

**Appendix A:**  
**GUIDE TO DEVELOPMENT OF A MINE  
FEASIBILITY STUDY**  
**NEW BRUNSWICK**

**New  Brunswick**

**NB DEPARTMENT OF NATURAL RESOURCES  
MINERALS, POLICY AND PLANNING  
MINERALS AND PETROLEUM DEVELOPMENT BRANCH**

## Recommended Table of Contents of a Mine Feasibility Study

<b>INTRODUCTION .....</b>	<b>1</b>
<b>REQUIRED ELEMENTS .....</b>	<b>1</b>
Executive Summary .....	1
1. Company Information .....	1
2. Site Location .....	1
2.1 Geographical Setting .....	1
2.2 Land Use.....	1
2.3 Access .....	1
2.4 Ownership.....	1
3. Geology .....	1
3.1 Geological Setting.....	1
3.2 Description of the Ore Deposit.....	2
3.3 Summary of Exploration .....	2
3.4 Metallurgical and Pilot Plant Testing.....	2
4. Mine Development.....	2
4.1 Land Use Requirements .....	2
4.2 Mining Method and Plan .....	2
4.3 Infrastructure.....	2
4.4 Processing Method and Products.....	2
4.5 Power Requirements .....	2
4.6 Transportation.....	2
4.7 Environmental Protection.....	2
4.8 Mine Closure and Reclamation .....	2
5. Economics .....	2
5.1 Marketing Studies and Forecasts .....	2
5.2 Labour Requirements .....	2
5.3 Capital and Operating Costs.....	2
5.4 Financial Security Requirements.....	3
5.5 Revenue Projections .....	3
5.6 Socioeconomic Impact.....	3
5.7 Financial Risks and Sensitivities.....	3
6. Project Schedule and Milestones .....	3

## INTRODUCTION

The user is directed to the NB Mining Approval Guide for direction on the approval process and the submission of the Mine Feasibility Report (MFR) and the Mining and Reclamation Plan (MRP).

The following is intended as a guide to the creation of a MFR as per the legislative requirements of the province of New Brunswick (Mining Act M-14.1, General Regulation 86-98). It should be noted that in legislation the MRP forms a part of the Feasibility Report but for practical purposes these documents are recommended to be kept separate.

It should be noted that there will be overlap of information in the two documents as each document is expected to stand on its own in terms of completeness for its intended purpose.

This suggested general format will assist the proponent to develop a thorough and consistent document that will be acceptable to the Minerals and Petroleum Development Branch (MPDB) and streamline the mine approval process.

It is the responsibility of the project proponent to investigate and obtain all the data necessary to formulate the MFR.

---

## REQUIRED ELEMENTS

### Executive Summary

A summary of the document is required and should highlight an assessment of the feasibility of the project according to sound engineering, environmental, financial and accounting practices.

---

### 1. Company Information

Background information regarding full legal name of the company, location, and a brief synopsis of company experience is required.

#### 1.1 Company Address

A full mailing address and also the physical address of the company or principals shall be provided.

#### 1.2 Principal Contacts

A full list of all contacts is to be provided including the Owner(s) or President, CEO, and key project officers.

## 2. Site Location

Provide the geographic location and a description of the project location. As a minimum a large-scale (preferably 1:12,500) map should be provided showing the site location and major geographical features.

#### 2.1 Geographical Setting

Describe the topography, setting (whether lowland, upland, plateau, etc.), population density, vicinity of urbanization, etc.

#### 2.2 Land Use

Describe the existing land use for the mine site as well as the adjacent land uses.

#### 2.3 Access

Explain the existing methods of access to the site and the current state of transportation routes.

#### 2.4 Ownership

State the NB Parcel Identifier (PID) number for the property in question and who the registered owner is. Provide a property map for the area identifying adjacent properties and landowners.

## 3. Geology

Describe the general geology of the project area and include reasonable scale maps.

#### 3.1 Geological Setting

Provide a general description of the geology of surficial sediments. Include description of soil type and characteristics, thickness, and areal extent. A topographic profile should be provided showing the pre-development elevations and major landforms.

### 3.2 Description of Ore Deposit

Describe the ore to be mined and include details on its location, physical characteristics, mineralogy, and structure. Provide ore grade estimates according to best industry practice (NI-43-101).

### 3.3 Summary of Exploration

Provide an up to date summary of exploration done on the property including exploration and development expenses.

### 3.4 Processing Analysis

Provide general information on any bulk sampling work, metallurgical analysis, specification tests and/or pilot plant test for processing.

## 4. **Mine Development**

The Mine and Reclamation Plan should provide the details on mine development however, for the feasibility report the emphasis should be on the financial aspects of development.

### 4.1 Land Use Requirements

Indicate the boundary of the proposed lease area, property ownership, and other leases, approvals or agreement requirements concerning land access and use.

### 4.2 Mining Method and Plan

Describe the rationale for adopting the proposed mining technique. Detail the mining method, mining rate or production, grades, recoveries, and efficiencies. Describe the mining sequence and expected life of the operation.

### 4.3 Infrastructure and Equipment

Describe the general infrastructure required for the project including processing plants, buildings, roads, dams, drainage and utilities. List the major equipment requirements critical to the operation.

### 4.4 Processing Method and Products

Information shall be provided detailing the processing facility. The method and procedure to process the ore should be explained in general terms and with a flowsheet diagram. Particulars such as milling rate, use of reagents, volume of wastes, water usage, ore handling, ore storage, shipping and any necessary pollution controls should be explained.

### 4.5 Power Requirements

Indicate electric power requirements and availability. Indicated petroleum requirements and requirements for other fuels over the expected life of mine and where the existing infrastructure has to be upgraded to accommodate the project.

### 4.6 Transportation

Provide information regarding the existing transportation network, which modes of transportation will be used to support the project and if there are improvements or upgrades required to facilitate the project.

### 4.7 Environmental Protection

Indicate environmental protection measures that are required such as water treatment and also provide a summary of required approvals and permits and the costs of implementing the programs.

### 4.8 Mine Closure and Reclamation

Provide a general summary of the mine closure and reclamation methods and summarize the costs of closure and expected financial securities that will be required.

## 5. **Economics**

### 5.1 Marketing Studies and Forecasts

Provide a summary of any marketing studies or forecasts for the commodities being produced. Provide justification and references for price forecasts.

### 5.2 Labour Requirements

Indicate the type and amount of labour required during construction and operation, availability of labour, and the

expected wages, salaries and benefits to be provided.

### 5.3 Capital and Operating Costs

Provide estimates of the capital and annual operating costs for the life of mine, including the construction phase.

### 5.4 Financial Security Requirements

Estimate expected financial security requirements and costs of providing the security for reclamation, environmental protection or other purposes.

### 5.5 Revenue Projections

Provide an evaluation of the project's potential to generate sufficient cash flow to meet its operating costs, tax payments, and debt service obligations. Summarize the expected internal rate of return for the project.

### 5.6 Socioeconomic Impact

Provide an assessment of the socioeconomic impact of the project on the local and regional economy. Consider.

### 5.7 Financial Risks and Sensitivities

Provide a summary of a risk assessment of key project sensitivities be they financial, technical or otherwise. Discuss methods to mitigate risks if possible.

## **6. Project Schedule and Milestones**

Provide a detailed schedule for the mine project, including key milestones, from the pre-construction phase to mine closure. A chart or table is preferable for presentation.