

PREFACE

Harper Creek Mining Corporation (HCMC or Proponent) is proposing to develop the Harper Creek Project (the Project), an open pit copper mine approximately 10 km southwest of the unincorporated municipality of Vavenby, British Columbia (BC). The Project is located in the Thompson Nicola area of BC, approximately 150 km northeast of Kamloops along Southern Yellowhead Highway (Highway 5). The Project has an estimated 28-year mine life based on a nominal ore throughput of 70,000 tonnes per day (25 million tonnes per year).

The Project is subject to a review under the BC *Environmental Assessment Act* (BC EAA; 2002), and the federal *Canadian Environmental Assessment Act* (CEAA; 1992).

After receiving HCMC's Project Description (September 2008), the BC Environmental Assessment Office (BC EAO) initiated the provincial environmental assessment (EA) process by issuing an order under section 10 of the BC EAA on September 8, 2008. The Order confirmed that "the proposed Project constitutes a reviewable project pursuant to Part 3 of the Reviewable Projects Regulation (BC Reg 370/2002), since the proposed project is a new mine facility that, during operations, will have a production capacity greater than 75,000 tonnes per year of mineral ore". A section 11 Order was subsequently issued by the BC EAO on September 11, 2009, which established per Schedule A of the Order the scope, procedures and methods for the EA of the Project. The BC EAO issued a section 13 Order on October 15, 2012 which amended the original section 11 Order.

The Canadian Environmental Assessment Agency (CEA Agency) initiated the federal EA process for the Project on April 27, 2011 with the issuance of a Notice of Commencement. The Notice confirmed that a federal EA was required pursuant to Section 16(c) of the Comprehensive Study List Regulations (SOR/94-638) as the proposed mine will have an ore production capacity of 3,000 t/d or more. The federal review is pursuant to the former CEAA 1992, which was repealed on July 6, 2012, and replaced by the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). For projects with an EA already underway when CEAA 2012 came into force, transition provisions were established. Section 125(1) of CEAA 2012 states that a comprehensive study commenced under the former CEAA 1992 *Canadian Environmental Assessment Act* (1992; i.e., before the coming into force of CEAA 2012) is continued and completed as if the former *Act* had not been repealed, and therefore is subject to any regulations in force at that time.

This document represents both the Application for an EA Certificate (the Application) pursuant to the BC EAA, and an Environmental Impact Statement (EIS) pursuant to CEAA 1992. The Application/EIS is being submitted to the BC EAO and the CEA Agency to meet the requirements of the BC EAA (2002) and CEAA (1992). The Project is subject to the standard EA review process under the BC EAA (2002) and CEAA (1992). The BC EAO and CEA Agency have committed to coordinate their respective EA processes, and where possible to be consistent with the terms of the 2004 Canada-British Columbia Agreement for Environmental Assessment Cooperation (CEA Agency 2004).

This Application/EIS has been developed pursuant to the Application Information Requirements (AIR; BC EAO 2011) issued by the BC EAO on October 21, 2011, and complies with all orders issued by the BC EAO in relation to the Project. The BC EAO approved the AIR after considering comments from federal and provincial government agencies, including the CEA Agency, local governments, First Nations, and the public. The AIR identifies the provincial information that must be included in the Application, and identifies the comprehensive study requirements under CEAA (1992). The Application/EIS has been developed pursuant to the federal information requirements as communicated by the CEA Agency in the comprehensive study requirements included in Section 14.0 of the AIR.

The BC EAO and the CEA Agency established the EA Working Group and began having Project-related meetings on December 11, 2008. The Project was later put on hold by the Proponent in late 2009 for about a year, and meetings with the EA Working Group resumed on April 7, 2011. Members of the EA Working Group involved in the development of the Application are shown in Table 1.

Table 1. Working Group Members

Type	Organization
Provincial agencies	BC EAO
	British Columbia Ministry of Forests, Lands and Natural Resource Operations (BC MFLNRO)
	British Columbia Ministry of Energy and Mines (BC MEM)
	British Columbia Ministry of Environment (BC MOE)
	British Columbia Ministry of Transportation and Infrastructure
	Interior Health Authority
Federal agencies	CEA Agency
	Environment Canada
	Fisheries and Oceans Canada
	Natural Resources Canada
	Major Projects Management Office
	Aboriginal Affairs and Northern Development Canada
	Health Canada, BC Region
Local government	District of Clearwater
	District of Barriere
First Nations	Simpcw First Nation
	Adams Lake Indian Band
	Neskonlith Indian Band
	Little Shuswap Indian Band
	Tk'emlups Indian Band

The EA Working Group has reviewed and commented on key EA documents, including the draft AIR, and the Working Group is a key mechanism through which Project information has been and will continue to be exchanged.

The public has been involved in developing the Application/EIS by having an opportunity to comment on the draft AIR during the public comment period and attend open houses related to the Project. Additional consultation and public comment periods will be provided during the Application/EIS review stage.

ORGANIZATION OF THE APPLICATION/EIS

The Application/EIS is organized as follows:

- **Preface** – identifies the purpose and describes the organization of the Application/EIS
- **Acknowledgements** – identifies the companies or qualified personnel who contributed to, or provided information for, the Application/EIS.
- **Executive Summary** – provides a stand-alone document containing sufficient information to equip the reader with an overview of the Project and the findings of the Application/EIS.
- **Table of Contents** – provides a detailed listing of the major content headings of the Application/EIS.
- **Acronyms and Abbreviations** – comprises a list of commonly used abbreviations and acronyms used in the Application/EIS.
- **Glossary** – comprises a list of commonly used terms and phrases and their definitions used in the Application/EIS.
- **Table of Concordance** – indicates where the information specified in the AIR (BC EAO 2011) can be found in the Application/EIS.

PART A. INTRODUCTION AND BACKGROUND

Part A of the Application/EIS contains the introduction and background to the Project in Chapters 1 to 5, comprising the following chapters:

Chapter 1: Overview of the Proposed Project

This chapter presents general information on HCMC, the guiding principles and purpose of the Application/EIS, the Project's geographical and regional setting and history, Project tenure, Project scope and schedule, and Project benefits.

Chapter 2: Assessment Process

This chapter describes the provincial and federal regulatory framework that applies to the Project, as well as the assessment and authorization process.

Chapter 3: Information Distribution and Consultation

This chapter describes the information distribution and consultation that was undertaken with Aboriginal groups, Canadian provincial and federal government agencies, local government, and the public. Information distribution and consultation planned during the Application/EIS review stage is also described.

Chapter 4: Project Design and Alternatives Assessment

This chapter describes the processes and criteria used to develop, evaluate, and eventually screen the alternative options to the Project and for developing the Project.

Chapter 5: Project Description

This chapter presents details about the Project in the context of regional geology and mineral resources, the development of the proposed mine, the required facilities and the activities associated with Construction, Operation, Closure, and Post-closure phases, including the management of water, waste (including rock and tailings), ancillary infrastructure (including access road and transmission line), and Project workforce.

Chapter 6: Geochemistry

This chapter presents the baseline geochemical conditions, and development of the geochemical source terms used to assess Project effects on water quality as a result of the Project, and to develop the Mine Waste and ML/ARD Management Plan.

Chapter 7: Closure and Reclamation

This chapter presents a conceptual closure and reclamation plan which includes an overview of the regulatory framework, closure and reclamation objectives, research programs during Operations, conceptual plans for closing and reclaiming each Project component, scheduling, monitoring, costs, and post-closure activities.

Chapter 8: Effects Assessment Methodology

This chapter describes the methods applied in undertaking the effects assessment of potential direct and indirect, Project-related, and cumulative environmental effects (both biophysical and human) of the Project.

PART B. BIOPHYSICAL ENVIRONMENT EFFECTS ASSESSMENT

Part B contains the Project's biophysical environment effects assessments in Chapters 9 to 16, comprising the following subject areas:

Chapter 9: Air Quality Effects Assessment

Chapter 10: Noise Effects Assessment

Chapter 11: Groundwater Effects Assessment

Chapter 12: Hydrology Effects Assessment

Chapter 13: Surface Water Quality Effects Assessment

Chapter 14: Fish and Aquatic Resources Effects Assessment

Chapter 15: Terrestrial Ecology Effects Assessment

Chapter 16: Wildlife and Wildlife Habitat Effects Assessment

Each of these eight chapters includes the following:

- a description of the regulatory framework and the existing environmental conditions pertaining to the particular subject area;
- identification of the valued components used to evaluate the effect of the Project on the subject area;
- definition of the assessment boundaries applied to the subject area;
- a description of the subject area's baseline conditions;
- a description of the outcomes of the subject area effects assessment in terms of potential effects, possible mitigation, residual effects remaining after mitigation, and possible risk analyses where levels of significance or confidence warrant it;
- a re-assessment of the residual effects after mitigation for their potential contribution to regional cumulative effects; and
- a summary of the subject area effects assessment in terms of the determination of significance and conclusions.

PART C. HUMAN ENVIRONMENT EFFECTS ASSESSMENT

Part C contains the Project's human environment effects assessments in Chapters 17 to 22, comprising the following subject areas:

Chapter 17: Socio-economics Effects Assessment

Chapter 18: Commercial and Non-commercial Land Use Effects Assessment

Chapter 19: Visual Quality Effects Assessment

Chapter 20: Archaeology and Heritage Effects Assessment

Chapter 21: Human Health Effects Assessment

Chapter 22: Current Use of Land and Resources for Traditional Purposes

Each of these six chapters includes the following:

- a description of the regulatory framework and the existing socio-economic, human health, or heritage conditions pertaining to the particular subject area;
- identification of the valued components used to evaluate the effect of the Project on the subject area;
- definition of the assessment boundaries applied to the subject area;
- a description of the subject area's baseline conditions;
- a description of the outcomes of the subject area effects assessment in terms of potential effects, possible mitigation, residual effects remaining after mitigation, and possible risk analyses where levels of significance or confidence warrant it;

- a re-assessment of the residual effects after mitigation for their potential contribution to regional cumulative effects; and
- a summary of the subject area effects assessment in terms of the determination of significance and conclusions.

PART D. ABORIGINAL RIGHTS AND INTERESTS

Part D contains the assessment of Aboriginal rights and interests in Chapter 23:

Chapter 23: Assessment of Effects on Aboriginal Rights and Related Interests

This chapter assesses the potential adverse effects on asserted or established Aboriginal rights and interests which may arise from the Project. The assessment identifies measures to mitigate or accommodate potential effects. Aboriginal groups considered in the assessment include the Simpcw First Nation, Adams Lake Indian Band, Neskonlith Indian Band, Little Shuswap Indian Band, and the Métis. The chapter also provides a summary of consultations undertaken by YMI with Aboriginal groups during the pre-Application stage.

PART E. ENVIRONMENTAL MANAGEMENT PLANS AND REPORTING

Part E contains the discussions of the environmental management plans and reporting in Chapter 24:

Chapter 24: Environmental Management Plans and Reporting

This chapter provides an environmental management system for the Project and environmental management and monitoring plans for an array of subject areas. Each plan generally includes a description of the regulatory and policy framework relevant to the subject area, definition of the relevant performance objectives, a description of the relevant environmental protection measures, a description of the required monitoring and work planning to bring about the protection measures, a description of follow up actions (where necessary), and a description of reporting requirements.

PART F. FEDERAL REQUIREMENTS

Part F includes chapters required by the CEA Agency as follows:

Chapter 25: Capacity of Renewable Resources

This chapter presents an assessment of the capacity of renewable resources that are likely to be affected by the Project to meet the needs of the present and the future. The chapter includes an identification of renewable resources likely to be affected by the Project, current and future uses of renewable resources (including Aboriginal resource use), and an assessment of effects on renewable resources.

Chapter 26: Environmental Effects of Accidents and Malfunctions

This chapter presents an assessment of potential accidents and malfunctions and their potential residual environmental effects on subject areas following implementation of design standards, as well as preventative and contingency measures.

Chapter 27: Effects of the Environment on the Project

This chapter presents an assessment of the potential effects of the environment on the Project, including from physical activities related to the Project.

PART G. SUMMARY AND CONCLUSIONS

Part G includes the following chapter:

Chapter 28: Summary and Conclusions

This chapter provides an overall summary of and conclusion to the Application/EIS. The chapter includes summaries of the residual Project-related and cumulative adverse biophysical or human environmental effects and associated mitigation measures, provides an outline for follow-up programs and a table of HCMC's commitments, and includes a final conclusion with respect to whether the Project is predicted to result in significant adverse residual biophysical or human environmental effects.

APPENDICES

The appendices provide materials in support of the main body of the Application/EIS, including volumes of baseline information for all aspects of the biophysical and human environment, detailed effects assessment modelling reports, and engineering design reports.

REFERENCES

1992. *Canadian Environmental Assessment Act*, SC. C. 37.

2002. *Environmental Assessment Act*, SBC. C. 43.

2012. *Canadian Environmental Assessment Act, 2012*, SC. C. 19. s. 52.

Reviewable Projects Regulation, BC Reg 370/2002.

BC EAO. 2011. *Harper Creek Copper-Gold-Silver Project: Application Information Requirements for Yellowhead Mining Inc.'s Application for an Environmental Assessment Certificate*. Issued by the British Columbia Environmental Assessment Office: Victoria, BC.

CEA Agency. 2004. *Canada-British Columbia Agreement for Environmental Assessment Cooperation (2004)*. <https://www.ceaa-acee.gc.ca/default.asp?lang=En&n=04A20DBC-1> (accessed May 2014).