minor regulations connected to the protection of the environment. The environmental interest is mainly provided for in legislation other than the mining or minerals acts. Under the Mining Act in Western Australia, environmental protection and rehabilitation are regulated for all operations by standard or similar conditions on granted mineral titles. When assessing which legislation to highlight, guidance has been taken from how the authors/authorities from the respective country/state tend to describe their systems. At times, other related legislation is mentioned and referred to in the mining acts, such as in Sweden, but this is not always the case. Given the type of land use dominating a country (for instance, water, forest, wilderness or desert areas), certain legislation naturally is of greater or lesser importance.

Table 7. Environmental and Land Use Legislation.

Country/State	Legislation (primary)	Regulates (examples)
Sweden	Environmental Code Planning and Building Act	Environmental permits (land and water), EIA, nature reserve areas, habitat Provisions on planning and building development, building permits
Finland	Environmental Protection Act Environmental Impact Assessment Procedure Act Nature Conservation Act Land Use and Building Act Remote Areas Act	Environmental permits (land and water) EIA Nature reserve areas, habitat protection areas Provisions on planning and building development, building permits Protection of desolated state owned areas

Cont. Table 7. Environmental and Land Use Legislation.

Country/State	Legislation (primary)	Regulates (examples)
Ontario	Mining Act Environmental Protection Act (provincial and federal) Ontario Water Resources Act Environmental Assessment Acts (provincial and federal) Aggregate Resources Act Public Lands Act Planning Act Fisheries Act (federal) Endangered Species Act Provincial Parks and Conservation Reserves Act Lakes and Rivers Improvements Act	Mine closure plan Certificates of approvals emissions Permit to take water EA Aggregate permits Land use permits, work permits (roads, camps) on Crown land Official plan approvals, building permits Fish habitat Flora and fauna National and provincial parks Work permits (water crossings)
Western Australia	Mining Act Environmental Protection Act Rights in Water and Irrigation Act Land Administration Act Conservation and Land Management Act Environmental Protection and Biodiversity Conservation Act (Commonwealth) Planning and Development Act	Conditions on mineral titles such as rehabilitation plan, mining proposal Work approvals, licence for emissions, EIA, clearing permits Water resources and taking permits or licences Reserved areas in the public interest (Class A reserve), Crown land National parks, conservation parks nature reserves EIA (national) Town planning schemes, building licence

The Environmental Code (*miljöbalken*) in **Sweden** superseded 16 enactments in the environmental sector when it entered into force in 1999. However, since it is a mixture of several former acts, such as the Environmental Protection Act, the Natural Resources Act, the Nature Reserve Act and the Water Act, it is also rather complex. The Environmental Code is structured into different chapters dealing with general

rules of consideration (BAT, etc.), special provisions on the management of land and water areas (planning instruments preceding decisions on changed land use), specific provisions aimed for preserving areas of outstanding value (national parks, nature reserves, biotope protection areas), environmental permit procedures, environmental impact assessments and provisions on after-treatment of polluted areas including waste landfills. An environmental impact assessment is routinely required for mining projects. The Minerals Act and the Environmental Code apply parallel to each other. The Planning and Building Act (*plan- och bygglagen*) and its general plan instrument (*översiktsplan*) for each municipality, together with the management provisions of the Environmental Code, are important above all in connection with an exploitation concession involving striking a balance between the mineral interest and the purpose indicated by the general plan.

In **Finland**, environmental interests are explicitly recognized by the Constitution since 1995.¹⁰³⁵ In 2000, a single licence system (environmental permit) was introduced with the new Environmental Protection Act (*miljöskyddslagen*) in contrast to the previous sectoral structure with different legislation on the prevention of environmental pollution and related permits concerning air, noise, water, etc. The Water Act no longer regulates issues associated with water protection as these provisions are included in the Environmental Protection Act. The permit system formerly in the Waste Act has been moved to the Environmental Protection Act. In addition to proclaiming several environmental objectives, the Environmental Protection Act also adopts a range of environmental principles and considerations (BAT, etc.). The Act on Environmental Impact Assessment Procedure (*lag om miljökonsekvensbedömning*) is intended to put a procedure in place to investigate and assess the environmental impact of certain projects (systematically or on a case-by-case basis) that may cause significant adverse effects on the environment. The Nature Conservation Act (*naturvårdslagen*) includes regulations on the protection of nature and landscapes (national parks, natural reserves, protection of biotopes, etc.). The Mining Act applies parallel to the above legislation. The Land Use and Building Act (*markanvändnings- och bygglagen*), which came into force in 2000, regulates the building and planning use of areas. The local master plan (*generalplan*) on the municipal level and the regional plan (*landskapsplan*) with the national goals are important plans to consider as to the conditions of mining activities. The Remote Areas Act (*ödemarkslagen*) protects certain desolated state-owned areas in the north for the purpose of environmental objectives, the Sami culture, as well as fishing and hunting. Mining there is forbidden unless permission is given by the Government.

In **Ontario**, important changes in the Mining Act took place in 1991 with new requirements for the notification of projects and the submission of closure plans with settled standards for rehabilitation. Other environmental legislation applies parallel to the Mining Act. Environmental law falls within concurrent federal and provincial jurisdiction in Canada, and mining projects might be subjected to both federal and provincial legislation. The Environmental Protection Act, together with the Ontario Water Resources Act, provides the basis for the control and regulation of environmental pollution, both air and water. On the federal level, the Canadian

¹⁰³⁵ This recognition has no correspondence in Swedish legislation.

Environmental Protection Act is also applicable. The Ontario Environmental Assessment and the federal Canadian Environmental Assessment Act set out the fundamental requirements of the environmental assessment document. Assessments are not required routinely for mining projects. The Provincial Parks and Conservation Reserves Act contains regulations that limit or prohibit mineral exploration and exploitation within areas that are part of a provincial parks or conservation reserves. The Endangered Species Act protects endangered species of flora and fauna. The federal Fisheries Act protects fish habitat. The Public Lands Act regulates certain activities on Crown land through a system of permits, licences and leases. The Planning Act contains regulations about official plans covering broad areas of a municipality. According to the Planning Act, certain policy statements relating to municipal planning can be issued from time to time in different policy areas, including mineral resources and aggregates. Land use planning and policy have impacts on exploration either by a direct withdrawal of land from staking or making it impossible to develop land once a discovery is made.

In **Western Australia**, different conditions under the Mining Act related to the protection of the environment are placed on the granted mineral titles (minimizing harm to land, a rehabilitation plan, etc.). According to the Mining Act, a mining proposal (formerly known as a notice of intent) must be submitted prior to the commencement of mining operations. Any interpretation of the Mining Act is to be consistent with the Environmental Protection Act. Any provision of the Act in conflict with the Environmental Protection Act is inoperative to the extent of the inconsistency. The Environmental Protection Act provides the basis of control and regulation of environmental pollution. It contains regulations on the environmental impact assessments required for projects that have a significant impact on the environment. The Commonwealth has dramatically expanded its role in environmental protection and natural resource development. For instance, the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 gives the Commonwealth powers to intervene in State approval processes. The Rights in Water and Irrigation Act regulates water taking permits or licences. The Conservation and Land Management Act applies to reserves and State forests (national parks, nature reserves, conservation parks, etc.). However, it is through the Mining Act that mineral explorers can gain approvals for mineral resources on reserved land. The Land Administration Act contains the main rules for governing the administration of Crown lands. No specific permission is required for mineral prospecting and development according to the act. Under the Land Administration Act, land may be reserved for one or more purposes in the public interest, such as important reserves classified as class A and also dealt with in the Mining Act. The Planning and Development Act regulates town planning schemes. Any project on land situated within the boundaries of a Town Planning Scheme must be approved under the act. Under the Planning and Development Act, certain Statements of Planning Policy apply within different areas, such as environment and natural

resources. However, when there is a conflict between planning policy and mining, the Mining Act takes precedence.¹⁰³⁶

Table 8. Heritage Legislation.

Country/State	Legislation	Regulates (examples)
Sweden	Heritage Conservation Act	Archaeological sites ancient monuments
Finland	Ancient monuments Act	Archaeological sites ancient monuments
Ontario	Ontario Heritage Act	Archaeological sites ancient monuments
Western Australia	Aboriginal Heritage Act	Aboriginal sites

Legislation aimed at protecting the cultural environment and heritage is also of relevance for mining projects and other projects disturbing land. In **Sweden** and **Finland**, ancient monuments such as burials, ship-settings and rune stones are protected together with the surrounding area. The protection of ancient monuments is and remains in both countries of a general nature, and permission is needed for activities disturbing them. Protection is furthermore extended to previously unknown remains discovered in the course of work. A special investigation can be ordered to be carried out at the developer's expense. The **Ontario** Heritage Act prohibits anyone from disturbing an archaeological site without a licence. An archaeological site means any property that contains evidence of past human use or activity that is of cultural heritage value or interest. These can include aboriginal villages, spiritual sites, shipwrecks, European settlements, etc. An archaeological assessment might be required as a condition for receiving a licence. In **Western Australia**, it is an offence to disturb any Aboriginal site or material, which can include burial grounds, symbols, stone structures, etc. If disturbing a heritage site is unavoidable, consent to proceed must be given. Where a development might impact upon an Aboriginal site, the accepted procedure is to commission an Aboriginal heritage survey and consult with local Aboriginal communities.

8.1.3 Administrative Regimes

In all the countries/states compared, mining legislation is enforced by administrative authorities. The different scales of exploration and exploitation activities in Ontario and Western Australia, on the one hand, and in Sweden and Finland, on the other hand, naturally affect the volume of staff and the organisation of the administrative regimes. Different traditions as to state administration are other aspects to consider. When it comes to environmental management, an integral approach is primarily used

¹⁰³⁶ Section 120 of the Mining Act states that town planning schemes and local laws are to be considered but not to derogate from this Act.

in all the countries/states compared, such as environmental agencies that are common to all kinds of operations, mining included. However, in both Ontario and Western Australia, environmental protection has been included in mining legislation or in connection with grants of mineral titles. This means that the mining ministries in respect of a mining operation have a shared responsibility for environmental issues together with the other authorities responsible for the environment.

Table 9. Administrative Regimes.

Country/ State	Authorities (main)	Administer/Function
Sweden	<ul style="list-style-type: none"> • Mining Inspectorate • Geological Survey of Sweden (SGU) • County administrative board • Environmental Court (administrative) • Municipality 	Minerals Act (permits) Central authority for management of minerals, provide geological information Environmental Code (advisory, permits, EIA) Environmental Code (environmental permit for hazardous activities) Environmental Code, Planning and Building Act (planning and building issues)
Finland	<ul style="list-style-type: none"> • Ministry of Employment and the Economy • Geological Survey of Finland (GTK) • Regional Environmental Centres • Environmental Permit Authorities • Ministry of Environment • Municipality 	Mining Act (permits) Central authority for management of minerals, provide geological information Environmental Protection Act, advisory EIA Environmental Protection Act (environmental permit for large projects) Environmental Protection Act, etc., Nature Conservation Act, Land Use and Building Act Environmental Protection Act, etc., Land Use and Building Act (planning and building issues)
Ontario	<ul style="list-style-type: none"> • Ministry of Northern Development, Mines and Forestry (MNDMF) • Ministry of Natural Resources • Mining and Lands Commissioner • Ministry of Environment • Local Municipality 	Mining Act, provide geological information Aggregate Resources Act, Public Lands Act (permits/licences, management of Crown land) Settle disputes under Mining Act Environmental Protection Act, etc. (certificates of approvals emissions) Planning Act, by-laws (planning and building issues)

Cont. Table 9. Administrative Regimes.

Country/ State	Authorities (main)	Administer/Function
Western Australia	<ul style="list-style-type: none"> • Department of Mines and Petroleum (DMP)¹⁰³⁷ • Mining Warden • Department of Environment and Conservation • Environmental Protection Authority (EPA) • Department of Regional Development and Lands • Local Government Authority (City, Town, Shire Council) 	<p>Mining Act, provide geological information Objections and disputes under Mining Act Environmental Protection Act, etc. (permits) Environmental Protection Act, etc.</p> <p>Land Administration Act, management of Crown land Planning and Development Act (planning and building issues)</p>

In **Sweden**, where the system of government is fairly decentralised with smaller ministries, the Mining Inspectorate (*Bergsstaten*) is the sectoral authority for matters coming under the Minerals Act. The Mining Inspectorate is a small authority headed by the Chief Mining Inspector. In addition to granting permits, the Chief Mining Inspector is charged with the settlement of conflicts and disputes between landowners and mining companies. Decisions under the Minerals Act can be appealed to the Property Court (*fastighetsdomstolen*) for compensation orders or to the General Administrative Court (*allmän förvaltningsdomstol*) for other matters of an administrative law nature. Applications and permits under the Environmental Code are examined and issued by the County Administrative Boards (*länsstyrelser*), municipalities (*kommuner*) and the Regional Environmental Courts (*miljödomstolar*). Major activities of an environmentally hazardous nature (category A) are assessed by the Environmental Court.

In **Finland**, the Ministry of Employment and the Economy (*Arbets- och näringsministeriet*) is responsible for matters coming under the Mining Act. The ministry has few staff and specialised knowledge is borrowed from the Geological Survey of Finland. Decisions under the Mining Act can be appealed to the Supreme Administrative Court (*Högsta Förvaltningsdomstolen*) or to the Land Court (*jorddomstolen*) for compensation orders. Finland has a centralised state administration. However, in the field of environmental law, the main authorities are the Regional Environment Centres (*miljöcentralerna*), municipalities (*kommuner*) and the Environmental Permit Authorities (*miljötillståndsverken*). The Environmental Permit Authorities make decisions as to environmental permits for the largest projects.

In **Ontario**, several sections act within the Ministry of Northern Development, Mines and Forestry. Its Mines and Minerals division are responsible for the

¹⁰³⁷ Department of Mines and Petroleum has delegated authority from EPA with respect to native vegetation clearing permits provided that the environmental impact will not be significant.

administration of the Mining Act. The Minister may appoint officers of the Ministry to exercise powers under the Mining Act. The Provincial Recording Office records mining claims. The Provincial Mining Recorders at this office are empowered and have the responsibility of hearing and determining disputes between persons with respect to mining claims. The Mining and Lands Commissioner is a judicial officer, separate from the Ministry, with the authority to settle all disputes under the Mining Act, either as first instance or on appeal from mining recorders. The Disposition Office administers land that has been leased for mining purposes by charging annual rents and taxes (as landlord). The Mines Group and their mineral development officers assist prospectors with information and advice on permit requirements within and in addition to the Mining Act. The Mines Group also assesses rehabilitation costs associated with mine closure. The Ministry of Environment is responsible for the administration and permission process of the Environmental Protection Act and the Ontario Water Resources Act.

In **Western Australia**, the Minister may delegate power and functions to any officer at the Government Department of Mines and Petroleum. All types of mineral rights (tenements) are administered by the mining registrar including mining leases. The Native Title Act procedure connected to the grant of mineral title is also managed by the department. Under the Mining Act, Wardens are appointed to hear objections and disputes to the grant of mineral rights. The Warden has an important administrative function, in addition to the Department of Mines and Petroleum, in the application process for a mining tenement, particularly when objections are raised. The Mining Act also provides for an environmental inspection regime where environmental officers within the Department of Mines and Petroleum may enter and inspect operations for the protection of the environment. A Memorandum of Understanding has been signed between the Environmental Protection Authority and the Department of Mines and Petroleum. The latter is hereby a decision-making authority under the Environmental Protection Act. However, activities that result in ground disturbances having a significant impact on the environment are to be referred to the Environmental Protection Authority.

8.2 Mineral Rights – Obtainment and Operation

This main part is structured into three segments reflecting the mining sequence: The Early Prospecting or Reconnaissance Phase, the Prospecting and Exploration Phase, and the Development and Exploitation Phase. Attention is not given here to the reclamation phase other than those obligations related to this stage when mining or mineral rights are granted, as well as responsibilities when mining rights expires. As mentioned by way of introduction in Chapter One, greater emphasis is put on the exploration phase as can be seen in the country surveys. Consequently, the extent and depth with which issues are dealt with given the process and development of a mine vary. A valuable tool for comparing and analyzing regulatory issues addressed in the mining legislation has been the framework created by Otto and Cordes. This

contains specific sample questions indicating issues that can arise at each stage of the mining sequence.¹⁰³⁸ The following core issues are addressed:

- Application and allocation of mineral rights
- Lands open or not
- Grant and possession
- Size of area and duration
- Rights and obligations
- Transferability and cancellation

8.2.1 The Early Prospecting or Reconnaissance Phase

Information is needed early in the process of mineral exploration in order to identify selected target areas. Field-work might be required in addition to literature- or desk-studies on geological information. Non-exclusive rights are often connected to this reconnaissance phase.

In **Sweden**, specific non-exclusive rights do not exist in respect of early exploration activities. However, certain operations, such as block prospecting and measurement, can be undertaken by authority of the public right of access (*allemansrätten*). The public right of access is a customary right that quite recently was constitutionally safeguarded. It can be described as the right of every individual to some extent gain access to land and water areas belonging to others and there gather berries and certain other natural products. No real prospecting is possible by authority of *allemansrätten*. An exploration permit is necessary where prospecting entails encroachment on the landowner's property.

In **Finland**, the public right of access also applies. This right is regarded as a customary right. With support of the public right of access, and other authority, prospecting (*letningsarbete*) can be carried out according to the Mining Act. This means that everyone has the right, even upon another person's land, to make the geological and geophysical observations and measurements necessary in seeking extractable minerals. Prior to sampling, notice must be given to the landowner or the Register Office of the Locality (*registerbyrån, magistratet*). In certain areas where public access is explicitly prohibited or restricted (such as yards, gardens, church grounds or on claim or concessions), prospecting requires permission from the authorities. According to the Mining Act, a person eligible to claim (as discussed further below) is to have the right to reserve for himself the priority to claim a mineral deposit within a stated area of a maximum of nine square kilometres or 900 hectares (*förbehåll*). A reservation is only valid for a period of one year, during which the person or entity can conduct a limited investigation in the area. No sampling or drilling is allowed without the landowner's permission. A reservation is made by giving notice to the register office of the locality where the deposit lies. A reservation does not exclude other parties from prospecting, but does grant a monopoly (without competition) to claim the area if found feasible.

¹⁰³⁸ See Otto and Cordes (2002), pp. [3-16] – [3-74].

In **Ontario**, a prospector's licence is required to prospect or explore on Crown land according to the Mining Act. It is needed as evidence of the right to enter land and prospect on lands where Crown minerals exist (otherwise the act is deemed trespassing). Any natural person who is of the age of eighteen years or over is entitled to obtain a licence upon application. A company employee can require a licence but not the company as such. A licence may be issued by any mining recorder and is valid for five years. The holder of a prospector's licence may prospect or search for minerals and stake out a mining claim on Crown lands and on private land where the minerals are owned by the Crown. In order to get the exclusive right to explore an area, a staking of a claim must be done on the ground as discussed further below.

In **Western Australia**, a Miner's right is required in order for a person to carry out prospecting activities on Crown land according to the Mining Act. A company incorporate may also hold such a right but the right cannot be issued in a registered business name. The Miner's right is a form of identification to protect the holder from claims of trespassing. The holder of a Miner's right is authorised to prospect for minerals, conduct geological mapping, test for minerals, undertake limited sampling and mark out mining tenements. A pastoralist must be notified in order to prospect on a pastoral lease defined to be Crown land. The possession of a Miner's right does not authorise activities on private land even if the Crown owns the minerals, nor on public reserves except land reserved for mining, commons or public utility. However, access is possible in connection with an application of a mining tenement and permit to enter.

Comments: In all the countries/states compared except for Sweden, non-exclusive rights for prospecting activities can be obtained according to the mining acts. However, in Sweden the regulations in the Minerals Act presuppose that the public right of access can be used for limited operations on any land with certain restrictions such as near dwelling houses, arable land, etc. In Finland, prospecting (*letningsarbete*) can be carried out with the support of both the public right of access and the Mining Act. The possibility to reserve a priority right to claim a mineral deposit (*förbehåll*) is well-used, particularly as it is rather cheap. The priority right is an issue of registration involving no administrative decisions. In Ontario and Western Australia, a prospector's licence and a Miner's right can be obtained for low fees without any proof of qualifications or skills.¹⁰³⁹ No title is given but these instruments permit their holders to do things that are prohibited in their absence in proceedings to acquire rights to minerals (claims, mining tenements).

8.2.2 The Prospecting and Exploration Phase

Exploration rights are required in order to carry out detailed surveys, trenching, bulk sampling, etc. Of primary importance is that these rights are secure and exclusive due to the high costs of investment and risks of failure. To facilitate the comparison

¹⁰³⁹ A prospectors awareness program for holders of prospector's licences is however to be introduced in Ontario in connection with the recent amendments of the Mining Act.

here, no distinction is made between the terms “prospecting” and “exploration”. The focus is on the rights needed in order to find economic mineral deposits, namely exploration permits (Sweden), claim rights (Finland), claims (Ontario) and prospecting licences and exploration licences (Western Australia). In Western Australia, the mentioned licences are the two main tenements for exploration titles and the focus here will be on them. A prospecting licence is designed for the prospecting of minerals on a comparatively small scale. An exploration licence permits exploration over a very large area of land. As clarification in this context, it should be mentioned that the Mining Act in Western Australia defines mining to include prospecting, exploration and mining activities. The comparison in this phase related to prospecting and exploration activities is structured to deal with the following issues: Application and Allocation, Lands Open or Not, Grant and Possession, Size of Area and Duration, Rights and Obligations, Transferable and Cancellation.

Application and Allocation

In all the countries/states compared, the process of obtaining mineral rights for exploration purposes is self-initiated through an application and subsequent grant, permit or staking in the field (possession) and following registration. Any person who is of age and legal capacity may stake a claim or apply for rights to explore for minerals. No restrictions apply in practice to foreigners in the countries or states of comparison even if further formalities might be required, as in Finland, for individuals and corporate bodies from outside the European Economic Area. A common policy in the mining acts is to make it possible for different kind of actors, private persons or mining companies, to explore for minerals. In case of a situation where several actors show a competing interest in the same area, the approach rooted in the free miners’ tradition, namely the claim system or first-come first-considered system, can be identified in all the countries or states.

Table 10. Who Has the Right to Explore.

Sweden	If two or more parties have applied for exploration in the same area, the first party is to have priority. If the applications are received on the same day, the applicants will be equally entitled to the common area
Finland	If several persons have made a notice or reservation or a claim application concerning one and the same area, the person who first made the notice or application is to have priority. If the notice or application has been made on the same day, priority is to go to the person who first struck the deposit
Ontario	Priority of completion of staking is to prevail where two or more licensees submit an application to record the staking of all or a part of the same lands
Western Australia	If more than one application is received for a mining tenement over the same area, the titles are awarded to the person who applies first in time, e.g. the applicant who first complies with the initial requirements. In case of competing applications, where two or more applicants complied with the initial requirement in respect of any land at the same time, a system of balloting (selection of applicants drawing lots) applies as conducted by the warden in open court ¹⁰⁴⁰

All the countries/states compared have strong elements of the claims system when it comes to the exploration phase and connecting rights, as priority is linked to when an application or a staking is made and fulfilled. The discretionary elements are minor, and rights can be granted or claimed more or less automatically if the acts and regulations are followed. A separate issue is whether the land is open or not and whether native claims occur.

In **Sweden**, an exploration permit proceeding is initiated through an application to the Mining Inspectorate. The application serves as a basis for decision-making and must be in writing. It is to include the name and address of the applicant, the areas and concession minerals referred to, the properties (landowners) affected, the existence of land restrictions and the names proposed by the applicant for the exploration areas. The applicant must also furnish particulars as to whether the activity planned impacts on public and private interests and, if so, how those interests are to be protected. In addition, a map must be submitted showing the area applied for. A defective application that cannot form the basis of an assessment can be rejected by the Chief Mining Inspector. The landowners affected have no legal right to express viewpoints before a decision is made. However, the Chief Mining Inspector must send notice of the application to the property owners and other right holders affected.

¹⁰⁴⁰ An application for a prospecting licence complying with initial requirements means marking out the land in the prescribed manner, and for an exploration licence, lodging that application with the relevant mining registrar.

In **Finland**, a claim proceeding is initiated through an application to the Ministry of Trade and Industry. The application serves as a basis for the decision of claim right and the issuing of the proof of claim, the prospecting license (*mutsedel*). The application is to contain information about the claimant, the area and boundaries of the claim marked on a map, the properties (landowners) affected, the extractable minerals claimed for, type of activities to be carried out and their extent, and the name proposed for the claim area. The application must be followed by a certificate or investigation that no claim impediments exist, signed by the magistrate or by two persons familiar with the locality. A defective application that does not fulfil the requirements of the Mining act can be rejected by the Ministry. The Mining Act contains no regulations about informing the landowner about the application. However, according to the Administrative Procedure Act, the landowners should be informed about claims and since a few years back, a notification is sent to them (*anmälan om hörande*).¹⁰⁴¹ Views and opinions must be sent to the Ministry within four weeks. This means that the landowners may express their viewpoints before the decision is taken and the prospecting license is issued.

In **Ontario**, a claim proceeding is initiated through the physical staking on the ground. Four claim posts are used to establish the corners of the mining claim. Line posts are erected every 400 meters along the boundary of the claim to establish the claim boundary. Every claim post must stand 1.2 metres above the ground when erected. A claim must have a numbered tag affixed to the post in order to be identified. The Ministry provides metal tags. The date and time for the completion of the staking must be inscribed on one of the corner posts. A licensee (holder of a prospector's licence) is to make an application to record the claim to the Mining Recorder no later than 31 days after the day on which the staking was completed. However, it is the physical staking that gives the primary right, not its recording. Under the Mining Act, the holder of a valid prospector's licence can enter lands open for staking without notifying the surface rights holder. However, the Ministry of Northern Development, Mines and Forestry encourages prior notification by the prospector. A claim holder must give notice to the surface rights owner prior to conducting ground assessment work.

In **Western Australia**, the process of obtaining exclusive rights through an application for a prospecting licence starts with marking out the tenement in the field. A post must be fixed one metre above the ground at each corner or angle of the land concerned. A notice of marking out has to be fixed to one of the posts referred to as the datum post. An exploration licence does not need to be marked out. Its boundaries are defined by lines of predetermined latitudes and longitudes (map based). The lines are known as graticules and the units of lands created are called graticular sections, consisting of blocks. An application for a prospecting licence must be lodged at the office of the mining registrar of the mineral field in which the land is situated. This must be done within ten days if the tenement has been marked out. A copy of the application (with the received tenement number) must also be

¹⁰⁴¹ The respective Administrative Procedure Acts apply to decisions taken by authorities in both Finland and Sweden. However, if certain regulations are found in special legislation, such as the Mining Act, the specific act has precedence.

affixed to the datum post within 14 days of the date of the application. The application for an exploration licence must include a description identifying the area or blocks and can be lodged at any office. Other specific application requirements for prospecting and exploration licences are that a security must be lodged with the mining registrar within 28 days from the date the application was made. A statement must be lodged for an exploration licence specifying the proposed method of exploration details of the proposed work program, an estimate of the monetary expenditures and the applicant's technical and financial resources. An applicant for a mining tenement (a mining tenement refers to all types of licences and leases acquired under the Act) must publish a copy of the application in a newspaper specified by the "Director General of Mines" within 14 days. If the application relates to land held under a pastoral lease, a copy of the application must be sent to the pastoral lessee. If the application relates to private land, notice must be sent to the local government or municipality, the owner and occupier of land, and each registered mortgagee. It is not necessary, however, to serve a copy of an application for sub-surface applications (i.e. for land below a depth of 30 metres from the lowest part of the natural surface).

Comments: The requirements of staking in Ontario and Western Australia are detailed. In Ontario, the staking out of a mining claim is deemed to be in substantial compliance even if there is a failure to comply with a number of specific staking requirements, as long as the failure to comply does not mislead any other staker, and an attempt has been made in good faith to comply. To guarantee security of tenure, no dispute on a mining claim will be accepted after the claim has been on record for more than one year, or after the first prescribed unit of assessment work has been filed and approved. In Western Australia, compliance with the requirements of marking out a prospecting licence is required and failures can be fatal to the tenement application. A system of self-regulation (within the mining industry) is very much linked to the staking procedure. Conflicts or staking disputes occur due to competing situations with the reward for success in contesting someone else's staking the acquisition of the ground for oneself. However, no title is acquired in Western Australia by marking out (pegging) a prospecting licence since title to all mining tenements lies in grant. In Ontario, the physical staking gives the possession of the area. In Sweden and Finland, title lies in the grant of a permit or by issuing the prospecting license. In all the systems compared, additional demands are placed on the applicant or licensee in connection with the commencement of exploration activities as discussed further below. However, the distinction between the titles or rights and their operations is more or less pronounced.

Table 11. Methods of Designation of Areas.

Sweden	Finland	Ontario	Western Australia
Map staking	Map staking	Ground staking	Ground staking Map staking

Lands Open or Not

In **Sweden** and **Finland**, all land whatever type of ownership is in principle open for exploration permit applications and claims. In **Ontario**, claims can be staked on Crown lands and on private lands where the minerals are owned by the Crown. In **Western Australia**, three categories of land are open for mining; Crown land, public reserves, and private land. However, different rules for land access apply to these lands. Private land is open for exploration and mining, provided that the Crown owns the minerals. In all the countries/states compared, the basic principle, that more or less all land is open for staking or applications, can be found in the initial sections of the mining acts. However, due to different kinds of restrictions (within or outside mining acts) to protect mineral right holders, landowners, reserved areas and so on, land is not as open as it might initially appear as discussed in Chapter Two.

When it comes to the protection of mineral right holders, more details are mentioned under the section addressing “rights and obligations”. In **Sweden**, the main rule is that an exploration permit may not be granted for the same mineral within an area where another party already holds a permit for prospecting or exploiting the deposits concerned. In **Finland**, a claim may not be made within a claim, concession or auxiliary area of another’s concession, or in an area for which a concession application is pending. In **Ontario**, land is not open for staking where valid claims exist (those not lapsed, abandoned, cancelled or forfeited). In **Western Australia**, land (Crown, reserve and private) is not open for exploring and mining activities that is the subject of a granted mining tenement, with the exception of special prospecting (low impact prospecting) and miscellaneous licences (for activities such as pipelines associated with a mining operation) that may be granted over existing mining tenements.

All the mining acts compared contain classical restrictions where exploration rights may be granted or staked only after exemptions or further permissions from authorities, landowners or other right holders. An issue to reflect on is who is responsible for identifying closed or restricted areas. In **Sweden** and **Finland**, the applicant must identify such areas or certify that no impediment exists. In **Sweden**, earlier legislation prescribed the prohibition of claims in certain areas (as currently is the case in Finland). The Minerals Act now prescribes instead a prohibition of the activity as such (exploration) which has practical advantages for the Mining Inspectorate. It then is for the prospecting party to obtain the permits needed if areas deserving of protection are affected. In **Western Australia**, the prospector can make an active choice whether he will carry out activities on land where further permits are needed, such as on reserve and private land.

Table 12. "Classical Restrictions" in Mining Acts.

Country/ State	Classical and Other Restrictions in Mining Acts	Conditions
Sweden	<p>National parks</p> <p>Nature and culture reserves Protected object for vital services and churchyard or burial ground within 200 metres</p> <p>Unbroken (pristine) mountain areas and military protected areas Public highway within 30 metres, railway, canal open for public transport, public airport Dwelling within 200 metres, church, assembly, electric power station, industry facility Area covered by a detailed plan and area provisions</p>	<p>No exploration and exploitation allowed Cannot take place at variance with provisions issued</p> <p>Permission needed from county administrative board Permission needed from the Chief Mining Inspector</p> <p>Permission needed from the Chief Mining Inspector</p> <p>Permission needed from Chief Mining Inspector and statement from the municipality</p>
Finland	<p>Frontier zones along Finnish national frontiers Fortified area (military)</p> <p>Airport, street, railway, canal used for public traffic within less than 30 metres</p> <p>Building that is in constant use or is to be used as a dwelling or work site, from a lot reserved for such building or a building site where construction has begun within less than 50 metres</p> <p>Public building or plants, powerline or transformer of over 35 kilovolts, garden or park adjoining a dwelling within less than 50 metres</p> <p>Within grounds of an industrial plant or an associated storage or dumping area, on churchyard or cemetery Area covered by a detailed plan or a local master plan with legal consequences</p>	<p>Permission needed from Council of State Permission needed from the responsible authority or right holders</p> <p>-"- -"-</p> <p>-"- -"-</p> <p>-"- -"-</p> <p>Certain reasons for permission are required if municipality disagrees</p>
Ontario	<p>Railway purposes, Town site, residential lots on a registered plan of subdivision Summer resort purposes</p> <p>Water power, highway within 45 metres Indian reserve</p>	<p>Consent from Northland Transportation Commission or consent of Minister Exceptions if Minister certifies discovery of valuable mineral Consent of Minister</p> <p>Prohibited</p>

Cont. Table 12. "Classical Restrictions" in Mining Acts.

Country/ State	Classical and Other Restrictions in Mining Acts	Conditions
Ontario	<p>Provincial parks</p> <p>Part of a lot used as a garden, orchard, vineyard, nursery, plantation or pleasure ground</p> <p>Part of a lot upon where crop may be damaged</p> <p>Part of a lot upon which is situated a spring, artificial reservoir, dam, dwelling house, outhouse, manufactory, public building, church or cemetery, water power producing 150 horsepower or more</p>	<p>Prohibited except as provided by the regulations made under the Provincial Parks and Conservation Reserves Act</p> <p>Consent of the owner, lessee, purchaser or locate of the surface rights or by order of the recorder or the commissioner</p> <p>-"- -"-</p> <p>-"- -"-</p>
Western Australia	<p>Private land in general</p> <p>Private land in regular use as a yard, stockyard, garden, orchard, vineyard, plant nursery or plantation or land under cultivation, site of a cemetery or burial ground, dam, bore, well, land which there is erected a substantial improvement</p> <p>Land which is situated within 100 metres of any private land in regular use for activities as indicated above</p> <p>Land which is a separate parcel of land and has an area of 2000 square metres or less</p> <p>Crown land; land being under crop or within 100 metres thereof or yard, stockyard, garden, cultivated field, orchard, vineyard, plantation, airfield</p> <p>Land situated within 100 metres of any land that is in actual occupation, site of cemetery or burial ground</p> <p>Reserved land; National parks, class A conservation areas</p> <p>Town site</p> <p>Aboriginal reserve</p>	<p>Permit to enter by Warden on any land</p> <p>The consent in writing of the owner and the occupier of the private land is required unless the mining tenement is granted not less than 30 metres below the lowest part of the natural surface of that private land</p> <p>-"- -"-</p> <p>-"- -"-</p> <p>Written consent of the occupier might be required if not mining carried out not less than 30 metres below the lowest part of the natural surface of the land</p> <p>"- -"-</p> <p>Written consent of the Minister for State Development (Mines) with consultation or concurrence with the responsible Minister for the reserved land areas</p> <p>Consent from Minister of State Development (Mines) with consultation with the council of the municipality</p> <p>Permit to enter from Department of Indigenous Affairs</p>

Comments: As can be seen from the above, it is not enough to identify restricted areas. Surrounding larger or smaller zones around them may also apply. That meant by building site, lot, part of lot, and distance from it, is not always clear. In Sweden, some clarifying changes in mining legislation was made in 2005 (building used as a reference frame instead of lot). In Ontario, elucidations have been made with the recent amendments of the Mining Act. The instrument of withdrawal of land not included in the table above is prominent in the mining legislation of Ontario and Western Australia. In Ontario, the Minister may by an order withdraw any lands from prospecting and staking where the mining rights or surface rights are the property of the Crown. The Minister may also in contrast reopen land that has been previously withdrawn. The areas affected by withdrawals can be large, for example, parks, wilderness areas or native land claim settlements, or small, such as for testing bedrock aggregate or hydro development sites. In Western Australia, the Minister has certain power to set aside land for mining or exempt it therefrom. Land can be exempted to protect or reserve the area for several reasons. In Sweden, the Minerals Act empowers the government to exclude areas from exploration work or exploitation. Under this “reserve rule”, if the work or exploitation can be presumed to impede or significantly obstruct such current or planned use of the land as is of major importance from the point of view of the public interest, the land can be excluded. According to information received, however, this reserve rule has never been used.

In all the countries/states compared, many of the restricted/protected or preserved areas are regulated through different kinds of environmental and land use legislation as previously discussed above. The mining acts are more or less coordinated with this legislation. In Sweden, no exploration permit can be granted in a national park. In Finland, minor exploration activities can take place in a national park but mining is prohibited. In Ontario, the Mining Act prohibits staking in provincial parks as well as in First Nation Reserves. In Western Australia, the Government policy is that no exploration and mining is permitted within national parks and Class A nature reserves. In addition, the Mining Act requires the approval of both houses of parliament for the granting of mining leases. It is obvious that the current policies in the compared countries are that more areas will be protected in future. In the European Union, and for Sweden and Finland, the biological network for the preservation of biodiversity Natura 2000 applies. More and more areas are being added to this network. An important land use strategy affecting mining activities in Ontario is the Ontario Living Legacy, which includes the biggest expansion of parks and protected areas in Ontario’s history. The Western Australian Government has committed to the creation of 15 % of the land area as conservation reserves containing regional biodiversity values.

All countries face the problem that national parks and other protected areas may be declared such without an assessment being made of the area’s mineral potential, which might be more or less known. In Sweden, an area can be protected for its mineral value according to the Environmental Code. The Geological Survey is responsible for the assessment of such areas. In Ontario, the status of mineral resources is strengthened by identification of high mineral potential areas. The result

of such research may provide for reasonable access to mineral resources surrounded by parks.

Grant and Possession

In **Sweden**, an exploration is to be granted if there is a reason to assume that exploration in the area can lead to a concession mineral find, and the applicant is not manifestly without the possibility or intention of accomplishing an appropriate exploration. An exploration permit may not be granted to a party who has previously demonstrated unsuitability in carrying out an exploration. The Chief Mining Inspector may decide cases concerning the grant of exploration permits without any party but the applicant being granted the opportunity of a hearing. The county administrative board, however, must be given the opportunity of making a statement within a certain time. When the Chief Mining Inspector has granted an exploration permit, the landowners and other right holders affected must be served with, and acknowledge receipt of, a copy of the decision. The prospector and affected landowners have the right to appeal the grant of an exploration permit, as are other right holders, such as a lessee or holder of a reindeer-herding right. Appeals are to be lodged with a district administrative court. The reindeer-herding right is connected to the Sami villages (about 50 altogether) and affects roughly one-third of Sweden's land area (the Reindeer Husbandry Region).

The Chief Mining Inspector must include conditions in exploration permits if necessary for the protection of public interests or private rights. The conditions may concern the activities to be conducted in various respects, mainly with reference to the environment. Information or reminders concerning special provisions of the Minerals Act and other enactments can also be included in the decision. One mandatory condition that always must be included is the provision of financial security.

In **Finland**, if the claim application meets the conditions in the Mining Act, the Ministry of Employment and the Economy is to give the applicant a prospecting license (*mutsedel*) for the area referred to in the application, or for that part of the area for which no claim impediments exist. The prospecting license has long included the decision about the claim right as well. The decision can be appealed to the Supreme Administrative Court by interested parties, such as landowners. However, since quite recently, the decision about the claim right is taken separately with the prospecting license attached to it as an appendix. Neither the Mining Act nor its regulations contain any specific rules about informing landowners about the decision. However, the landowner, municipality and the regional environment centres are to be notified by a copy of the decision according to the Administrative Procedure Act. In this context, it is important to mention that the Mining Act has long contained rules about compensation to landowners for the claim right, entailing that landowners must be contacted anyway as discussed further below. The claimant, upon the demand of the authority or landowner, must show the prospecting license. The authorities in Finland have an obligation to negotiate with the representatives of the Sami people (*sametinget*) concerning activities that may affect their position.

Applications concerning claims and mining concessions become an issue if the Sami home areas are affected (mainly state owned areas in the north). The reindeer-herding right exists in Finland as well, but there it is not linked to the Sami people specifically.

Nothing is mentioned in the Mining Act about including conditions in the licence or, as now, in the separate decision about the claim right. However, information or reminders concerning special provisions in the Mining Act are generally included in the licence. For instance, the condition in the Mining Act that financial security must be provided if the landowner so demands is to be included. Since quite recently, environmental conditions related to the Environmental Protection Act are also added to the decision about the claim right, as well as conditions about informing the landowner before exploration work takes place.

In **Ontario**, if an application to record a mining claim complies with all the requirements for staking (several) and recording the claim, the recorder is to record the claim and file it. After one year, no dispute on a mining claim will be accepted. If a person fails to apply to record a staked claim within the time set (31 days after staking was completed), he is not entitled to have the mining claim recorded or to stake the land again. Further obligations towards surface rights owners and other right holders are linked to the operation of the mineral rights as discussed further below.

In **Western Australia**, the process of the granting of mining tenements also has to comply with the Native Title Act 1993 (Commonwealth) in addition to the Mining Act. Any person may lodge an objection to the granting of an application of a mining tenement within 35 days of the application. The objector must specify the grounds for the objection and serve a copy of it on the applicant. If no objections are lodged, the Mining Registrar is authorised to grant applications for prospecting licences provided that the applicant has complied with all the formalities. For an exploration licence, the Mining Registrar will consider the application and forward a recommendation to the Minister. If objections have been lodged and accepted, on the other hand, an application for a prospecting licence or an exploration licence must be heard by the warden in open court. The owner, occupier and mortgagee of private land are each specifically entitled to be heard in relation to an application. When it comes to private land, the Minister may grant the application if the owner of the land has consented in writing to the grant (mainly land under cultivation – “farmers veto”). However, for a depth below 30 metres, consent is not needed. An agreement with the landowner or surface rights owner must be filed at the Department of Mines and Petroleum together with a copy of the certificate of title for the land. Compensation must be paid or agreed upon before mining (including exploration) can take place on the surface.

Whenever a mineral exploration or mining title is applied for concerning land other than private (the most common case), it is essential to consider the impact under the Native Title Act. The act does not confer a right of veto but gives native claimants a right to negotiate with the Government and mining companies in relation to the grant of exploration and mining tenements. However, for activities with minimal impact on native title, such as prospecting and exploration, the Government can use “expedited procedures”. This means that a mining tenement can be granted

without a negotiation process. Otherwise, the “Right to Negotiate Procedure” starts with that the Government must give notice of the proposed grant of the mineral title to the public and any registered native title parties.

When granting a prospecting or exploration licence (or any other tenement), the mining registrar, warden or Minister may impose conditions or endorsements. For instance, environmental conditions are placed on the grant to prevent injury to land or ensure that land after exploration activities is adequately rehabilitated. Specific conditions are prescribed in respect of reserved land. A common standard endorsement is drawing attention to the provisions of the Aboriginal Heritage Act. Some conditions, such as that the discovery of minerals of economic interest must be reported in writing, is to be attached to every prospecting licence or exploration licence.

Comments: In all the countries/states compared except for Ontario, the title for exploration lies in the grant. It seems to be a tendency to put more and more conditions and endorsements on the grants or permissions. Many of the conditions are related to land use and environmental legislation outside the mining acts. In Finland, it appears that conditions are also used to clarify issues as a way to cope with current shortcomings in the Mining Act. In Ontario, if the recording of the claim is not done within the prescribed time, the claim will be void. The recording protects the claim holder from any unrecorded instruments.

In Australia, most of the land (private excluded) has the potential to have native title rights and interests (Mabo case 1992). The right to negotiate procedure must be observed when a mining tenement is granted. In Ontario, a majority of all different Indian Bands have signed treaties and have reserves. In addition to those lands, however, all Natives have interests in the traditional lands where their forefathers hunted and fished. The duty to consult with aboriginal people is of importance if claim staking has an effect on land of this nature.

Size of Area and Duration

Table 13. Size of Area and Duration.

Country/State	Mineral Rights	Area	Number	Duration
Sweden	Exploration permit	No limitations in size but area must be suitably configured for the purpose	No limits	3 years + renewal 3 years + 4 years + 5 years (maximum 15 years given exceptional reasons)
Finland	Claim right	Maximum 1 km ² (100 ha)	No limits	Minimum 1 year up to maximum 5 years
Ontario	Claim	1-16 units (16-256 ha) ¹⁰⁴²	No limits	1 year + unlimited (if annually assessment work is carried out)
Western Australia	Prospecting licence	Maximum 200 ha	No limits	4 years + renewal 4 years
	Exploration licence	Minimum 1 block (~310 ha), Maximum 200 blocks (~62 000 ha) but in certain areas 70 blocks (21 700 ha)	No limits	5 years (after 5 years a compulsory surrender of 40 % of the licence if bigger areas than 1 block) then extension + 5 years + 2 years if there are prescribed reasons according to the mining regulations

Comments: All the countries/states compared except Sweden have limitations on the maximum size that can be granted or possessed. However, a limit of 100 hectares has long been used in Sweden in practise when it comes to private persons. Given today's exploration technology, it can be argued whether the maximum size in

¹⁰⁴² In a surveyed territory such as a township, mining claims are governed by the lot and the concession lines established by the existing survey. Depending on how a township is surveyed, the minimum size of a claim might vary from normally 16 hectares to 20 or 15 hectares.

Finland of 100 hectares for claims is rational. When it comes to number of claims, licences or permits, none of the countries/states compared have limits.

The length of time for which a company will have a particular mining right (security of tenure) is, as mentioned in Chapter Two, perhaps the most important issue to be addressed in mining laws. A length of two to five years is regarded as a rather short period. In Ontario, a claim can be held indefinitely as long as annual assessment work is done, which has to be reported. In Western Australia, a prospecting licence remains in force for a period of four years. If prescribed reasons for an extension exist, the Minister may extend the term by a further period of four years. The possibility to extend a prospecting licence has recently been introduced in the Mining Act. An exploration licence remains in force for a period of five years. However, at the end of the 5th year of term, a compulsory surrender of the area will be required of 40 % of the licence (areas larger than 310 hectares). Extensions of one period of five years followed by further periods of two years may be granted if permitted under reasons according to the mining regulations. In Sweden, an exploration permit is valid for three years. It can first be extended for a period up to three years if appropriate exploration has been carried out (one year is usual), then up to four (special reasons), then further five years (exceptional reasons). Exploration permit renewals entail increased charges for exploration. In Finland, the minimum length is one year and the maximum length five years. However, it is possible to apply for an extension of the claim right up to three years before the stipulated time has run out provided that, despite systematic exploration, sufficient clarity has not been achieved on the possibilities of exploiting the deposit.

Linked to the possibilities of renewal are provisions on waiting periods. In Sweden, new exploration permits may not be granted for at least one year following the expiry of existing permits. However, exemptions from these provisions are possible if special reasons exist. In Finland, certain permission is needed unless five years have elapsed from the expiry of the claim right. In Western Australia, after the expiration of the term of a prospecting licence and an exploration licence, the holder may not mark out or apply for the ground again during a three-month period.

Rights and Obligations

The key question of what rights can be obtained through a specific mining act cannot be easily answered, as different kinds of obligations and restrictions are closely connected to the rights acquired. In addition as discussed, other legislation besides the mining acts can often apply, affecting how the rights can be utilized. Another aspect is that the rights conferred often are not explicitly spelled out in the legislation. Initially, however, it can be maintained that the mineral rights for exploration activities (exploration permit, claims, prospecting licence and exploration licence) all are exclusive in the sense that a holder can exclude others. Overlapping rights concerning the same area, however, are possible. In **Sweden**, another party in special cases may be granted an exploration permit for other minerals in the same area. A case of this kind may exist if each of the minerals can be extracted independently and without detriment to the rights of the original permit

holder. In **Western Australia**, a special prospecting licence (another tenement) may be granted within an area of a granted prospecting or exploration licence if it is deemed that prospecting can be carried out without affecting prospecting activities of the primary tenement holder.

In **Sweden**, an exploration permit as such does not confer many rights since a plan of operation has to be drawn up before exploration begins. However, no exploration may take place without an exploration permit unless the prospector is the owner of the land. There is no stipulation of exploration work being conducted in order for exploration permits to be retainable, but an annual charge is payable in relation to the number of hectares within the exploration area and to the species of concession mineral. The plan of operation must contain an account of the exploration work planned, a timetable for the work, and an assessment of the extent to which the work will presumably affect public interests and private rights. This must be served on the landowner and other right holders concerned. Objections to the content of the plan of operation must be communicated in writing to the permit holder within three weeks. A plan of operation becomes valid if no objections are made or if an agreement is concluded. If objections are made, the party holding the exploration permit may request that the Chief Mining Inspector ratify the plan of operation by a decision that can be appealed to a property court. However, due to the nature of exploration works, the Chief Mining Inspector may decide that the plan of operation is to apply even if appealed. In addition to the plan of operation, a financial security must be provided before exploration can begin for any damages that may occur. The prospector must compensate the landowner and other right holders for damages resulting from the exploration work. If conflicts occur between the holder of an exploration permit and a landowner or affected right holder, the Chief Mining Inspector may adjudicate the dispute if requested to do so. The costs are to be borne by the permit holder.

When it comes to the right to carry on exploration work, the prospector may need to show that a mineral included in the permit is present within the area and to ascertain more exactly the size, nature and extractability of the deposit. The work must be limited to the activities needed in order to achieve the purpose of the exploration. In most cases, the exploration permit includes all concession minerals except oil, gas and diamonds, unless the applicant has excluded certain minerals in his application. Any concession minerals extracted may, with certain exceptions, be used only for investigation of their character and their suitability for technical processing at this stage. No right is conferred to use land for erecting buildings. The permit holder may, to the extent necessary, use a road to and within the area. Construction of a new road requires permission from the Chief Mining Inspector. Electrical measurements and various sampling operations on the ground surface, together with diamond drilling, are normal activities to investigate the bedrock in depth. An environmental permit under the Environmental Code may be needed for activities such as test extractions that can substantially harm the natural environment. Other measures, such as large-scale earth-moving operations, may require consultations with the county administrative board.

When an exploration permit ceases to apply without an exploitation concession having been granted, the prospector is to submit a report within three months on the

exploration works carried out. The report is to indicate the results of the exploration in the form of raw data.

In **Finland**, the holder of the prospecting license (claimant) has the right to carry out exploration work on his claim to ascertain the nature and extent of the deposit and, as needed, to use ground outside the claim for roads and power-lines, etc. The exploration work is to be confined to measures necessary for achieving the intention of the exploration. The Mining Act exemplifies exploration work that can be allowed, such as drainage, stripping, exploration, deep-drilling, test ore-dressing and the like. The claimant may not, without the permission of the landowner, utilize extractable minerals in the claim in any way other than as necessary for investigating their usefulness or marketability through analyses, test smelting, etc. Only buildings that are needed in the exploration work may be erected in the claim (usually movable barracks for temporary accommodation). The Ministry of Employment and the Economy may require that a prior permit be obtained for them. No environmental permit is necessary for exploration work unless the activity causes pollution in the claim area.

Of importance is that no exploration work may take place on the claim area until claim compensation has been paid to the landowner. The compensation is related to the claim right as such, and must be paid annually to the landowner relating to an amount per surface unit (€ 10 per hectare). The claimant must deliver proof of payment of the first claim compensation within one year from the issue of the prospecting license to the Ministry of Employment and the Economy. There is no stipulation of exploration work being conducted in order for the claim to be retainable. However, a yearly fee must be paid to the State related to the area of the claim (€ 6.75 per hectare). If the landowner so demands, the claimant must provide financial security for any damage that may occur before exploration can begin. If the parties cannot agree as to the security to be provided, it is to be determined by the county administrative board (*länsstyrelsen*). The prospector or claimant must compensate the landowner and other right holders for damages resulting from the exploration work. The Mining Act contains no specific rules about conflict resolutions in the exploration phase. However, for questions of mining that are matters of precedent or are far-reaching, as well as for other questions referred to in the act, the Ministry is to be assisted by a mining committee (*gruvnämnd*). The mining committee consists of representatives from the mining industry, landowners and the employment and safety sector.

The claimant is to submit a detailed report to the Ministry of Employment and the Economy on the exploration work carried out on the claim area and the result thereof within one year from the relinquishment or loss of the claim right. The claimant must also within one year remove from the claim area any buildings and other property belonging to him at the risk of the property otherwise becoming the property of the landowner without compensation.

In **Ontario**, the prospector must perform assessment work once a claim is staked in order to maintain the claim in good standing. A claim holder, however, is not required to complete any assessment work within the first year of recording a mining claim. In the second and all subsequent years, a minimum of CAD \$ 400 of assessment work per 16 hectares claim unit per year is to be reported until a lease is

obtained. Of importance is that the assessment work performed must be filed by the anniversary date of the recording of the claim. This is crucial, as failure to file by this date may result in the forfeiture of the claim. Ontario does not permit the payment of cash instead of work. The exception to this is when an application for lease is made. The application fee per lease is CAD \$ 75, plus CAD \$ 4,400 for each 16-hectare unit of land. Providing that the first unit of assessment work is filed, the remainder may be paid in cash.

The holder of a mining claim has the right, according to the Mining Act, to enter upon, use and occupy such part or parts thereof as are necessary for the purpose of prospecting and the efficient exploration, development and operation of the mines, mineral and mining rights therein. The right is prior to any subsequent right to the user of the surface rights. The claim holder has the right to carry out a wide range of mineral exploration activities that can be credited for assessment work. However, according to the Mining Act, the claim holder has no right to take, remove or otherwise dispose of any minerals found in, upon or under the mining claim. The Minister according to the Mining Act may give written permission (bulk sampling permit) for the purpose of testing mineral content, with conditions as to mining, milling or refining mineral substances from a mining claim that has not been brought to a lease. A mining claim includes the right to all minerals except sand, gravel and peat. Placer deposits including sand and gravel cannot be disposed of unless the claim holder obtains an aggregate permit according to the Aggregate Resources Act. Certain activities, such as the construction of roads and buildings, may require work permits according to the Public Lands Act or some other act, but this normally is not the case for drilling and mechanical stripping.

The Mining Act requires that the holder of a mining claim notify the surface rights owner (private land) of his intention to perform assessment work on the claim. The claim holder must also confirm to the mining recorder that the holder of the surface rights has been informed. A special form is used both to inform the surface rights owner and to certify that the notice of intention to perform assessment work has been done. Assessment work may not be recorded if this required notice was not given.

A surface rights owner is entitled to compensation according to the Mining Act if any damage occurs to his property because of prospecting, staking out, assessment work or operations on the land. A person occupying the land and who has made improvements thereon also has the right to compensation from the prospector or claim holder if damage occurs. If an agreement cannot be arranged, either party may apply to the Mining and Lands Commissioner for a determination of the amount of compensation after a hearing, or may appeal to the Divisional Court where the amount claimed exceeds CAD \$ 1,000. Mineral prospectors can be required to provide financial security for compensation to the surface owner. The Commissioner may issue an order to that effect and may prohibit the prospector from carrying out further prospecting, staking or work until it is paid.

In **Western Australia**, a prospecting licence and an exploration licence authorise or give the holder a right to enter upon land for the purpose of prospecting minerals, using employees and contractors and such vehicles, machinery and equipment as may be necessary or expedient. A mining tenement granted in respect

of private land also confers a right of way. The right of way must be marked clearly on a map that must be lodged with the mining registrar. The licences permit prospecting and exploration for minerals and the undertaking of operations and works necessary for that purpose, including digging pits, trenches and holes, sinking bores and tunnelling. A prospecting or exploration licence holder may excavate, extract or remove earth, soil, rock, stone, fluid or mineral bearing substances not exceeding a prescribed amount (500 tonnes for a prospecting licence and 1000 tonnes for an exploration licence). A prospecting licence and exploration licence give the holder the right to prospect and explore for all minerals contained within the land except for iron ore. The State controls the mining of iron (historically regulated through State agreements). Every prospecting licence and exploration licence granted on Crown land contains a reservation in favour of the Crown to take rock, stone, clay, sand or gravel for any public purpose. Certain physical exploration work requires a programme of work to be approved if it involves ground disturbing activities or the clearing of native vegetation. Stringent conditions are applied in sensitive areas under the Environmental Protection Act.

Granted prospecting licences and exploration licences are subject to a prescribed minimum annual expenditure commitment. The holder is not personally required to spend; the requirement is to expend or cause to be expended. A report on operations on mining tenements must be lodged at the Department of Mines and Petroleum covering all work done and money expended on the tenement area. The report must be filed within 60 days of the anniversary date of the commencement of the term of the licence. The expenditure required for a prospecting licence is not less than AUD \$ 40 per hectare per year with a minimum of AUD \$ 2,000 per year (2005). For an exploration licence, the expenditure required is AUD \$ 10,000 for one block, AUD \$ 15,000 for two blocks and AUD \$ 20,000 for more than two blocks. Failure to file an operation report is an offence and may expose the licence to forfeiture. A technical report (mineral exploration report) must also be submitted annually to the Department. This report is to contain data where samples are taken, technique used, etc. and must related to exploration activities stated in the operation report.

Any person or the Department of Mines and Petroleum may apply to the warden for the forfeiture of a prospecting licence or exploration licence for the failure to comply with expenditure conditions. This can be done yearly, and in the case of an exploration licence, the application of forfeiture must be heard in open court. The system of complaints enables the industry to be self-regulating to a large degree.

As mentioned earlier, written consent or an agreement from the owner and occupier of private land must be given before a mining tenement can be granted for surface rights. Compensation must be paid or agreed upon before mining (including exploration) can take place on the surface (or to a depth of 30 metres). The compensation is to include compensation for being deprived of the possession of the surface or any part of the surface of the private land and for damage thereon. Compensation is not payable for the value of any minerals since the Crown owns the minerals. However, in order to obtain consent, the sums payable may be high. If there is a lack of agreement, the Warden's court upon an application will determine the amount of compensation.

Comments: Rights conferred for exploration activities to some extent are mentioned in the mining acts. However, as highlighted in Chapter Two, further rights might be mentioned or listed in the regulations, for instance, as in Ontario when it comes to assessment work. As previously discussed, more and more conditions, restrictions and endorsements are being placed on the granting instrument or permits. It seems to be a tendency to limit the rights conferred, and instead demand additional permits for building roads and temporary buildings. This has been the case in Sweden. Ontario and Finland have faced problems with erected buildings being used for summer cottages and therefore have strengthened the mining acts to prevent misuse of mining claims. It is clear that a major concern in all the countries/states compared is informing or notifying landowners before exploration takes place. In Finland, the landowner also receives some compensation for the claim right as such in addition to compensation for damages as regulated in all the countries/states compared. In Western Australia, the landowner can use his right of veto to force an increase in the amount of compensation. Important features of the systems in Ontario and Western Australia are the annual obligations of assessment work and expenditure commitments. In Sweden and Finland, no such requirements exist. However, after the expiry of the exploration rights, technical reports must be handed in within a certain time limit.

Transferability and Cancellation

Table 14. The Transfer of Exploration Rights.

<u>Country/State</u>	<u>Possibilities of Transfer</u>	<u>Restrictions/Conditions</u>
Sweden	Yes (Exploration permit)	Permission from the Chief Mining Inspector provided that the transferee does not lack the possibilities or intention of accomplishing an appropriate exploration. Application for permission is to be in writing.
Finland	Yes (Claim right)	Report of transfer is to be in writing and reported within 60 days to the Ministry of Employment and the Economy for entry in the mining register. The claimant has the right to transfer his claim right to another person eligible to claim. The transfer and the recipient approval thereof must be recorded in the prospecting license.
Ontario	Yes (Claim)	Not restricted but must be transferred by instruments in writing. However, after an application for lease has been made with respect to the mining claim, the Minister's written consent is needed.
Western Australia	Yes (Prospecting and exploration Licence)	In general no restrictions but the transfer must be applied for (registered)

Table 15. Circumstances for Cancellation of Exploration Rights (examples).

Sweden	An exploration permit may be revoked if the permit holder does not fulfil his obligations under the Minerals Act, or as set out in conditions attached to the permit, or if the permit holder violates conditions attached to permission for exploration work, or if other exceptional reasons exist
Finland	If a claimant omits within the stipulated time paying the landowner compensation or a fee (according to several sections), upon the report of the landowner, and after having heard the claimant, the Ministry of Employment and the Economy may declare the claim right forfeited If the claim fee (to State) has not been paid within 2 months from the stipulated time, the claim right may be declared forfeited
Ontario	Not fulfilling the staking regulations (dispute cannot be filed after one year from the recording of the claim or after the first unit of assessment work has been filed) Failure to file assessment work by the anniversary date of the recording of the claim By using mining claim for non-mineral purpose
Western Australia	Non-compliance with the requirements of marking out a prospecting licence Not complying with expenditure conditions

Comments: When it comes to cancellation, it is interesting to note that the Finnish Mining act attaches great weight to paying compensation to the landowner within the stipulated time. Carrying out yearly assessment work or expenditure commitments is a crucial activity in order to retain exploration rights in Ontario and Western Australia.

8.2.3 Development and Exploitation Phase

In the event prospecting and exploration activities lead to the discovery of a mineral occurrence, additional investigations may take place. Consequently, additional rights are needed to develop and exploit the deposit. The comparison in this segment is related to mine development activities and structured to address the following issues: Transition and Application, Grant, Size of Area and Duration, Rights and Obligations, Transferable and Cancellation and Expire of Mining Rights. To facilitate the comparison, no distinction is made between the terms “development” and “exploitation”. The expiry of mining rights is normally linked to the reclamation phase of a mine and hence reclamation is included here with a focus on responsibilities when mining rights expire.

Transition and Application

The period prior to mining taking place is referred as the transition period. A key issue for investors in exploration is the linkage between the exploration and exploitation stages. This link usually is associated with security of tenure as mentioned in Chapter Two. Stipulating a right of priority for the holder of the exploration right to continue with the development stage is a solution found in **Sweden** and **Finland**. In **Ontario**, an automatic right or statutory right to go over to a lease applies upon the claim holder fulfilling the obligations under the Mining Act. However, as mentioned earlier, the mining right is one thing and its operation another. In **Western Australia**, the right to convert to a mining lease is no longer automatic, as discussed further below.

In **Sweden**, the connection between the exploration permit and exploitation concession was a topic of major interest when the Minerals Act was being drafted. If two or more parties apply for a concession, the examining authority cannot pass over the holder of an exploration permit if the general requirements are satisfied and the permit holder is suitable per se. The obtainment of an exploitation concession is conditional on a deposit being found that is likely to be viable (ore indication). The provisions of the Minerals Act are designed to create certainty for serious mining enterprises, while retaining the basic purpose of the concession procedure.

In **Finland**, it is possible to apply for a grant of a mining concession at the same time as applying for a prospecting license. However, the claimant must then already be able to show that the deposit can be exploited. The application must otherwise be done during the period of validity of the prospecting license at the risk of the claim right otherwise being forfeited.

In **Ontario**, a claim can be converted to a mining lease any time after the first unit of assessment work has been completed, and if necessary, approved. The lease application must be accompanied by a land survey (if required), an agreement indicating that surface rights compensation has been paid, and the required fee.

In **Western Australia**, the holder of a prospecting or exploration licence has the right to apply for a mining lease and have it granted (conversion). The right to convert to a mining lease has long not been dependent on whether an economic ore body has been identified. As a consequence, most leases are still held for exploration purposes, not mining purposes, since if exploration was not completed within the limited term, it was also necessary to convert to a mining lease. However, due to changes in legislation in 2006, mining leases will now only be granted when there is a reasonable prospect of mining taking place. It is not necessary to hold a prospecting or exploration licence before applying for a mining lease. If an application for a lease is not made by the holder of a licence, the Minister may grant or refuse the mining lease as he thinks fit, irrespective of whether the applicant has complied with the provisions of the Mining Act. Discretion is then absolute. A holder of a prospecting licence and an exploration licence (or mining lease) may apply for a retention licence. A retention licence is used to retain ground containing a mineral resource that has been identified as a result of exploration activity and for economic reasons, it may not currently be possible to exploit the deposit. However,

after changes to legislation in 2006, it is possible to get a retention status, which means that a new title such as a retention licence will not be required.

In **Sweden**, an application for an exploitation concession must be in writing and be submitted to the Chief Mining Inspector. It must be accompanied by an environmental impact assessment (EIA). The application is to include the particulars of the applicant, the concession minerals to which the application refers and the area affected. The applicant is to furthermore indicate which properties are affected by the application, as well as right holders other than the landowner known to the applicant. The application is also to make clear whether there are impediments to exploitation and exploration on account of protected areas, or areas which should be protected since land use may be prevented or impeded by mining operations. The application is furthermore to give an account of the impact of the planned activity on public and private interests, and of the measures needed to protect these interests. The applicant documents are to be accompanied by a map and a description of the area concerned, an account of the results that the exploration work has led to and geological and geophysical maps compiled to assess whether a viable deposit has been found. A programme of operation for the activity planned is also to be submitted. The applicant is to pay an application fee for each concession area. An insufficient application can be rejected. The applicant does not have to meet any special requirements of suitability in order to obtain a concession, except with respect to oil and gas.

The Chief Mining Inspector is to send notice of the application and the environmental impact assessment to the property owners affected and to other right holders identified by the Minerals Act. In addition, an official announcement must be made. Objections to the application are to be submitted in writing to the Chief Mining Inspector within a certain specified period of at least four weeks. Any objections to the environmental impact assessment are to be made to the county administrative board within the same period of time.

If two or more parties have applied for a concession for the same area, and more than one party may come into question meeting the ore indication requirements, the party having an exploration permit in the area is to have priority. If none of the applicants has an exploration permit, the party who has carried out appropriate exploration work in the area is to have priority. Otherwise, the party first to file an application has priority (first come, first served or considered). If several applications were received on the same date, the applicants are equally entitled to a share in the concession.

In **Finland**, an application for a mining concession is to be made in writing to the Ministry of Employment and the Economy. An application for a mining concession must include a map showing the location and borders of the claim, the concession area applied for, a detailed report on exploration activities conducted on the claim and the results, a report on the factors determining the extent and form of the concession area (plan for utilization of the mining concession). The claimant must hereby show that mining minerals appear in the claim in such quantities and in such form that the deposit can probably be exploited. The applicant is to furthermore indicate the names and addresses of the persons whose rights are affected by the concession as well as real properties concerned. If the mining project is of a certain

size due to the amount extracted (minimum 550 000 tons yearly) or area affected (exceeding 25 hectares), or otherwise has significant harmful consequences on the environment (case by case basis), the application must be accompanied by an environmental impact assessment. An environmental impact assessment is always needed for the mining or extraction of uranium. A statement or investigation from the municipality about possibilities of expressing views about the concession (land use aspects) must also be attached to the application. An insufficient application can be rejected. The landowners should also be informed about mining concessions. Views and opinions must be sent to the Ministry within four weeks.

In **Ontario**, the claim holder must specify if the lease application will be for mining rights only or for both surface and mining rights. Surface rights cannot be obtained if they are not in the Crown, unless they are acquired by some other means, such as a purchase from the owner or by an agreement. Such arrangements, however, are not subject to mining legislation. However, as already mentioned, the holder of a mining claim and a lessee of mining rights have a statutory right to enter upon private lands and use them for mining purposes provided that compensation for damage is paid. Consequently, an application for a mining lease concerning mining rights must contain an agreement with the surface rights owner (if not the Crown) and information about whether surface rights compensation (for damage, etc.) if any has been paid.

In **Western Australia**, an application for a mining lease follows the application process earlier discussed in respect of a prospecting licence and exploration licence. Before a mining lease can be granted, the application must consequently meet the requirements of the Native Title Act. An application for a mining lease must be accompanied by a mining proposal (notice of intent) or “statement” outlining mining intentions, and a mineralisation report prepared by a qualified person. An applicant for a mining lease must also lodge a standard security applicable to every mining tenement. A mining lease can also be sought for surface rights, however, consent is then required from the owner or occupier of land. The land the subject of a mining lease must be marked out (by pegging). Notice of the mining lease application must be served on all interested parties and a copy of the application must be advertised in a newspaper. A copy of the application must be affixed to the datum post on the ground. A person wishing to object to an application for a mining lease must lodge a notice of objection within 35 days and may then have an opportunity to be heard by the warden.

Where more than one application for a lease is made in respect of the same land, the applicant who first complied with the initial requirements has the right in priority over any other applicant. Compliance with initial requirements in case of a mining lease is marking out in the prescribed manner.

Comments: In all the countries/states compared except for Ontario, the applicant or claimant must show a mineralisation report indicating significant mineralization, or alternatively, as in Western Australia, show that the intention is to commence productive mining operations. Sweden is the only country where an environmental impact assessment always must be attached to an application of a mining concession. The environmental regulations are hereby woven into the process to obtain mineral rights as addressed in Chapter Two.

Grant

In **Sweden**, a concession is to be granted if a deposit has been found that probably can be utilized on an economic basis, and the location and nature of the deposit do not make it inappropriate to grant the applicant the concession. In the grant of exploitation concessions, provisions concerning the use of land and water areas under the Environmental Code are also to be examined, i.e., a statement in the matter of land use is also to be submitted in the concessions proceedings. This means that an examination must also be made of the compatibility of mining operations with other surrounding land use. The Chief Mining Inspector must consult the county administrative boards in such matters. A concession may not be contrary to a detailed plan or area regulations according to the building and planning act. A concession, once granted, is binding in the matter of land use and is not to be re-examined in the course of subsequent environmental reviews. The environmental impact assessment is an essential and important part of the guidance data for this balancing of interests. The Chief Mining Inspector finally decides whether the content of an application and an environmental impact assessment can be accepted as guidance data for a decision.

The county administrative board's assessment of the land use issue in normal instances ought to govern the Chief Mining Inspector's decision-making. If the Chief Mining Inspector is of a different opinion, the question of an exploitation concession can be referred to the government for adjudication. This is also the case where the concession question is considered particularly important from a public viewpoint. The overall balance of interests then ultimately becomes a political issue.

Such conditions as are necessary for the protection of public interests or private rights are to be attached to the concession. Conditions can, for instance, include annual consultations with Sami villages to minimise the disruptive effects of mining activity on reindeer husbandry. The grant of an exploitation concession is to be communicated to the property owners and other right holders concerned, pursuant to the Minerals Act, and to the municipality and county administrative board. Appeals against exploitation concessions are lodged with the government. Appeal can be made by claim holders identified in the Minerals Act, the municipality where the exploitation concession is located and certain environmentalist organisations.

An important feature of the Swedish and Finnish systems is that land has to be designated for exploitation above ground as well as for areas needed for the mining operations, e.g. plants, roads, buildings and structures for leading water from the mine, etc. This is done in Sweden by a special land designation proceeding (*markanvisningsförrättning*) conducted by the Chief Mining Inspector who can be assisted by two executive officials (*god man*). As part of the proceeding, a meeting is normally held with the applicant and other legal interested parties. Important to stress is that the grant of a concession and the designation of land always constitute two different kinds of transactions. However, the right to utilise land is founded on the possession of an exploitation concession. Accordingly, the land designation proceeding may not be concluded before the concession award has acquired force of law. The land designation proceeding takes place at the request of the concession holder by a special application to the Mining Inspectorate. If the concession holder,

the property owners and other right holders, e.g. reindeer-herding right holders, are agreed on the land that is necessary, land is to be designated in accordance with their agreement. If no agreement is reached, the Chief Mining Inspector is to designate the land necessary.

The designation of land does not render the concession holder the owner of the land, but gives him a strong right of disposition over the land, known as mining title (*gruvrätt*). A land designation order (decision) must indicate the purpose of the land designation as well as the extent and location of the area, and any compensatory amounts payable on account of damages. The boundaries of designation land are to be staked out and marked to the extent necessary. This is done by the cadastral or surveying authorities (*lantmäteriet*). The land designation order must be issued at a meeting or at a time set by the authority. The order or decision can be appealed in the Property Court (*fastighetsdomstolen*). Access to designated land, however, is possible regardless of any appeal but then a security for liability in compensation must be furnished. In practice, it is common for the land within the concession area to be purchased freehold, in which case the contracts of sale form the basis of agreement in the actual land designation proceeding.

In **Finland**, if the claimant can demonstrate that mining minerals appear in the claim in such quantities and in such form that the deposit can probably be exploited, he can acquire the right to exploit the minerals through a concession. Provided the application meets the requirements of the Mining Act, the Ministry of Employment and the Economy is to make a decision on the granting of the mining concession. If a concession application concerns a project where an environmental impact assessment is required, the Ministry of Employment and the Economy may not grant the mining concession until the assessment has been received together with a report or statement from the regional environmental centres. These authorities also decide if an environmental impact assessment is necessary in the first place. The decision on the mining concession is to be communicated to the survey office (*lantmäteribrån*) that is to execute the mining concession (*utmålsläggning*) and appoint a survey engineer.

The concession may not be made greater or extended over other land than as determined by the Ministry of Employment and the Economy in its decision on the execution of concession. At the execution, the executors are to establish the mining district (*utmål*) or area and auxiliary districts (*hjälpområden*) or areas necessary for the exploitation. If only part of the concession is going to be used for surface mining according to the applicant, this part is to be specifically established as a working area (*nyttjoområde*). When it comes to the execution of a concession, it is important that detailed plans or local master plans with legal consequences in the area must be taken into consideration so that their implementation is not obstructed.

The execution held by the executive engineer and two executive officials (*god man*) is partly carried out through one or several meetings with the applicant and legal interested parties such as landowners. The concession holder is to pay compensation for the right to exploit the working area of the concession and the auxiliary area. If the parties cannot agree on the compensation, this is to be determined by the executors. The districts or areas are to be marked out. At the final meeting of execution, the executive engineer is to inform the parties about the decision. Any party dissatisfied with a compensation decision made at the execution

of a concession has the right to seek an alteration thereto before the Land Court (*jorrdomstolen*). As soon as the execution has been legally accepted, at least in those parts that do not concern compensation, the Ministry is to issue a mining certificate (*utmålsstedel*) as proof of the mining right.

Nothing is mentioned in the Mining Act about including conditions in the concession. However, information or reminders concerning special provisions in the Mining Act are generally added.

In **Ontario**, a survey of the property (claim) must be carried out by a licensed Ontario Land Surveyor before a lease is granted in an unsurveyed territory. If after a survey it turns out that the area of a mining claim exceeds 15 % of the prescribed size, the holder will be required to perform additional assessment work or pay a fee instead of the work. The Minister of Natural Resources grants the lease. Of importance is that any mining lease issued is to be used solely for the purpose of the mining industry. Every lease contains reservations or conditions of different kinds, e.g., for public roads, highways, railways, navigable waters and fishing. Every lease of Crown land is to also contain a reservation to the Crown of all timber and trees standing. Deposits of sand, gravel and peat are normally reserved for the Crown in a mining lease containing surface rights as well. If surface rights are owned by the province and available, the chances of obtaining them for mining are good. If there is a town site, then the lands would not be open without the consent of the Minister.

According to the Mining Act, it is possible for the Mining Commissioner, after a hearing of interested parties, to grant the rights and easements required for mining development, for instance, when surface rights cannot be obtained. Several rights are mentioned in the act, such as the right to open and construct ditches and tunnels, to discharge or drain water, the right of way or passage through or over any land or water, to transmit electricity, to deposit tailings, etc. Compensation must be paid to the surface owner and will be determined by the Mining Commissioner if the parties cannot agree. Rights granted can be appealed to the Divisional Court.

In **Western Australia**, a mining lease will only be approved where the Director Geological Survey considers that there is a reasonable prospect that the mineralisation identified will result in a mining operation. If there is no significant mineralisation indicated, the Minister is not to grant a mining lease. Alternatively, if the mining proposal is acceptable and meets acceptable environmental practices (assessed by the environmental officer at the Department of Mines and Petroleum), a grant of a lease is normally supported. Written approval of the mining proposal is not a prerequisite for the granting of a mining lease. The land that is to be marked out has to be surveyed as well. However, it is not necessary for a survey to be carried out before the granting of lease. Standard conditions and endorsements are placed on mining leases as well. The leaseholder must, for instance, comply with expenditure conditions and prevent or reduce injury on land.

In Western Australia, it is important to stress that certain mining tenements are specifically used for infrastructure connected to mining operations. For the purpose of using land for operating machinery, depositing or treating tailings, and so on, a general purpose lease is used. A general purpose lease is limited to a depth of 15 metres below the lowest part of the natural surface or such other depth that may be specified in grant and it must be marked out. It is not necessary to hold a mining

lease to obtain a general purpose lease. A miscellaneous licence is used for purposes such as a road, pipeline and water as set out in the Mining Act. Miscellaneous licences must be marked out and may be granted over all other mining tenements and are linked to mining operations. Underlying holders may object if the proposed purpose is likely to interfere with their mining activities.

Size of Area and Duration

Table 16. Size of Area and Duration.

Country/State	Mineral Rights	Area	Duration
Sweden	Exploitation concession	The area is to be determined on the basis of what is appropriate taking into account the deposit, the purpose of the concession and other circumstances	25 years + 10 years at a time. Shorter periods may be decided if the applicant so requests.
Finland	Mining concession	A concession may not be larger than the type and size of the deposit reasonably requires. The concession must consist of continuous territory in practical size and form including at least part of the claim area	Once mining operation has started, a mining concession remains valid for as long as operation are ongoing. Otherwise the concession is valid for a period 5 up to 10 years even if the concessionary does not start the mining operations
Ontario	Mining lease	Ranges from 16 ha to variable	21 years renewable
Western Australia	Mining lease	An area sufficient for mining and associated operations ¹⁰⁴³	21 years renewable

Rights and Obligations

In order to render mineral rights operational, further demands are placed on the miner in all the countries/states compared. The need of detailed plans or programs of

¹⁰⁴³ A mining lease used to have a maximum area of 1,000 hectares. However, there now are no restrictions but the Minister has the discretion to grant a mining lease for a lesser area than applied for.

proposed development, environmental impact assessments and environmental permits can here be mentioned. A distinction can be made whether certain documents are needed already in the granting process of the “mining rights” or later, but before mining operation starts. The approach in Ontario is an example of the latter. Of importance to mention is the ambition of a one-stop shop or one lead agency or the concept of a streamlined approval process as used in Western Australia. In Ontario, certain Mineral Development Officers at the Ministry of Northern Development and Mines have the function according to the Mining Act to co-ordinate and expedite communication between the mining industry, the public and affected ministries and agencies of Government of Ontario. Due to shared responsibilities when it comes to environmental legislation between Province/Federation and State/Commonwealth levels in Ontario and Western Australia, a coordination of the approval process also becomes an issue between these two levels. In Ontario, for instance, environmental protection acts and environmental assessment acts apply on both the provincial and federal levels.

In **Sweden**, the construction and operation of a mine always requires a permit for environmental hazardous activity and a permit for water operations under the Environmental Code. Permits for both these activities are considered in a single process. The manner in which after-treatment is to take place has an important bearing on assessment of the permissibility of an activity. Permission for activities, such as mining, involving the landfilling of waste, may not be granted before financial security has been provided as laid down in the Environmental Code. For the purpose of exploitation, the prerequisites of a mining project are defined through the environmental assessment (*miljöprövning*) made by the environmental court (*miljöödomstolen*). An application for an environmental permit must be accompanied by an environmental impact assessment. An environmental permit normally includes a number of conditions for the activity, concerning matters such as atmospheric emissions, noise and other disturbances. An environmental permit can be appealed in the Environmental Supreme Court. Appeals may be lodged by the parties affected by the decision, the county administrative board, the municipality and certain environmental organisations. The Environmental Supreme Court may issue an enforcement order whereby operations may commence despite the judgment not yet having acquired force of law. For structures proposed within the mining area, a building permit is needed under the Planning and Building Act.

An exploitation concession (together with land designation and environmental permit) entitles the holder to carry out exploration work and exploitation above or below ground within the concession area. Exploitation and exploration work may refer to minerals included in the concession. Other concession minerals and other mineral substances, such as landowner minerals, may also be extracted if necessary in order for the work to proceed in an appropriate manner. Extraction of other substances is permissible only when technically necessary. The Minerals Act prescribes that exploitation may not be conducted in such a way as to jeopardise future extraction of any concession mineral, nor may it be conducted so as to entail evident mismanagement of minerals in other respects.

An exploitation concession does not entail any obligation on the concession holder's part to commence operations. In principle, it is the concession holder who

decides whether exploitation is to take place. The concession holder must pay compensation for damage and encroachment resulting from utilisation of land. Compensation issues are normally dealt with in connection with the land designation proceeding as earlier mentioned. If a property is affected in such a way that current land use cannot continue, the concession holder is obliged to purchase the whole property or parts of it if so requested by the property owner. During exploitation, the concession holder has to pay mineral compensation to the affected landowners and the state. The mineral compensation is to equal 2/1000 of the estimated value of the quantity of concession mineral extracted and brought to the surface during the year. The calculation is to be based on the amount of ore brought to the surface, its concession mineral content and the average price of the mineral during the year or a corresponding value. Three-quarters of the compensation accrues to property owners within the concession area and one-quarter to the state. The structure of compensation is geared to the fact of concession minerals being present on the property and compensation being payable for the use of the property for mining operations. No mineral compensation is payable to lessees or reindeer-herding right holders. This is also the case if the land within the concession area has been bought (freehold).

The concession holder must compile a chart of mines in operation, showing the boreholes in concession area that are of lasting value. A mine may not be closed without permission before all mining works have been surveyed and charted.

In **Finland**, essential activities causing a risk for pollution require an environmental permit according to the Environmental Protection Act. The construction and operation of a mine is listed as operations that always require a permit. The Environmental Permit Authorities (*miljö tillståndsverken*) process the permit applications of project. Most substantial environmental impacts require permits both under the Water Act and Waste Act under the Environmental Protection Act in a single licence system. A permit application is to give all relevant information concerning the project, its location, impacts and proposed measures to prevent damage and risks. The EIA report, if required, must be presented to the permit authority as well. Environmental permit decisions can be appealed to the Administrative Court of Vaasa (*Vasa förvaltningsdomstol*). The court's decision may be further appealed to the Supreme Administrative Court. Appeals may be lodged by the parties affected by the decision, the authorities responsible for protecting public interests, municipalities and certain environmental organisations. For structures proposed within the mining area, a building permit is needed under the Land Use and Building Act.

When the mining certificate has been issued (after execution of the mining concession), and the environmental permit has been granted and the general operation plan for mining has been approved, the concession holder has the right to process and utilize all of the extractable minerals within the concession. This right also includes waste remaining from previous excavations within the mining district. In addition to the extractable minerals, the concession holder may also utilize other materials from the rock and soil to the extent required for the running of the mining operation. The concession holder must, according to the Mining Act, take care that

future use of the mine and mining is not endangered or hindered and that obvious wastefulness does not arise in the utilization of the extractable minerals.

No obligation applies to conduct mining operations immediately. However, if a concession holder within the 5 to 10 year period from the appropriation of the mining district as stated in the mining certificate, has not commenced mining, the Ministry of Employment and the Economy, after having heard the concession holder, is to order that mining be commenced within 2 years at the risk of the concession right otherwise being declared forfeit. The concession holder must pay compensation (for damage and encroachment) for the right to exploit the working area of the concession and the auxiliary area. Compensation issues are normally dealt with in connection with the execution of the mining concession as earlier mentioned. The concession holder must pay the landowners an annual concession fee (*utmålsavgift*) for his concession right. The fee is related to a sum per hectare. The concession holder is to also for the extractable minerals utilized pay a reasonable mining fee or extraction charge (*brytningsavgift*) for each calendar year to the landowner. The mining fee is determined by the Ministry of Employment and the Economy after hearing the Mining Committee. Consideration must hereby be given to the value of the extractable minerals, their serviceability, marketing and other factors affecting the economic value of the extractable minerals. However, in the event the land area affected by a concession is bought (freehold) by the operator, as can be the case, no annual concession fee or mining fee will be paid. The concession holder is to annually notify the Ministry of Employment and the Economy about the mining activities and lodge a report on the extent, type and result of work.

In **Ontario**, before an advanced exploration or mining can take place, the Mining Act requires a closure plan being filed with the Director of Mine Rehabilitation at the Ministry of Northern Development, Mines and Forestry. A closure plan means a plan to rehabilitate a site or mine hazard. Part of the closure plan is a financial assurance for carrying out the rehabilitation work. Within the system of closure plan is also a public consultation process of notifying and providing information to parties directly or indirectly affected by a mining project, for instance, consultation with aboriginal peoples. As a first step in the process, a filing of a closure plan and a notice of project status has to be submitted to the Ministry of Northern Development, Mines and Forestry at least 45 days before the proposed date of commencement of mine production. Public notice is required for all projects subjected to a closure plan. The minimum requirements for public notice are a newspaper notice and holding a public information session in the area where the project is located. After public notice has been given, the proponent or developer is to file the closure plan and submit it for approval with the Director. The Director can return the closure plan for re-filing if it does not address all the prescribed reporting requirements. Rehabilitation of mine hazards must be completed in accordance with the standards of the Mine Rehabilitation Code of Ontario.¹⁰⁴⁴

An acceptance of a closure plan does not replace or alter the statutory requirements of other approvals or permits. A miner must therefore review applicable legislation and their obligations during the earliest planning stages for the

¹⁰⁴⁴ Schedule 1 of Ontario Regulation 240/00.

project. The two most important environmental approvals established under the Environmental Protection Act are the general environmental approval, and the part of the act that deals with waste management systems and facilities. In Ontario, an environmental assessment will not routinely be required for a mining project. However, there are many things that might trigger such an assessment on both the provincial and federal levels. Harmful effects on fish habitats (federal), or if the project is specifically designated (provincial level), can be mentioned here. It is possible for a concerned party to request a designation under the Ontario Environmental Assessment Act for an unresolved issue. The Minister of the Environment decides whether to designate the project. The Ministry of Northern Development, Mines and Forestry's mineral development officer will coordinate an inter-governmental meeting with the miner to identify all required permits.

The holder of a mining lease enjoys all the rights that the holder of a claim enjoys, and in addition, unrestricted rights to exploit and produce the minerals. No assessment work is required after a claim has been brought to a lease. The only duty imposed is that the lessee must pay an annual rent for the lease. The Crown as landlord charges this rent and the Ministry of Northern Development, Mines and Forestry is responsible for its collection. Every operator of a mine must send in an annual report about the nature of the work performed and sums spent on mining and exploration, the quantity and value of mineral production, etc. A mining tax also has to be paid annually. All ores and minerals removed from any lands acquired under the Mining Act must be treated and refined in Canada, unless the Lieutenant Governor in Council issues an exemption.

In **Western Australia**, no mine development and construction activity can commence before the party has submitted a mining proposal for assessment and approval. The Mining Act defines a mining proposal as a document containing information about proposed mining operations in a form required by the guidelines. Although no specific information about the content of a mining proposal is found in the Mining Act and its regulations, its form is specified by guidelines. In addition to the natural environment, the mining proposal or plan is expected to identify key stakeholders in the project and consult with them. All mining proposals are to be made available to the public. Mining proposals require the tenement holder to submit environmental bonds prior to approval. Bonds are calculated according to the type and area of disturbance on each tenement.

An approval of the mining proposal does not mean that all obligations are fulfilled. The Environmental Protection Act requires work approvals for construction and a licence for operation. Water allocation approvals, such as ground water licences, are required under the Rights in Water and Irrigation Act. In environmentally sensitive areas, a permit for clearing native vegetation is necessary. A building licence might be needed before commencing with the construction of a building according to the Planning and Development Act. If a mining project will have a significant effect on the environment, the Environmental Protection Authority might require a formal environmental impact assessment under the Environmental Protection Act. A public review period is also connected to this process where the public can raise issues that have to be addressed by the party in question.

A mining lease entitles the holder to do all acts and things necessary to effectively carry out mining operations. However, prior approval is required for any proposed use of mechanised equipment on a mining lease. The lessee is entitled to use, occupy and enjoy the land for mining purposes and exclude others from the same activities. The lessee owns all minerals lawfully mined from the land under the mining lease. A mining lease does not permit the mining of iron ore unless the Minister has given his permission. The Minister may also restrict a mining lease to certain minerals then specify in the lease if it is in the public interest to do so.

The lessee must pay rents for the lease. A royalty is also payable when any minerals are produced or obtained. The leaseholder must comply with expenditure conditions unless an exemption is granted. Reporting requirements also apply for a lease. The lessee must report details of all minerals of economic significance discovered (applies also to exploration and prospecting licences).

Comments: In all the countries/states compared, the ambition is to facilitate the environmental permit procedure by coordination in different ways. In Sweden and Finland, permits are considered in a single process. The integral approach mentioned in Chapter Two is used here, where the environmental legislation and enforcement institutions such as environmental agencies are common to all kind of operations. In Ontario and Western Australia, a mixture of the sector and integral approach can be seen. The closure plan regulated in the Mining Act in Ontario and the mining proposal in Western Australia places responsibilities as to these areas on the ministry or department of mines. However, several other ministries and authorities on different levels are responsible when it comes to environmental permits of different kinds. Interesting to note is that a party according to the Mining Act in Ontario has the possibility to choose to submit the closure plan either by filing or using the certification process or request approval.¹⁰⁴⁵

The mining acts in the countries/states compared express in general terms that mining can take place with support of the “mining rights”. No activities other than mining are allowed and the holder of the mining right has a right to exclude others from the same activity. In Sweden and Finland, further conditions for the operation of the mineral rights are found in the decisions concerning the mining concessions. In Ontario and Western Australia, the lease document is of importance. Paying rent for the lease is an essential obligation for a lessee in Ontario and Western Australia. In Sweden and Finland, compensation for the extracted minerals has to be paid to the landowners and in Finland, a yearly concession fee also has to be paid as well. Further obligations are put on the miner in connection with environmental permits in all countries.

¹⁰⁴⁵ Approval is not done in practice.

Transferability and Cancellation

Table 17. Transfer of Mining Rights.

Country/State	Possibilities of Transfer	Restrictions/Conditions
Sweden	Yes (Exploitation concession)	Permission from the Chief Mining Inspector. An exploitation concession may be transferred if the transferee can prove that he is suitable to undertake exploitation of the deposit and the location and nature of the deposit do not make it inappropriate to grant the applicant the concession. Application for permission is to be in writing.
Finland	Yes (Mining concession)	The concession holder is entitled to transfer his concession rights to another eligible person or company. A note of transfer must then be added to the original mining certificate. Report of transfer is to be in writing and reported within 60 days to the Ministry of Employment and the Economy for entry in the mining register.
Ontario	Yes (Mining lease)	Written consent from the Ministry is needed. Without consent the transaction is not considered valid.
Western Australia	Yes (Mining lease)	Written consent of the Minister or of an officer of the Department of Mines and Petroleum is required

Table 18. Circumstances for Cancellation of Mining Rights (examples).

Sweden	An exploitation concession may be revoked if the concession holder fails to fulfil his obligations under the Minerals Act or as set out in conditions attached to the concession or if other exceptional reasons exist.
Finland	If a concession holder omits paying the landowner compensation or fees (according to several sections) within the stipulated time, the Ministry of Employment and the Economy may declare the concession right forfeit upon report of the landowner and after having heard the concession holder.
Ontario	Where payment of the rental under a lease is in arrears for two years or more, the lease may be terminated by an instrument in writing.
Western Australia	The Minister may void a mining lease for a breach of the covenant to pay rent or royalty or a breach of a condition to which the lease is subject. Non-compliance with the expenditure conditions.

Comments: In Ontario, there is no automatic forfeiture when it comes to leases in contrast to claims. Third parties cannot challenge the lease. The lessee has hereby a more “protected” right and enjoys security of tenure. In Western Australia, on the other hand, mining leases are not treated differently than other type of tenements such as an exploration licence. Similar to an exploration licence, any person may apply to the warden for forfeiture also of a mining lease, where there is non-compliance with expenditure conditions.

Expiry of Mining Rights

The table below gives examples from the mining acts about cessation or expiry of mining rights and their effect. However, in order to assess the “full effects” of a cessation as to responsibilities between different parties (State, miner, landowner, municipality, etc.), environmental law, safety regulations, real property law or land law and legislation concerning administration of public lands (in Ontario and Western Australia) needs to be taken into account.

In Sweden and Finland, the mine operator often owns the land where the mining concession is located (properties acquired under a contract of sale). However, if this is not the case, the area of the mining concession reverts to the original owner (landowner) when the mining rights expire as discussed below.

Table 19. *Effects of Cessation of Mining (examples).*

Sweden	<ul style="list-style-type: none"> • The concession holder loses the land title conferred by the land designation (unless the properties concerned have been acquired under a contract of sale) • Landowner recovers his right of disposal over the land • The concession holder loses his title to buildings which belonged to the mine • The concession holder loses his title to extracted minerals that have not been brought to the surface or taken in hand. Minerals taken charge of may remain within the area for the benefit of the concession holder for not more than two years • When the concession holder has fulfilled his obligations of after-work liabilities the responsibility for supervision of the mine area passes to the state
Finland	<ul style="list-style-type: none"> • If a concession holder relinquishes his right, the landowner is to regain the concession district and auxiliary area without compensation • The concession holder may, for a period of 2 years, leave behind on the place the produce of the mine and any buildings and equipment erected in the area. If these are not removed within the said time, they are to go without compensation to the landowner • The concession holder upon relinquishing the concession is to without delay bring the district into the condition as required by public safety
Ontario	<ul style="list-style-type: none"> • A lessee is liable for rehabilitation of the land until the day two years after expiry and until the land reverts back to the Crown • When a lease is terminated, the lease and underlying claims cease and the lands are vested in the Crown • The Lands are not open for prospecting, staking out or lease until a date fixed by the Deputy Minister
Western Australia	<ul style="list-style-type: none"> • When a mining tenement expires the owner of the land to which the mining tenement related may take possession of the land • When a mining tenement expires, the tenement holder must within 3 months remove any building, plant, machinery or other equipment affixed to land or not • Where the former holder leaves and does not remove any tailings or other mining products upon the land these products become the property of the Crown after 3 months of the expiration

As a complement to this chapter some clarifications and summings-up are made in the next and final chapter.

9. Final Analysis and Reflections

This chapter presents some reflections on issues relevant to the study as a whole. The chapter is divided into five parts: Process and System Overview, Obligations and Conflict Resolution, Further Issues to Consider, Interesting Solutions and Future Research.

9.1 Process and System Overview

Mining legislation and its application has been the focus of this study in addition to other legislation significant for the exercise of mineral rights. The objective of this thesis has been to clarify the processes for the legal systems concerning the granting or possession of mineral rights, with a focus on certain developed countries and how such rights may be exercised, given opposing interests with regard to land use, ownership and land tenure. The previous comparative chapter dealt with the application, granting and possession of mineral rights related to the development of a mine. Several processes were thereby identified. In addition, the content and extent of the different rights and obligations related to exploration and exploitation activities were examined, as well as land areas open or closed for the exercise of these rights. The main result of this study is that brought out by the comparison.

It is appropriate in this final chapter to summarize, and in a broad sense outline a simplified process overview of the granting or possession of mineral rights for the countries/states compared, as given in tables 20 and 21 below.

Table 20 Mineral rights – Process overview in Sweden and Finland (simplified)

SWEDEN	FINLAND
<ul style="list-style-type: none"> • Application for an exploration permit • Exploration permit (grant) • Plan of operation and economic security • Exercising of exploration rights • Application for an exploitation concession (EIA included) • Exploitation concession (if a deposit has been found that can be economically utilized and EIA accepted) • Proceeding for designation of land (based on concession) • Environmental permit • Building permit • Exercising of mining rights 	<ul style="list-style-type: none"> • Application for a claim right • Prospecting licence and claim right (grant) • Claim compensation to landowner • Exercising of exploration rights • Application for a mining concession (EIA included if project of certain size or with significant harmful consequences) • Mining concession (if a deposit has been found that can be economically utilized and EIA accepted if required) Execution of the mining concession (establishment of the mining district) • Issuing of the mining certificate • Environmental permit • Building permit • Exercising of mining rights

Table 21 Mineral rights – Process overview in Ontario and Western Australia (simplified)

ONTARIO	WESTERN AUSTRALIA
<ul style="list-style-type: none"> • Staking a claim • Register of claim (mining recorder) • Exercising of exploration rights (assessment work fulfilled annually) • Application for a mining lease • Survey of the claim (in an unsurveyed territory) • Grant of lease (automatic right if first unit of assessment work has been completed) • Closure plan filed together with a financial assurance • Environmental approvals (both Provincial and Federal) • Building permit • Exercising of mining rights 	<ul style="list-style-type: none"> • Marking out the tenement (prospecting licence, PL) or map staking (exploration licence, EL) • Application lodged at the mining register • Copy of application affixed to the datum post (PL) • Security lodged • Work program (EL) • Grant of prospecting or exploration licence • Exercising of exploration rights • Application for a mining lease together with a mining proposal and mineral report • Grant of lease (if significant mineralisation) • Environmental approvals (both State and Commonwealth) • Building permit • Exercising of mining rights

After having conducted this study, it can be concluded that the legal processes in fact are very complex, particularly when land-use and environmental legislation is taken into account. Furthermore, in Ontario and Western Australia, federal legislation applies as well. The important issue, of providing information to legally interested parties, as dealt with in Chapter Two, complicates the processes further. The connecting rights of appeal, to lodge objections and to file disputes, are also essential. In Western Australia, the whole process is also highly affected by the existence of native claims for applied tenements on Crown land. The management of Native title is a process in itself, even if it in practise is dealt with in connection with the granting of the different tenements (e.g. prospecting licence, exploration licence and so on). The complexity of the processes in all the countries/states compared is affected by the type of land at issue (sensitive land or not, etc.) and by what type of activities are taking place (impact on the environment). Important to stress is that mines in operation are normally founded on several rights granted at different times. To try to “dig deeper” and investigate some mines (case studies) from each country/state compared in respect of the development of mineral rights, an earlier ambition of the present author that was abandoned, would probably result in a chaotic muddle of arrows if a flowchart was invoked.

In relation to the simplified process overview above, it is interesting to note that in Western Australia, several activities must take place before exploration rights can be granted (native title and possibilities to lodge objections). This means that the

granting process takes time. In Ontario, on the other hand, an exclusive exploration right (claim) can be obtained without too much delay, as it lies in the system of staking and subsequent registration. A point to consider in the process is whether obligations and requirements are set out earlier in the process, e.g., in connection with the application or the grant or later in connection with the exercise of the rights, or if a mixture is used. In this context, it is also important to reflect on the content of the mineral right, or more specifically, the mineral title. Does it alone confer any rights in addition to the important exclusiveness? For instance, in Sweden after amendments in 2005, the plan of operation became the main document in order to explore, instead of, as previously, the exploration permit. Indeed, there seems to be a tendency in all the countries/states compared to limit or weaken exploration rights conferred by introducing the need for further permits, for example, in order to build roads, clear native vegetation, or carry out ground disturbing activities.

When it comes to the basic principles or systems for regulating mineral rights as dealt with in Chapter Two, all the countries/states compared have strong elements of the claim system in their mining or minerals acts. This becomes evident when several miners claim the same area (competing situation), as preference is given to the discoverer or claimant. Sweden is the only country where the minerals act is based on the concession system, even if the influence of the claim system is considerable. The landownership system is valid for minerals not regulated in the mining acts. Of importance is the type of minerals but also, as in Ontario and Western Australia, that the minerals in question are privately owned or that certain minerals occur on private land and therefore are not regulated by the mining act (Western Australia).

Table 22 Mineral rights – System overview (simplified)

Country/state	Landownership	Claim	Concession
Sweden	Minerals <u>not</u> listed in the Minerals Act (minerals controlled by the owner of the land)		Concession minerals, e.g., minerals listed in the Minerals Act
Finland	Minerals <u>not</u> listed in the Mining Act (minerals controlled by the owner of the land)	Claimable minerals, e.g., minerals listed in the Mining Act	
Ontario	Private mineral rights owned by the person who owns the surface (mining and surface rights owned by the same owner)	Minerals defined in the Mining Act and owned by the Crown	
Western Australia	Private minerals owned by the owner of the land (sub-surface and surface rights owned by the same owner)	Minerals defined in the Mining Act and owned by the Crown	

A feature of a “pure” claim system is an unconditional right to search for and exploit minerals on land that is claimable (without a claim impediment). For instance, according to the former Swedish 1974 Mining Act (*gruvlagen*), which was based on the claim system, no claims could be combined with conditions.¹⁰⁴⁶ This was changed with the current Minerals Act that is now based on a mixture of the claim and the concession systems. The idea behind this change was to combine the simplicity of the claim system with the possibilities of the concession system concerning societal influence. In a “pure” concession system, conditions have been a common part of the permit or concession in order to balance different interests and improve control from a societal point of view. Irrespective of the dominating system, claim or concession, the exploration permit (Sweden), the claim right (Finland), the prospecting and exploration licence (Western Australia) are combined with conditions of different kinds. In Ontario though, with a system of possession and subsequent registration (no grant), demands are evident in connection with the staking requirements, and later, when it comes to how assessment work should be carried out in order to keep the claim. As for a prospecting licence in Western Australia, the land must be marked out by pegging, which means that the details of marking procedures must initially be followed. The frequent use of conditions related to environmental permits probably has had an effect on the increased use of conditions related to the granting of mineral rights, not in the least as many conditions/obligations are related to the protection of the environment.

9.2 Obligations and Conflict Resolution

Many of the provisions in the mining acts deal with the relations between miners, between the State and miners, and between miners and surface rights owners or landowners. However, due to the development of environmental legislation and more specifically, the evolution of sustainable development, a complex situation with competing interests related to humans and land is a reality faced in all the mining countries/states compared. Certain obligations and conditions connected to the granting and exercising of mineral rights is summarized below in order to visualize how a balance between different interests can be achieved, as well as identify some of the tools for conflict resolution. The work of creating a good balance between different interests is perhaps the most demanding task for legislators, and therefore worthy of some final attention.

In the four tables below showing Sweden/Finland and Ontario/Western Australia, different obligations and conditions for the grant and exercise of mineral rights have been listed and schematically categorized. Examples of conflict resolutions connected to the exercise of mineral rights have also been included. The division of obligations connected to the State, the environment and the landowner, is a simplification with the purpose of identifying how certain interests are dealt with in the different legal systems. All the obligations are in fact related to the State and requirements of fulfilling the laws. However, certain obligations and conditions are

¹⁰⁴⁶ Delin (1996) p. 70

more linked to economic undertakings, and the performance and reporting of exploration and exploitation activities (State). Others are related to minimize negative impacts on the environment (environment). Many obligations are designed to facilitate the co-operation between the miner and the private landowner or surface rights owner. The tables are separated into mineral rights for exploration (tables 23 and 24), and mineral rights for mining (tables 25 and 26).

Table 23 Mineral rights for exploration – Simplified categorization of obligations (examples) and items of conflict resolution in Sweden and Finland

Right	Obligation/State	Obligation/Environment	Obligation/Landowner	Conflict Resolution
Sweden (exploration permit)	<ul style="list-style-type: none"> *Annual fees related to area and type of mineral *Report on the exploration work within three months after cessation 	<ul style="list-style-type: none"> *The exploration permit must include conditions if necessary for the protection of private and public interests *Certain activities require environmental permits 	<ul style="list-style-type: none"> *The Chief Mining Inspector sends a notice of the application and a copy of decision *A plan of operation must be served before exploration takes place *Security for compensation is required and compensation for damage must be paid 	<ul style="list-style-type: none"> *The Chief Mining Inspector is to consider a dispute if requested to do so. *Appeals are lodged with the General Administrative Court and/or Land Court
Finland (claim right)	<ul style="list-style-type: none"> *Annual fees related to area *Report on the exploration work within a year from relinquishment 	<ul style="list-style-type: none"> *Environmental conditions are added to the decision about the claim right *No environmental permit is needed for exploration work unless the activity causes pollution of the claim area 	<ul style="list-style-type: none"> * The Ministry of Employment and the Economy sends a notice of the application and a copy of decision *Claim compensation must be paid annually before exploration takes place *Security for compensation is required if demanded and compensation for damage must be paid 	<ul style="list-style-type: none"> *The Mining Act contains no specific rules in the exploration phase *For matters of principle or that are far-reaching the Ministry is to be assisted by a mining committee *Appeals are lodged to the Supreme Administrative Court and/or Land Court

In Sweden and Finland, the demands on the applicant to identify issues of conflicting interests and areas of certain protection are of importance, which in turn gives a basis for some conditions connected to the permit or grant. The granting authorities consequently have less responsibility as to identifying these conflicting fields. As to obligations towards the landowner, the issue of providing information about the application and the decision is very important. In Sweden, the landowner has the possibility to react on and respond to exploration activities through the plan of operation. In Finland, annual claim compensation (a fixed fee per hectare) must be paid before exploration takes place.

Table 24 Mineral rights for exploration - Simplified categorization of obligations (examples) and items of conflict resolution in Ontario and Western Australia

Right	Obligation/ State	Obligation/ Environment	Obligation/ Landowner	Conflict Resolution
Ontario (claim)	<ul style="list-style-type: none"> *Compliance with the staking requirements *A staked claim must be recorded within the time set (31 days) *Annual units of assessment work must be performed 	<ul style="list-style-type: none"> *Bulk permit for testing mineral content *Work permits for building roads *Closure plan for advanced activities 	<ul style="list-style-type: none"> *Notification prior to staking is advisable *Notification must be done before assessment work *Compensation must be paid for damage *Security for compensation can be required 	<ul style="list-style-type: none"> *Linked to the staking procedure is a system of self-regulation *No dispute is accepted after a claim has been on record for more than one year * Disputes are heard in the first instance by the mining recorder *Compensation if damage may be decided by the Mining and Lands Commissioner if no agreement. *A decision of the Commissioner may be appealed to the Divisional Court

Cont. Table 24 Mineral rights for exploration - Simplified categorization of obligations (examples) and items of conflict resolution in Ontario and Western Australia

Right	Obligation/ State	Obligation/ Environment	Obligation/ Landowner	Conflict Resolution
Western Australia (prospecting licence, exploration licence)	<ul style="list-style-type: none"> *Compliance with the staking requirements (PL) *Security must be lodged *Work program (EL) *Minimum annual expenditure commitment *Annual report on operations *Technical report 	<ul style="list-style-type: none"> *Conditions are imposed on the grants e.g. prevent injury *Work program for ground disturbing activities *In sensitive areas stringent conditions (EPA) 	<ul style="list-style-type: none"> *Copy of application must be sent *Landowner's consent in writing (within a depth of 30 metres from surface) *Compensation must be paid for damage 	<ul style="list-style-type: none"> *Linked to the staking procedure is a system of self-regulation *Objections of application can be lodged and accepted by the Mining Register. Parties must be heard by the Warden in open court *If default of agreement with landowner about compensation, the Warden's court upon an application will determine the compensation *Certain decisions of Warden's Court may be appealed to the Supreme Court

In Ontario and Western Australia, staking and marking out requirements (prospecting licence) must be initially followed. Compliance with these requirements (quite detailed) is vital. Annual work has to be done on the claims or money spent. In Ontario it is important that landowners are notified about assessment work. In Western Australia, the landowner's consent in writing is required (farmer's veto).

Table 25 Mineral rights for mining – Simplified categorization of obligations (examples) and items of conflict resolution in Sweden and Finland

Right	Obligation/State	Obligation/Environment	Obligation/Land Owner	Conflict Resolution
Sweden (exploitation concession)	<ul style="list-style-type: none"> *Application fee for each concession area *Viable deposit has to be indicated *Mineral compensation has to be paid, 0.05 % of value of extracted minerals *Land must be designated for exploitation above ground 	<ul style="list-style-type: none"> *An application must be accompanied by an EIA *A concession is to have the conditions necessary for the protection of public and private interests *Environmental permit and security for remediation work is required 	<ul style="list-style-type: none"> *The Chief Mining Inspector sends a notice of the application and a copy of the decision *Compensation must be paid for any damage and encroachment *Mineral compensation has to be paid, 0.15 % of the value of extracted minerals yearly 	<ul style="list-style-type: none"> *The Chief Mining Inspector may adjudicate a dispute if requested to do so *Disputes can be dealt with within the proceeding of land designation *Appeals are lodged with the Government and/or Land Court
Finland (mining concession)	<ul style="list-style-type: none"> *Application fee for each concession area *Viable deposit has to be indicated *The mining concession must be executed to establish a mining district 	<ul style="list-style-type: none"> *An EIA is required if mining project is of certain size or has significant harmful consequences *Reminders or conditions are generally added in the grant of the concession *Environmental permit and security for remediation work is required 	<ul style="list-style-type: none"> *Ministry of Employment and the Economy sends a notice of the application and a copy of the decision *Compensation must be paid for damage and encroachment *An annual concession fee must be paid 	<ul style="list-style-type: none"> *For matters of principle or that are far-reaching, the Ministry is to be assisted by a mining committee *Disputes can be dealt with within the procedure of execution of the mining district *Appeals are lodged with the Supreme Administrative Court and/or Land Court

In Sweden and Finland, no royalty, if understood as a tax on the grant of the right to extract the resource, has to be paid. In both countries, however, some compensation for extracted minerals has to be paid to the affected landowners, and in Sweden, a

minor part of the value of extracted minerals has to be paid to the State as well. In this context, it is essential to point out that in both countries, nothing is mentioned in the legislation (mining acts or land codes) about the ownership of mineral resources. For any ownership of minerals falling under the mineral acts, however, it is sufficient to note that the landowner's rights are circumscribed where the right of disposal over such minerals is concerned. In Sweden, the approval of an Environmental Impact Assessment is woven into the process of obtaining a mineral right, which also applies in Finland if such an assessment is required.

Table 26 Mineral rights for mining – Simplified categorization of obligations (examples) and items of conflict resolution in Ontario and Western Australia

Right	Obligation/ State	Obligation/ Environment	Obligation/ Land Owner	Conflict Resolution
Ontario (lease)	<ul style="list-style-type: none"> *An annual rent for the lease must be paid *Annual report about the nature of work performed and sums spent *Payment of an annual mining tax *A claim must be surveyed (in unsurveyed areas) *All ores and minerals must be treated and defined in Canada 	<ul style="list-style-type: none"> *Every lease contains reservations or conditions *Closure plan must be filed and financial assurance *Environmental approvals *An EIA might be required (not routinely) 	<ul style="list-style-type: none"> *If surface rights are privately owned agreements must be made *Within the system of closure plan a public consultation process is connected 	<ul style="list-style-type: none"> *Mining Commissioner can after hearing by interested parties grant rights and easements required for mining development for instance when surface rights cannot be obtained
Western Australia (mining lease)	<ul style="list-style-type: none"> *Significant mineralisation must be indicated and reporting requirements *Payment of annual rent for lease *Minimum annual expenditure commitment *Mining lease must be surveyed *Royalty on operations 	<ul style="list-style-type: none"> *Every lease contains standard conditions and endorsements *Prior approval for mechanised equipment *Mining proposal and environmental bonds must be submitted *Environmental permit *EIA might be required (not routinely) 	<ul style="list-style-type: none"> *If surface rights are privately owned, written agreements must be made (farmer's veto) *Within the system of mining proposal, a public consultation process is included 	<ul style="list-style-type: none"> *Any person may apply to the warden for forfeiture where there is non-compliance with expenditure conditions *If default of agreement about compensation, the Warden's court will determine the compensation

In Ontario and Western Australia, large areas of land are held in public ownership. The government or Crown can here be seen as a landowner in addition to an owner of the minerals. Even if the mining acts are the major sources for regulating mining leases (administrative regimes), with obligations and so on, it is probably correct to say that the government in a way acts as a contractor with demands on payment for land (rent) and minerals (royalty or tax). The closure plan in Ontario is linked to the operation of a mine and not to the granting of a lease. In Western Australia though, a mining proposal must be submitted before a mining lease can be granted.

In summary, the different types of obligations related to the State are essential to consider as unfulfilled mineral rights can be lost or not granted in the first place. The work and/or expenditure commitments are important features of the systems in Ontario and Western Australia as well as compliance with the staking requirements. In Sweden and Finland, main attention has been given to the reporting requirements (providing information). In all the countries/states compared except Ontario, no mining concession or lease can be granted unless a significant or viable mineralisation has been indicated. Of main importance according to all the mining acts is that where mineral rights have been granted or staked, the miner may only use the land for exploration or exploitation activities.

If more emphasis has been given historically to the obligations relating to obtaining and retaining mineral rights, more and more obligations are now concerned with how the rights should be exercised given the surrounding environment, including safety and technical requirements. When it comes to exploration activities, and whether land is open, an important point is that by imposing specific conditions, more land can probably be accessible (open with conditions). For instance, it has been claimed that the system of “free entry” is less flexible in this way (open or not). Interesting to mention though is that in Ontario, in order to allow mineral exploration in areas not open to claim staking, an exploration licence of occupation (ELO) can be granted. This is a licence with specific terms and conditions set by the Minister on a case-by-case basis. With the current modernization of the Mining Act in Ontario, voices have been raised about introducing permit requirements for each stage of prospecting, exploration and mining, in order to ensure that environmental, aboriginal and other public interests are considered.¹⁰⁴⁷ The proposed legislation from April 2009 included a graduated regulatory scheme for early exploration, with exploration plans required for lower impact activities and exploration permits required for activities with higher impact.¹⁰⁴⁸

Many conditions have the function of endorsements and reminders of important legislation to consider, e.g., the conditions, such as “classical” restrictions in mining acts and other environmental conditions, apply even if the conditions are not imposed in grants. When it comes to exploitation, the imposing of conditions connected to mining leases, concessions, environmental permits and so on have a strong effect on how the mining activities can be carried out. In addition, acceptable environmental impact assessments, closure plans and mining proposals have to be

¹⁰⁴⁷ See Canadian Institute for Environmental Law and Policy and Ecojustice (2008).

¹⁰⁴⁸ See Bill 173, Mining Amendment Act, 2009.

submitted. An interesting question is whether the imposition of too many conditions and thereby obligations can lead to that the mineral rights in practise cannot be exercised at all, or exercised with difficulty. In such a case, it can be relevant to ask, for instance, whether exploration rights can be refused due to many claim impediments within the applied area, or by the fact that the area cannot be explored or mined in an appropriate manner. The Minerals Act in Sweden contains provisions about the possibility of carrying out exploration activities in a suitable way so that a viable deposit can be indicated.

9.3 Further Issues to Consider

- In terms of balancing interests, in which direction is the pendulum swinging?

Legislation plays an important role in redefining the rights and obligations of different legally interested parties. The balance of power between the investor (miner), the State and other interest-holders, such as landowners, is constantly shifting. The perception of a good balance between several interests today is heavily linked to the view of sustainable development, which in turn may not be conceived of as a single concept. The difficulties of creating a good balance are confirmed by the countries/states compared. Since this study was commenced in 2003, both Sweden and Western Australia have made major amendments to their mining acts. Significant changes came partly into force in Ontario in October 2009. A new mining act will likely come into force in Finland in January 2011.

In **Sweden**, the 1991 Minerals Act was amended in 2005 in order to create a better balance between the interest of exploiting minerals and the needs of private landowners. New provisions were then introduced about improved information to interested parties, a plan of operation connected to exploration activities and mineral compensation to affected landowners.

In **Finland**, the landowner's position was never weakened in the same way as in Sweden historically. Even so, during recent years Finland has had a debate on the shortcomings of landowner rights similar to the one that took place in Sweden before the latest changes came into force. The 1965 Mining Act was amended several times during the years from 1991-2000. Many of those changes were caused by the development within the environmental field, e.g., for instance due to new environmental and planning/land-use legislation. The aim and purpose of the current modernization of the mining act are to have legislation that secures exploration and mining, on one hand, and also takes into consideration the environment, the rights of citizens and landowners, as well as local interests, on the other hand. More detailed provisions are proposed about the rights and obligations of the claimant, with more far-reaching after-treatment duties. The granting or permitting processes according to the proposal are to be founded upon a more comprehensive examination.

When Sweden and Finland became members in the European Union in the 1990s, both countries made it easier for foreign companies to engage in mineral

prospecting. In Sweden, the State discontinued its own prospecting activities and the “Crown share” of newly open mines was abolished.

In **Ontario**, important provisions about requirements for mine closure and reclamation were introduced by the 1990 Mining Act. The Mining Act has periodically been amended throughout the 20th century. The current modernization and review addresses, for instance, issues of reducing potential conflicts between property owners (surface rights owners) and the prospectors or mining companies. Proposed amendments linked to these matters include the introduction of map staking in southern Ontario, broadening the list of specific lands that are not open to claim staking, and enhancing requirements for notification when private land is involved. The amended legislation would withdraw mining rights (land removed and closed for staking) in southern Ontario where surface rights are privately held. In Northern Ontario, private landowners can apply for such withdrawals but granting withdrawals would first consider criteria such as mineral potential.¹⁰⁴⁹ Other important proposals are about ensuring appropriate consultation and accommodation of First Nation and Métis communities.

In **Western Australia**, significant changes to the 1978 Mining Act came into force in 2006. The amendments were made to ensure an effective operation of the legislation. For instance, a requirement was added that mining leases can only be applied for when significant mineralisation has been discovered. Historically, most leases had been held for exploration purposes. Another new provision was that the use of mechanised equipment must be approved in advance, and a clarification was made as to the role of the warden and the warden’s court.

To answer the question as to in which direction the pendulum is swinging in the countries/states compared, it is probably accurate to say that it is swinging towards the interests of the landowner or surface rights owner, and the protection of the environment.¹⁰⁵⁰ However, it is also evident that all the countries/states compared want to maintain a vigorous mining industry. In Western Australia, private landowners still have strong rights (farmers’ veto), which originate from a former dependence upon the agricultural industry. In addition to the interests of the landowner, more awareness towards different local interests (municipalities, citizens, environmental organizations, etc.), as stated in Chapter Two, can be recognized. More attention should be given in the mining acts as to a definition of legally interested parties. In Sweden and Finland, references are made to the cadastral legislation as to closer interpretation. The often-broader definition of stakeholders in environmental legislation should be reflected on as a comparison. In both Ontario and Western Australia, work is being carried out to improve the ways for

¹⁰⁴⁹ See Bill 173, Mining Amendment Act, 2009.

Lands with private surface rights, and Crown mineral rights that are open for staking, comprise only a minor part of Ontario’s landmass.

¹⁰⁵⁰ The strength of different interests reflects the trends of the society as a whole. For instance, in both Sweden and Finland, the protection of the ownership right is strengthened. A significant example is the widening and changes of the interpretation of the fundamental rights for the citizen, protection of the environment, etc., in Finnish constitutional law. In Sweden, an official report for more generous rules for compensation in the Swedish Expropriation Act has been presented during 2008 (SOU 2008:99).

involvement of the aboriginal communities in the different stages of the mining sequence. The role of the state as regulator and provider of information within the mineral field is of main importance, in addition to providing the administrative regime of the mining legislation. The elements of state control and intervention might be strengthened in many mining countries in line with an increased competition for mineral resources. However, without investments from the private sector, it will be difficult to find the resources in the first place, which calls for legislation that provides fair enough conditions for carrying out exploration and mining activities.

- Are the mining acts consistent with land-use and environmental laws in terms of the processes for the granting and possession of mineral rights?

This question is very difficult to answer and as such, would require a more detailed and focused study. Although it probably is no exaggeration to say that the interaction between the mining acts and land-use and environmental laws could be improved. A relevant reflection in this context is also how mining is viewed. Rules can be enforced with an aim to facilitate or obstruct exploration and mining activities.¹⁰⁵¹ Historically, mining acts have mainly dealt with how rights are obtained. However, it is obvious that the possibility of exercising these rights depends today on the whole range of other legislation, even if the mining acts can be more or less comprehensive. In addition to this, the content of these rights can be more or less pronounced in the mining acts or the regulations as dealt with in the comparison. It is my conclusion that more can be done in all the countries/states compared to emphasize the difference between the mineral title (claim, exploration permit, etc.) and the exercise of the right. This is very important since it can affect the way the public and legally interested parties look upon exploration and mining activities. Certain of the confusing elements or contradictions in the legal systems for mineral development are probably caused by how the obtainment of an exclusive mineral right is expressed in the mining acts. It is easy to get a first impression that as long as conditions are fulfilled according to the mining acts, the right to explore and mine will also be evident when it comes to their exercise. This is not strange, since the mining acts in the countries/states compared carry, to a greater or lesser extent, the “spirit” of the free entry system and claim system. Due to the above mentioned reasons, land also seems to be more open for exploration than it actually is when only mining acts are analysed.

Double approval processes as resulting from several pieces of legislation are something for the legislator to consider. If they lead to different outcomes, this definitely is a problem that needs to be addressed. Predictable legal systems in this connection are important to consider. To minimize the risk of contradictions, it

¹⁰⁵¹ Relating to the issue of how mining or any other environmental disturbing activities are viewed, it can be mentioned that an official report on the approval processes connected to the expansion of wind power has been presented in Sweden during 2008 (SOU 2008:86). The aim is to achieve a more simplified approval process, which means less processes and shorter administrative dealings.

probably would be prudent to overhaul mining legislation at certain time intervals, as a complement to frequent amendments, as is currently taking place in Finland and Ontario.

One of the aims of the Swedish 1991 Minerals Act was to achieve co-ordination between minerals legislation and the Natural Resources Act. The purpose of the latter act, today part of the Environmental Code, was to balance the exploitation of a resource, such as minerals, against the value of instead preserving it. With the earlier mineral legislation, mining rights had been quite easy to obtain in Sweden, which then was changed. The balance of interests and the decision that mining is an acceptable land use is taken when the question of an exploitation concession is considered.

Critical to the co-ordination of comprehensive land use planning and mineral exploitation is geological information that might not be known until late in the exploration process. In order to declare deposits of national interest, as in Sweden, or preserve areas with significant mineral potential, as in Ontario and Western Australia, knowledge is needed about the mineral resource. A main purpose of a mining act from a State point of view is to improve knowledge of the bedrock. As for aggregates, like sand and gravel, information is normally more easily available, which means better possibilities for such deposits to be integrated within the land use planning, and not only judged on a case-by-case basis.

Environmental protection is being increasingly included in mining legislation as mentioned in Chapter Two. In this context, the question of how comprehensive mining acts should be can be raised, which in turn might partly be dependent on the approach chosen in the national environmental management, as also dealt with in Chapter Two. In Ontario and Western Australia, the scale of exploration and mining is considerable, and the mining administrative regime is large, as opposed to the situation in Sweden and Finland. Certain environmental assessments connected to exploration and stages before mining (closure plan and mining proposal) in Ontario and Western Australia are left with the mining authorities. In this context, it should be mentioned that Sweden has long had a well-established “tradition” of consultation (*samråd*) between different authorities, which can also be seen in the legal framework governing mineral exploration and exploitation. When it comes to the assessment of acceptable exploration activities and mining as a land use, the interaction between the Mining Inspectorate of Sweden and the county administrative boards is of vital importance. All the countries/states compared regulate main matters about environmental protection and land use outside the mining acts. The environmental control and permitting is, on the whole, a responsibility of the environmental authorities. The most important acts within the environmental and land use field should preferably be mentioned and listed in the mining acts so that the legal framework governing mineral development can more easily be grasped. Details on land use and environmental issues specifically related to exploration and mining should be regulated in mining acts or regulations or to some extent in guidelines.¹⁰⁵² Special rules should exist, for example, on how

¹⁰⁵² All the countries/states compared provide guidelines on how exploration activities are to be carried out in sensitive areas.

exploration should be carried out, demands on operation and work plans, and the rehabilitation of land after mining. This does not necessarily mean that the enforcement of these rules should only be a responsibility for the mining authorities. When it comes to assessment work in Ontario, more can be mentioned about environmental considerations, since most of the regulations are concerned with technical aspects. As to administrative law and comprehensive mining legislation, special rules connected to exploration and mining, about informing legally interested parties, notifying rules, details about application and grant should be dealt with in the mining acts and connecting regulations. This is important for reducing uncertainty for any stakeholders involved. The current Finnish Mining Act and regulations are not clear enough in this respect. To cope with these problems, however, the Ministry of Employment and the Economy have provided supplementary directions.

9.4 Interesting Solutions

During this study, many solutions to common or individual problems in the countries/states compared have been identified. Certain examples of resolutions are given below that have caught this author's attention.

From a historical point of view, it is interesting to note that Australia, in each State, has gradually left the system linked to the free miner due to the development of advanced and expensive techniques. In Western Australia, for instance, large exploration titles were introduced with the 1978 Mining Act. The Minister was then given broad discretion in ruling upon applications, and in the event of a grant, in determining the applicable terms and conditions.¹⁰⁵³ Claims no longer exist in Western Australia.

As to conflict resolution, the system of self-regulation connected to the staking or pegging procedure in Ontario and Western Australia leave the main control as to compliance with regulations to the mining industry and its actors. Due to the significant amount of claims, the system serves its purposes. However, the very detailed staking regulations seem old-fashioned, even if the system is fundamental for the prospector line of business. The mining recorder in Ontario has significant powers as to resolving disputes, unlike equivalent officers (mining registrar) in Western Australia. It is interesting to note that the recorder, according to the Mining Act, is directed to adopt "the cheapest and simplest methods of determining the questions arising that afford to all interested parties an adequate opportunity of knowing the issues in the proceedings and of presenting material and making representations on their behalf".¹⁰⁵⁴ The solution of a mining committee (*gruvnämnd*) in Finland with representatives from different interested parties for dealing with certain conflicts appears to be good. A cadastral or executing procedure (*förrättning*) is used in connection with the designation or execution of an exploitation or mining concession in Sweden and Finland, which is a relatively unique solution. In principle, the procedure is characterised by co-operation between

¹⁰⁵³ Forbes and Lang (1987) pp. 7-8.

¹⁰⁵⁴ Ontario Mining Act section 111(1).

the interested parties concerned and the authorised officer conducting the proceeding, together with two trustees if necessary. In Sweden, the Chief Mining Inspector handles the procedure. In Finland, it is dealt with by the cadastral authority (*lantmäteribrån*). The cadastral procedure connected to the allocation of land for mining activities normally includes a meeting of the interested parties, which means that a genuine exchange of information can come about concerning the designation of area, compensatory calculations, etc.

As to making the approval processes more effective, the arrangements with mineral development officers in Ontario is interesting. Their roles, according to the Mining Act, are to co-ordinate and expedite communications between the mining industry, the public and affected ministries and agencies of the Government of Ontario.¹⁰⁵⁵ The work with streamlining the approval process in Western Australia is demanding, and development continues as to a better integration of the processes across government, and more certainty about timelines and requirements.¹⁰⁵⁶ In Sweden and Finland, the integrated environmental permit, including water issues, is of importance as to reducing the number of permitting authorities involved.

In order to avoid conflicts and reduce uncertainty about unclear rights as to any exploration rights conferred, a work plan or plan of operation is a good instrument as long as it does not lead to unnecessary time losses and costs for the prospector or miner. To make the exploration activities more effective, and speed up investigations, a compulsory relinquishment of areas is reasonable, as this keeps down uncertainty about future land use often concerning significant areas. Another alternative is to increase the fees for prolonged exploration rights. The mentioned solutions above are used in Sweden and Western Australia. The possibility used in Ontario, keeping a claim indefinitely as long as work is carried out, can be questioned. However, many claims lapse in practise since assessment work is not carried out.

An agreement is good to use as a complement to a mineral title as to issues of compensation. It is the present author's opinion that landowners or surface rights owners should not be able to veto activities in general since important restrictions as to the protection of private dwellings should apply anyway according to all mining acts compared. It is essential that exploration activities can take place on areas not restricted, irrespective of land ownership. It is notable that landowners (farmers) in Western Australia have made use of their situation of monopoly (veto) to obstruct exploration activities or by receiving an unreasonable amount of compensation. In none of the countries/states compared does a right to explore lead to an automatic right to mine.

A question raised in Chapter One was whether the growth of competition and internationalisation in the mining industry, and global requirements concerning consideration for the environment and human rights, are leading towards a swifter convergence of regulation between mining countries than has occurred in previous decades. This study seems to confirm that this is the case, not in the least since the

¹⁰⁵⁵ Ontario Mining Act section 153(1).

¹⁰⁵⁶ See Auditor General for Western Australia (2008).

pendulum is swinging towards the interests of landowners and other interested parties and the protection of the environment.

9.5 Future Research

Even if this study has been mainly devoted to mining acts and the systems of granting mineral rights, some space has also been given to the interaction between mining acts and environmental legislation. When studying the literature within the field of mineral rights, it is apparent that most of the attention is given to the tenure aspect. However, the granting authorities provide an increased amount of information on how the mineral rights should be exercised with regards to the environment, landowners, etc. It could be fruitful to make a more detailed and focused study about mining acts and their consistency with environmental and land use legislation in the future. In this context, it would be of interest to study not only the mineral rights, but also the rights needed for the operation of a mine, such as roads, power transmission lines, water and other facilities linked to the infrastructure. Sometimes these rights can be regulated in the mining acts, such as is the case with the general purpose lease and a miscellaneous licence in Western Australia. In Sweden and Finland, these types of rights are regulated in the land and cadastral legislation. In Ontario, certain rights for infrastructure can be granted as rights and easements according to the Mining Act.

During this study, information has been garnered as to how aggregates (sand, gravel and crushed stone) are treated. Aggregates often belong to the land title holder, but can also be a Crown resource. One of the major differences between the aggregates sector and the metallic mineral sector is that aggregate production tends to occur in close proximity to major urban areas. With increasing restrictions on where and when such deposits can be exploited, it is necessary to seek new resources, either in environmentally and socially non-sensitive areas, or on, or close to, land scheduled for urban development. It would be interesting to “dig deeper” into the land use considerations connected to the development of a sand and gravel pit. What about assessments as to demands (local, regional, national), possibilities of substitute material, effects on the environment and animal life and flora, preservation of future reserves etc.?

This study has not dealt with the important time aspect concerning the length of time between the initiations of exploration for the deposit to the start of commercial production. Sometimes a time limit is set in legislation, for instance with regards to the registration of claims. The granting authorities may have ambitions to handle applications within a certain time frame in order to contribute to a more effective mining industry. By studying several cases of mining development projects from each country/state compared, indications about the time aspect can be received. In this context, a deeper mapping of different permits would be a natural thing to do.

Carrying out comparative studies is demanding, and therefore an optimistic view of the task is a must. The use of the “mining sequence” as a neutral framework or model to describe the different legal systems has been a reasonable tool for this study. Not in the least since the mining acts often are structured in a chronological

order as to the rights needed. It would be very interesting to study legal systems other than the systems included in Western law. A closer look on the legal systems for exploration and mining in South Africa and Mongolia could be challenging as to balances of interests and demands for nationalization. In South Africa, new mining legislation from 2002 aimed at expanding opportunities for historically disadvantaged persons (South Africans) to benefit from mineral and petroleum resources. In Mongolia, mining agreements have been delayed due to struggles about creating a framework for foreign investment.

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The reference list below is subdivided into two different categories. The first is “books, articles and papers” and the other is “governmental publications, other documents and websites”. The references belonging to the latter category have been sorted according to country, province or state of comparison in order to facilitate for the reader. Certain websites are included as these sites have been important sources for retrieving country specific information related to the issues dealt with in this study.

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