

# 1.0 INTRODUCTION AND PROJECT OVERVIEW

# 1.1 General Information and Contacts

Rainy River Resources Ltd. (RRR) has been exploring the Rainy River Project (RRP; previously named Rainy River Gold Project) property since 2005, with the objective of developing a gold mine and processing complex on the site. RRR has completed over 1,800 diamond drill holes to date totalling almost 780,000 m, and has undertaken or commissioned extensive environmental, geotechnical, mineralogical, engineering, logistics and economic studies related to potential property development.

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New Gold Inc. (New Gold) recently successfully completed its acquisition of RRR and the RRP is 100%-owned by New Gold; however, the proponent remains RRR. New Gold is listed on both the Toronto Stock Exchange and the NYSE MKT under the symbol: NGD. New Gold has corporate offices in both Vancouver, British Columbia and Toronto, Ontario. New Gold maintains a corporate and management structure in line with similar publicly-traded companies. Directors and officers of the company are disclosed annually in regulatory filings and identified on the company web site.

As a public company, a number of regulatory requirements for disclosure controls and corporate governance must be met. The board of directors of New Gold has established a corporate governance committee and adopted the following policies, which are publicly available on the New Gold website:

- Health, Safety, Environment and Corporate Social Responsibility Policy;
- Code of Business Conduct and Ethics;
- Disclosure, Confidentiality and Insider Trading Policy;
- Human Rights and Anti-Corruption Policy;
- Privacy Policy; and
- Whistleblower Policy.



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## 1.2 **Project Purpose and Overview**

The purpose of the undertaking is to produce gold for sale and provide a return on investment to shareholders of New Gold, by constructing and operating a mine (the RRP).

RRR is planning to construct, operate and eventually reclaim a new open pit and underground gold mine at the RRP to produce doré bars (gold with silver) for sale. The site layout proposes to place the required mine-related facilities in close proximity to the gold deposit, to the extent practicable, primarily on private, patented lands owned by RRR. Open pit mining operations is planned to occur at a rate of approximately 21,000 tpd, supported by a planned 1,500 tpd adjunct underground mining operation averaged over the life of the mine. For contingency purposes, a nominal 20% additional ore throughput should be considered above the planned output (total throughput of 27,000 tpd). Overburden and mine rock stripped from the open pit will be stored in stockpiles near the open pit. Mining operations will be supported by development of an explosives manufacturing and storage facility.

Ore processing will be carried out using a conventional whole ore cyanidation for gold recovery, followed by in-plant cyanide destruction using the SO<sub>2</sub>/Air treatment process. Tailings from the process plant will be stored in a constructed tailings management area. The ore process plant will use a very high level of water recycle. Excess treated tailings management area water and minewater which cannot be re-used in the process plant or for other appropriate onsite uses will be discharged to the Pinewood River. Such discharge will meet all applicable Federal and Provincial effluent discharge requirements, at the final point(s) of discharge to the environment, and will be protective of receiving water aquatic life.

A truck shop, administration building and explosives factory will be developed on the site. Domestic sewage will be treated using a package sewage treatment plant or equivalent. Non-hazardous domestic solid wastes will deposited at a suitable offsite landfill as capacity is available, or in an onsite landfill. Hazardous solid and liquid waste will be hauled off site by licensed contractors to licensed storage facilities. Most mine employees will seek out housing within area Municipalities that best suit their own family needs and their ability to reach the mine site on a daily basis. The vibrant business sector within the Rainy River District is expected to meet the RRP housing needs and the company continues to meet with local businesses interested in provision of various offsite accommodations.

As part of the proposed development, re-alignment of a length of the gravel-surfaced, two-lane Highway 600 will be required. Initial construction power will be provided by the existing distribution lines connected to the Provincial electrical grid, supported by diesel power generator(s) if required. Permanent power will be provided through dedicated connection to a nearby 230 kV transmission line. It is expected that headwaters of two minor creeks; West Creek and Clark Creek (Teeple Municipal Drain), will require diversion to allow safe development and operation of the open pit including the associated east mine rock stockpile.

#### RAINY RIVER PROJECT

Final Environmental Assessment Report Volume 2: Main Text Page 1-2





# 1.3 **Project Components**

Physical works related to the RRP are proposed to consist of:

- Open pit: approximately 200 ha surface area and up to approximately 400 m in depth. Mining is proposed to occur at a rate of approximately 21,000 tpd of ore production, with a mine life of approximately 16 years.
- Underground mine: planned as 1,500 tpd but potentially ranging up to approximately 2,000 tpd developed to a depth of about 800 m below surface.
- Mineral waste stockpile(s): approximately 70 to 80 Mt of overburden and 350 to 400 Mt of mine rock not required for site construction purposes will be stored in surface stockpiles. A low grade ore stockpile will also be developed.
- Primary crusher and process plant: ore will be processed onsite to produce doré bars for sale under long term contracts.
- Tailings management area: an area has been selected that measures approximately 800 ha (excluding associated external ponds and infrastructure) and provides capacity for the storage of a minimum 110 Mt of tailings over the projected mine life. The maximum projected dam heights are expected to be in the range of 25 m above grade.
- Transmission line: power for later construction and operation phases is proposed to be supplied by a 230 kV transmission line connected to the existing Hydro One Networks line approximately 17 km northeast of the proposed RRP site.
- Relocation of gravel-surfaced Highway 600: RRR proposes to re-align a portion of the two-lane, Highway 600 to the south of the mine development.
- Associated buildings, facilities and infrastructure: additional permanent facilities currently
  planned for the RRP are expected to include an administration building, truck shop, fuel
  storage and dispensing, laydown area(s), sewage treatment plant, explosives
  manufacturing and storage facilities, and access and onsite roads. These facilities will be
  supported by related piping and power infrastructure as needed.

Primary construction phase activities will include:

• Completion of engineering studies and environmental approvals processes. Construction of the RRP can only begin after completion of the Environmental Assessment (EA) process and receipt of activity-related environmental approvals;



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- Procurement and movement of construction materials to identified laydown areas;
- Initiation of open pit mine development, and portal development for underground mining operations (potentially only during the operation phase);
- Preparation of onsite mineral waste handling facilities, including tailings management area dams;
- Establishment of ponds, watercourse diversions, intake structures and site drainage works;
- Construction of associated buildings and facilities;
- Construction of the Highway 600 re-alignment and East Access Road, and redirection of local traffic; and
- Construction and energizing of a 230 kV feeder transmission line.

Activities that will be carried out during the operation phase are anticipated to include:

- Ore and mine rock extraction (open pit and underground mines);
- Ore processing (conventional whole ore cyanidation followed by in-plant cyanide destruction, using extensive water recycle);
- Production of combined gold and silver doré bars;
- Mineral waste management (stockpiling of overburden and mine rock; and piping and storage of tailings in a surface tailings management area);
- Ongoing environmental management; and
- Progressive site reclamation where practical, anticipated to focus on the mine rock stockpiles.

Decommissioning and closure phase activities will consist of the closure and reclamation of various project components at the main RRP site, as well as the 230 kV transmission line. The proposed watercourse diversions and Highway 600 are expected to remain in place. Ongoing environmental monitoring and site management will occur as needed after decommissioning activities are completed.





A preliminary schedule for the development of the RRP has the construction phase commencing after completion of the coordinated Federal and Provincial EA process, which is currently planned for 2014. The operation and production phase is planned to start in 2016 and continue for a 16 year mine life. Closure and decommissioning is therefore anticipated to begin in 2032 at the earliest. Active closure is anticipated to take two years, with ongoing maintenance and monitoring thereafter.

# 1.4 Geographic Setting

The RRP is located in the Township of Chapple, District of Rainy River, in northwestern Ontario. Project coordinates are as follows:

- Centroid of the proposed open pit is: Universal Transverse Mercator (UTM) 425660E, 5409700N (NAD 83 Zone 15); latitude / longitude (degrees-minutes-seconds) 94° 0' 47.2" W, 48° 50' 8.9" N (decimal degrees: -94.0131, 48.8358);
- Transmission line endpoints: UTM 427004E, 5411197N, latitude / longitude 93° 59' 42.02" W, 48° 50' 58.02" N (decimal degrees: -93.9950, 48.8494); to UTM 438510E, 5421795N, latitude / longitude 93° 50' 23.18" W, 48° 56' 45.68" N (decimal degrees: -93.8398, 48.9460); and
- Highway 600 re-alignment: UTM 419638E, 5408629N, latitude / longitude 94° 5' 41.59" W, 48° 49' 31.57" N (decimal degrees: -94.0949, 48.8254); to UTM 438510E, 5421795N, latitude / longitude 93° 50' 23.18" W, 48° 56' 45.68" N (decimal degrees: -93.8398, 48.9460).

The RRP area exhibits variable, gently undulating terrain, and is drained principally by the Pinewood River and its associated minor tributaries. The RRP site is located in a low density rural area within the Township of Chapple (total population of 856 in 2006). There is some limited agriculture focused on cattle and fodder cropping, as well as logging activities in the area. Adjacent areas show mainly second growth poplar-dominated forests and wetlands.

Thunder Bay is located approximately 420 km east-southeast of the site (Figure 1-1). The closest local communities to the RRP site are: Emo (population 1,305; located 28 km to the southeast), Rainy River (population 909; located 45 km to the southwest) and Fort Frances (population 8,103; located 50 km to the east-southeast; Figure 1-1).

There are no Areas of Natural and Scientific Interest, or Provincially Significant Wetlands within or proximal to the general RRP site area. RRR has not been informed of any sites of palaeontological or palaeobiological interest in the area. There are no Federal Parks near the RRP site area. Two Provincial Nature Reserve Parks (Cranberry Lake and Spruce Islands) are located over 20 km to the west and one Conservation Area (Sifton Township) located approximately 13 km northwest of the RRP area.

#### **RAINY RIVER PROJECT**

Final Environmental Assessment Report Volume 2: Main Text Page 1-5





There is no proposed or anticipated Federal funding associated with the RRP and no facilities or activities are proposed on Federal lands, including First Nation communities or lands under land claim. Naicatchewenin and Manitou Rapids First Nations are the closest reserves to the RRP site, each located approximately 19 km east and southeast respectively, of the site (Figure 1-2).

While RRR recognizes that the land on which the RRP is being planned is heavily impacted by historic and ongoing, farming and logging operations (Appendix A), the company feels that it is important that any oral history be properly documented and respected. RRR is continuing to support preparation of Traditional Knowledge / Traditional Land Use studies to assess use of the local area by Aboriginal peoples.

Regular meetings are underway with both First Nations and the Sunset Country Métis (through the Métis Nation of Ontario Region 1 Consultation Committee) to ensure communities are consulted with in a positive manner.

# 1.5 Land Ownership

The RRP site and surrounding lands are dominantly privately held, with RRR holding a very large private land package. RRR has worked diligently to negotiate agreements with various landowners through the exploration phase and Feasibility Study preparation in anticipation of the proposed development of the RRP.

The RRP is comprised of a total of 238 land parcels, which consist of patented whole, surface rights only, minerals rights only, leasehold interest only and unpatented mining claims. RRR has a 100% interest in the lands forming the RRP through direct ownership or option agreement (Figure 1-2).

While a small number of agreements for specific land parcels have not been finalized as of the issuance of this final EA Report, RRR believes that the outstanding land requirements do not pose a significant constraint to the development of the RRP or required infrastructure components.

Through these land purchases and/or agreements, RRR has become the owner of a number of residential properties. Existing houses and out buildings may be re-used to support the project development or demolished once assessed for any built heritage value.

The RRP does not require the forced re-settlement of any individual families.





## 1.6 Regulatory Framework and Scope

## 1.6.1 Federal Framework

The Federal Regulation Designating Physical Activities under the *Canadian Environmental Assessment Act, 2012* (*CEAA, 2012*) identified the physical activities that constitute the designated projects that could require completion of a Federal EA. The following sections may apply to the RRP:

- Section 8: The construction, operation, decommissioning and abandonment of a facility for the extraction of 200,000 m<sup>3</sup>/a or more of ground water....
- Section 15: The construction, operation, decommissioning and abandonment of:
  - b) a metal mill with an ore input capacity of 4,000 t/d or more; and
  - c) a gold mine, other than a placer mine, with an ore production capacity of 600 t/d or more.

Based on these criteria, RRR submitted a Project Description to the Canadian Environmental Assessment Agency (CEA Agency) that was subsequently approved on August 31, 2012. Based on the Project Description, the CEA Agency confirmed that a Federal EA was required and issued draft Environmental Impact Statement (EIS) Guidelines on October 19, 2012 to help identify the scope of the EA required for the project. On December 18, 2012 RRR was informed that a Standard Assessment would be required for the RRP and final EIS Guidelines were issued by the CEA Agency. This EA Report is intended to fulfil the requirements of the EIS Guidelines.

# 1.6.2 **Provincial Framework**

Several aspects of the RRP were anticipated to require completion of Provincial EA processes and a single Provincial process coordinated with the required Federal EA process was selected as the best approach to meet those (or other) needs, as per the following:

- A 230 kV transmission line of approximately 17 km length;
- Diesel power generation of between 1 and 5 MW;
- Disposition of Crown resources, potentially related Crown lands (such as work on streambeds / shore lands) and effects on Species at Risk (SAR); and
- Re-alignment of a portion of gravel-surfaced Highway 600 for safety reasons and to avoid potential land use conflicts.





RRR entered into a Voluntary Agreement with the Ontario Ministry of the Environment (MOE) on May 4, 2012, to conduct a Provincial Individual EA for the RRP that will meet the requirements of the Ontario *Environmental Assessment Act*. Approval of an Individual EA will allow issuance of Provincial approvals to construct and operate the mine.

RRR initiated the Provincial EA process through the submission of a draft Terms of Reference (ToR) to facilitate ongoing public consultation on the RRP. A draft ToR was issued for a 30-day public comment period between May 17, 2012 and June 16, 2012. The draft ToR was subsequently revised based on comments received on the document and results of open houses, and was re-issued as the Proposed ToR for another 30-day public comment on October 26, 2012. The Proposed ToR as subsequently amended, was approved by the Ontario Minister of the Environment on May 15, 2013. This final EA Report was prepared in accordance with the Provincially-approved Amended ToR, and Section 6(2)(c) of the Ontario Environmental Assessment Act.

# 1.6.3 Federal and Provincial Alignment

RRR has been working closely with the Provincial and Federal approvals agencies to harmonize the Federal and Provincial EA processes and where possible align public consultation periods to meet the needs of each Act, while minimizing duplication of effort which can lead to unnecessary project delay. This coordination is directed by the *Canada-Ontario Agreement on Environmental Assessment Cooperation*, and as led by the CEA Agency and the MOE.

The Federal EIS Guidelines and the Provincially-approved Amended ToR together set out the framework and requirements for this EA Report. These documents (provided in Appendices B-1 and C-1), along with concordance tables (Appendices B-2 and C-2), demonstrate how the EA Report meets both the Federal EIS Guidelines and the Provincially-approved ToR.

# 1.6.4 Other Regulatory Aspects

As requested by the Federal EIS Guidelines, additional information has been provided below related to concordance with policies, guidelines and agreements:

- Government policies, resource management, planning or study initiatives pertinent to the project and/or EA, and implications: there are no such policies or initiatives known to exist. The RRP was selected by the Federal / Provincial Regulatory Reform Working Group as one of a very limited number of projects across Canada, to receive enhanced alignment considerations and support from senior government officials;
- Policies and guidelines of the Aboriginal groups being consulted that are pertinent to the project and/or EA, and implications: there are no such policies or guidelines known to exist; and



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• Any treaty or self government agreements with Aboriginal groups that is pertinent to the project and/or EA: there are no such agreements known to exist.

Further information regarding local Aboriginal groups is provided in Section 5.

Section 15 describes the roles and the environmental approvals required from the Federal, Provincial and Municipal governments to proceed with construction, operation and closure of the RRP.

# 1.7 Environmental Assessment Report Organization and Content

As indicated in the preamble, this document has been prepared in order to provide Federal authorities with information regarding the proposed RRP in order to assist decision making by the Federal Minister of the Environment regarding the applicability of the *CEAA*, 2012. It is also intended to provide sufficient information for the Ontario Minister of the Environment to approve the RRP pursuant to the Ontario Environmental Assessment Act. The Federal and Provincial government authorities have agreed that a single body of knowledge, including this EA Report, will be used for the coordinated EA process.

The Federal EIS Guidelines (Appendix B-1) and the Provincially-approved Amended ToR (Appendix C-1) together set out the framework and requirements for this EA Report.

At various community and leadership meetings, RRR was informed that Aboriginal communities did not have the time, financial and human resource capacity to adequately review the RRP EA Report. In response to those concerns, RRR committed financial resources to the Aboriginal groups for an independent technical review of the RRP draft EA Report. In order to allow adequate time for the Aboriginal technical review, the draft EA Report (Version 1) was released to thirteen Aboriginal groups eight weeks in advance of the general public and government agencies.

A subsequent draft EA Report (Version 2) was provided for government, Aboriginal group and stakeholder review, and hosted at six public venues to facilitate comment.

Comments received during the draft EA Report reviews were responded to by RRR and as appropriate, have been incorporated in this final EA Report. The responses to comments made on the independent technical review on behalf of Aboriginal groups are provided in Appendix D-1e. Copies of the comments and responses on the draft EA Report (Version 2), along with an identification of where in the final EA Report the comments are addressed are provided in Appendix D-2.

This final EA Report is intended to meet the Federal EIS Guidelines and the Provinciallyapproved Amended ToR and has passed the CEA Agency conformity review as required under *CEAA*, 2012.

#### **RAINY RIVER PROJECT**

Final Environmental Assessment Report Volume 2: Main Text Page 1-9





## 1.7.1 Volume 1: Summary of EA Report

Volume 1 contains a standalone summary of the EA Report structured to comply with the Federal EIS Guidelines. This volume has been translated and is also available in French.

## 1.7.2 Volume 2: EA Report

#### Glossary and abbreviations; measurement units; and chemical elements and compounds

The following lists have been provided in front of the table of contents of Volume 2 to assist readers:

- Glossary and abbreviations;
- Measurement units; and
- Chemical elements and compounds.

## Table of Contents

Summary lists of contents by section, tables, figures and appendices are provided at the beginning of Volume 2 to assist readers.

A list of plates (photographs) is provided at the beginning of Appendix A which contains copies of photographs related to the RRP.

#### Section 1: Introduction and Project Overview

Section 1 provides background to the RRP to inform the reader.

#### Section 2: Participants in the Environmental Assessment

The potentially affected and interested stakeholders, and Aboriginal Groups with whom RRR has had discussions, consulted and/or engaged in relation to the RRP EA process are listed in Section 2.

#### Section 3: Consultation Summary

Section 3 includes an overview of the consultation and discussions held to date regarding the RRP and the EA process. Specific details are provided in the extensive Appendix D.





## Section 4: Project Description

A description of the RRP is provided in Section 4 in order to assist the reader in understanding the project and to allow involvement in the EA process. Further details regarding proposed water management at the RRP site are provided in Appendix W-1. A draft design report for the highway engineering aspects is provided in Appendix Y-2.

## Section 5: Description of the Environment

The natural and human environment conditions currently existing at the RRP site and environs are described in Section 5. Further details are provided in separate baseline reports included as Appendices F through N.

## Section 6: Evaluation of Alternatives

Section 6 considers and assesses the alternatives for the development of the RRP, including alternatives for the project and alternative methods of carrying out the project. The methodology of alternatives assessment follows the Approved ToR. Comprehensive alternatives assessment tables are provided in Appendix O. A copy of the Assessment of Alternatives for Tailings and Mine Rock Storage is provided in Appendix P.

## Section 7: Effects Assessment and Mitigation

Section 7 describes and assesses the potential effects of the RRP on the natural and human environment, utilizing the methodology in the Approved ToR. Where appropriate, mitigation measures are presented. Residual significance after mitigation is presented. Further details are provided in separate modelling and assessment reports included as Appendices Q through U, and Appendix Y-1. Further details regarding the water management plan and proposed fisheries compensation aspects under discussion with Fisheries and Oceans Canada are provided in Appendices W and X, respectively.

#### Section 8: Effects of the Environment on the Project

Section 8 indicates how the RRP may be affected by local short term and longer term environmental conditions and natural hazards.

#### Section 9: Malfunctions and Accidents

An assessment of the probability of potential accidents and malfunctions related to the RRP is provided in Section 9, including: structural failures, accidents and other malfunctions. This section also includes a description of the measures proposed to safeguard against occurrence. A copy of the Contingency and Response Plan is provided in Appendix V.





## Section 10: Cumulative Effects

Section 10 identifies and describes the potential for cumulative effects associated with the RRP, according to Federal requirements and the Operational Policy Statement (CEA Agency 2013).

## Section 11: Summary of Residual Effects and Concerns

An overview of the changes to the RRP since originally proposed, in part to accommodate comments received through the EA Process to date is provided. The section also provides a summary of the residual effects defined in Section 7, and outstanding comments and concerns.

## Section 12: Benefits to Canadians

An overview of the benefits of the RRP is provided in Section 12.

## Section 13: Monitoring and Environmental Management Plans

Section 13 describes the proposed monitoring of potential environmental effects resulting from the construction, operation and decommissioning / closure of the RRP. A framework is also provided for the proposed environmental management plans.

#### Section 14: Commitments

The environmental commitments made in the EA Report are listed in a tabular form in Section 14, as well as commitments made in response to the independent technical review of the draft EA Report (Version 1) on behalf of Aboriginal groups.

#### Section 15: Other Approvals Required

Section 15 summarizes the anticipated Federal, Provincial and Municipal environmental approvals required to construct, operate and eventually decommission / close the RRP.

#### Section 16: Flexibility to Accommodate New Circumstances

A description of the methodology to be utilized to address future changes to the RRP, if any, in consideration to the Provincial EA requirements is provided in this section.

#### Section 17: Authors and Acknowledgements

Section 17 lists the principle authors of the EA Report (Volumes 1 and 2), and acknowledges the assistance received from others in the document preparation.





## Section 18: References

This section contains a listing of cited references in the EA Report (Volume 2).

# 1.7.3 Volume 3+: Appendices

Volume 3+ contains the supporting appendices (generally technical documents) for the EA Report grouped by topic as follows. Each appendix may contain more than one document as detailed on the individual appendix title pages and the Volume 2 Table of Contents:

- A Photographic Summary
- B Federal EIS Guidelines and Concordance Table with EIS Guidelines
- C Provincial Approved ToR, Concordance Table and Commitments
- D Records of Consultation, Discussions and Meetings
- E Conceptual Closure Plan
- F Climate, Air Quality and Sound Baseline
- G Report on Metal Leaching / Acid Rock Drainage Characterization of Mine Rock and Tailings
- H Hydrogeology Baseline
- I Aquatic Resources Baseline
- J Terrestrial Baseline
- K Species at Risk Baseline
- L Socio-economic Baseline
- M Cultural Heritage Resources Baseline
- N Initial Interdisciplinary Baseline
- O Comprehensive Alternatives Assessment Tables
- P Assessment of Alternatives for Tailings and Mine Rock Storage
- Q Air Quality Modelling Report
- R Sound and Vibration Modelling Reports
- S Hydrogeology Modelling Report
- T Prediction of Post-Closure Water Quality
- U Tailings Management Area Failure and Water Quality Assessment
- V Contingency and Response Plan
- W Water Management Plan
- X Draft Fisheries Compensation Strategy and Plans
- Y Highway 600 Re-alignment Engineering Aspects

Appendix P (Assessment of Alternatives for Tailings and Mine Rock Storage) follows the prescribed methodology for alternatives assessment needed to support a listing on Schedule 2 of the Metal Mining Effluent Regulation, and provides further information beyond that presented in Section 6. The document provided in Appendix P is a revised report based on comments received from Environment Canada on an earlier draft.





Documents provided in Appendices X and Y have been issued in a draft format per regulatory request, as they are pending additional government review and approval.

**RAINY RIVER PROJECT** Final Environmental Assessment Report Volume 2: Main Text Page 1-14





