



Project Description

ROMAN MOUNTAIN COAL PROJECT

Submitted to: BC Environmental Assessment Office

Pursuant to: *BC Environmental Assessment Act*

Submitted by: Peace River Coal Inc.

Date: August 23, 2007

Executive Summary

Peace River Coal Inc. is proposing to develop the Roman Mountain coal deposit (the “Roman Project” or the “Project”) situated on the Trend property located approximately 25 km south of Tumbler Ridge, British Columbia (Figure 1). The Roman Project would produce between 2 and 4 million clean tonnes of coal per annum via open pit method. Capital costs are expected to be \$250 million. Site development and construction would begin in 2009. The Roman Project would employ 250 new workers for a mine life of 15 years. The Roman Mountain geological structure consists of a large syncline, the axis of which strikes northwest–southeast. Mining would occur in the Gates and Gething Formations.

The Project will consist of:

- linear open-pit(s) to be mined in stages
- waste rock dumps (and pit backfill)
- mine access and haul roads
- tailings impoundment
- water management structures (e.g. sedimentation ponds and collection ditches)
- soil stockpiles
- a plant site and associated facilities (e.g. process plant, tailings pond, coarse coal reject pile)
- an existing (21 km) coal haul road to the load-out
- a 25 kV power line extension
- an existing explosives facility
- an office, mine dry and maintenance facility
- a sewage treatment plant

Peace River Coal Inc. is proposing to apply to the British Columbia Environmental Assessment Office for Project Approval under the British Columbia *Environmental Assessment Act* in early 2008. A *Mines Act* permit application will be submitted to the Ministry of Energy, Mines and Petroleum Resources in mid-2008 during the environmental assessment review process. Other applications for authorizations under the *Environmental Management Act*, *Forest Act*, *Water Act* and *Land Act* will be submitted to the appropriate agencies in due course.

Table of Contents

1	Introduction.....	1
1.1	Proponent Identification.....	1
1.2	Project History	1
1.3	Project Overview	5
2	Geology.....	6
2.1	Regional Stratigraphy	6
2.2	Coal Seams.....	6
3	Project Description	7
3.1	Open Pit Development.....	7
3.2	Coal Processing and Handling.....	7
3.3	Infrastructure Development	8
4	Regulatory Context.....	9
4.1	Canadian <i>Environmental Assessment Act</i>	9
4.2	British Columbia <i>Environmental Assessment Act</i>	9
5	Consultation.....	10
5.1	Federal Government Agencies.....	10
5.2	Provincial Government Agencies	10
5.3	Regional and Local Government Agencies	11
5.4	Aboriginal Peoples.....	11
	5.4.1 Identification of Aboriginal Groups in the Project Area	11
	5.4.2 Summary of Meetings and Consultation to Date.....	11
5.5	Tenure Holder Consultation.....	12
6	Environmental, Social and Heritage	12
6.1	Physical Setting.....	12
6.2	Socio-Economics and Public Health.....	13
6.3	Provincial Land and Resource Use.....	13
6.4	Additional Field Studies for 2007.....	14
	6.4.1 Climate and Hydrology.....	14
	6.4.2 Terrestrial.....	15
	6.4.2.1 Study Areas.....	15
	6.4.2.2 Approach.....	15
	6.4.3 Geochemistry (Acid Rock Drainage and Metal Leaching).....	16
	6.4.4 Aquatic.....	17
	6.4.4.1 Babcock Creek Watershed.....	17
	6.4.4.2 Five Cabin Creek Watershed	18
	6.4.5 Heritage.....	18
	6.4.5.1 Traditional Use Study	18
	6.4.5.2 Archaeology	18
7	Project Schedule.....	19
7.1	Phase I (January to June 2007)	19
7.2	Phase II (June to October 2007).....	19
7.3	Phase III (October 2007 to February 2008)	19

7.4 Phase IV (March to October 2008).....19
7.5 Phase V (November 2008).....20

List of Tables

Table 1 Coal Seams of Interest and Typical Seam Thickness 6

List of Figures

Figure 1 Provincial Map..... 3
Figure 2 Regional Location Plan..... 4
Figure 3 Project Cross Section B-B
Figure 4 Project Cross Section A-A
Figure 5 Mine Plan – Phase 1.....
Figure 6 Mine Plan – Phase 2.....
Figure 7 Mine Plan – Phase 3.....
Figure 8 Mine Plan – Final Layout

Abbreviations

Anglo.....	Anglo Coal Canada
BC EAA	British Columbia <i>Environmental Assessment Act</i>
BCM:ROMt.....	Bank Cubic Metres per Run of Mine tonnes
CEAA	Canadian <i>Environmental Assessment Act</i>
EPD	Environmental Protection Division
HLB	Hillsborough Resources Limited
ILMB	Integrated Land Management Bureau
KLCN	Kelly Lake Cree Nation
KLFN	Kelly Lake First Nation
KLM	Kelly Lake Métis Settlement Society
MAL	Ministry of Agriculture and Lands
MEMPR	Ministry of Energy, Mines and Petroleum Resources
MLIB	McLeod Lake Indian Band
MOE	Ministry of Environment
MOFR.....	Ministry of Forest and Range
MOT	Ministry of Transportation
NEMDRC.....	North East Mine Development Review Committee
NEMI.....	NEMI Northern Energy & Mining Inc.
PRC	Peace River Coal Inc
SFN.....	Saulteau First Nations
SIL	Survey Intensity Level
TEM	Terrestrial Ecosystem Mapping
TSM.....	Trend Small Mine
WMFN	West Moberly First Nations

1 Introduction

1.1 Proponent Identification

On November 29, 2006, the Peace River Coal Limited Partnership (the “Partnership”) was formed of NEMI Northern Energy and Mining Inc. (“NEMI”), Anglo Coal Canada Inc. (“Anglo”) and Hillsborough Resources Limited (“Hillsborough”), into which the parties transferred their respective northeast British Columbia metallurgical coal assets (the “Coal Assets”). The Coal Assets are held by Peace River Coal Inc. (“PRC” or the “Proponent”) (formerly Anglo Coal Canada Licences Inc.), as managing partner of the Partnership, for and on behalf of Anglo, Hillsborough and NEMI who are the 66%, 14% and 20% owners of the Partnership, respectively.

NEMI and Hillsborough are Vancouver based junior mining companies traded on the Toronto Stock Exchange under the stock symbols NNE and HLB, respectively. Hillsborough owns and operates the Quinsam Mine, an underground thermal coal mine on Vancouver Island in operation since 1987. Anglo American PLC's coal interests are held through its wholly owned Anglo Coal business, one of the world's largest private sector coal producers and exporters. Anglo Coal has mining operations in South Africa, Australia, Colombia and Venezuela and develops Canadian coal properties through Anglo Coal Canada Inc. Anglo Coal produces thermal and metallurgical coals for international customers in the Med-Atlantic and Indo-Pacific markets as well as local customers in South Africa and Australia.

The Coal Assets include Trend, Horizon, Reesor, Bickford, Mesa and Prospect properties and 50% of Belcourt Saxon Limited Partnership.

The head office location for PRC is:

Suite #1900 – 1055 West Hastings Street, Vancouver, B.C., V6E 2E9
Tel: (604) 689-077 Fax: (604) 688-5210
Email: info@peacrivercoal.com
Web: www.peacrivercoal.com

Trevor Hulme is Chief Executive Officer and General Manager of Peace River Coal Inc.

1.2 Project History

Mining of metallurgical coal has been carried out in the vicinity of Roman Mountain since the early 1980s when the Quintette and Bullmoose mines were opened. The Quintette mine shut down in 2000 due to depressed coal prices. The Bullmoose mine closed in 2003 when reserves were depleted. Significant infrastructure was developed to support the mines, including highways, power, railroad and the town of Tumbler Ridge. The recent increase in metallurgical coal prices has led to the development of several new mines in the area.

The Trend property, located approximately 25 km south of Tumbler Ridge, BC is one of the properties held by PRC (the “Trend Property”) and consists of five coal blocks: South, Extension, Roman, Hambler and Q West. The Roman Mountain coal block is

directly south of the existing PRC Trend Mine, which is located on the South and Extension coal blocks of the Trend property (Figures 1 and 2). The Trend Mine produces up to two million tonnes of coal per annum pursuant to *Mines Act* Permit No. C-224 Approving the Mine Plan and Reclamation Program.

The coal measures of Roman Mountain have been evaluated historically, and a series of exploration programs have been carried out on the property since the 1970s. The most recent program was completed in the fall of 2006. PRC has been conducting additional exploration work and site investigation in 2007.

Figure 1 Provincial Map

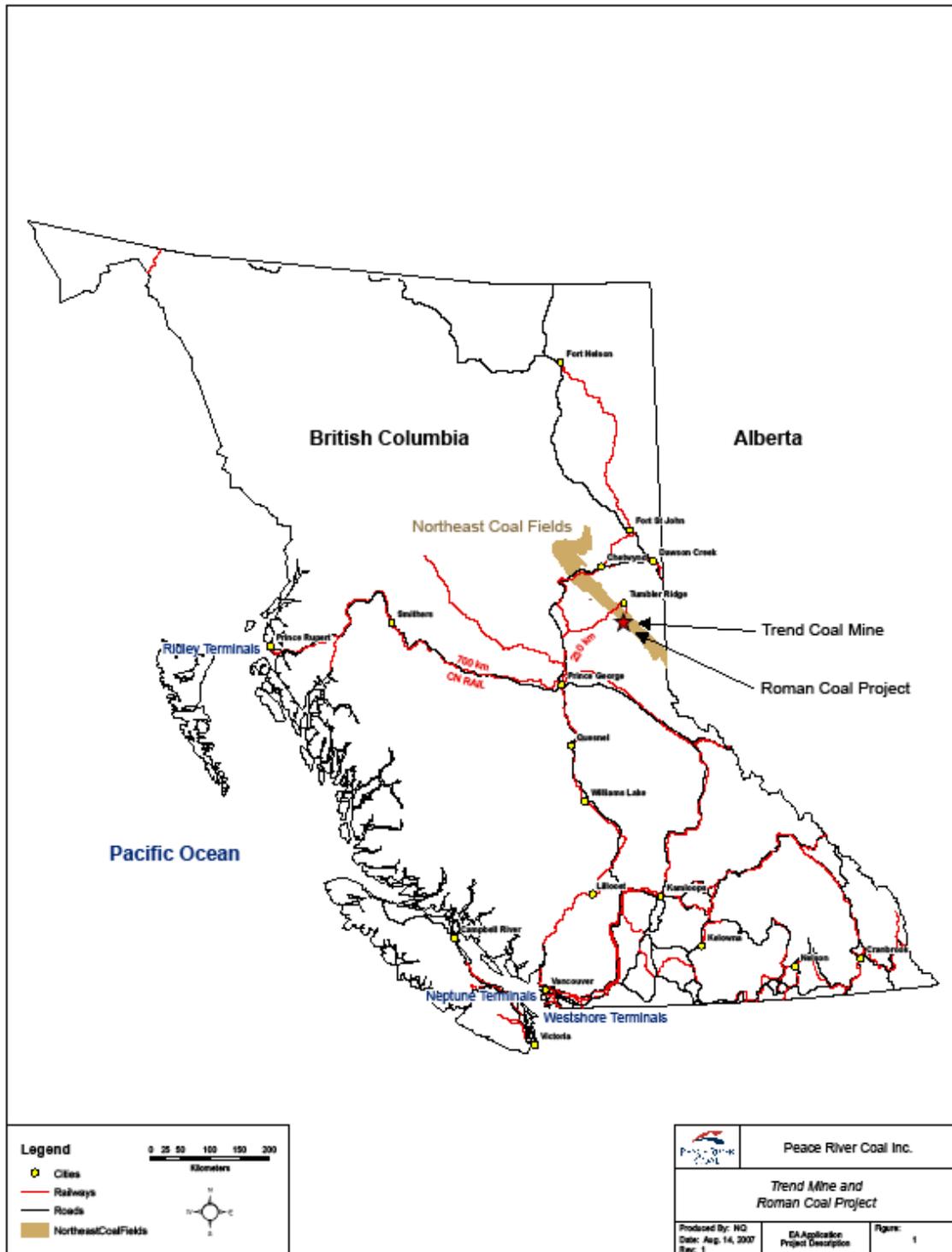
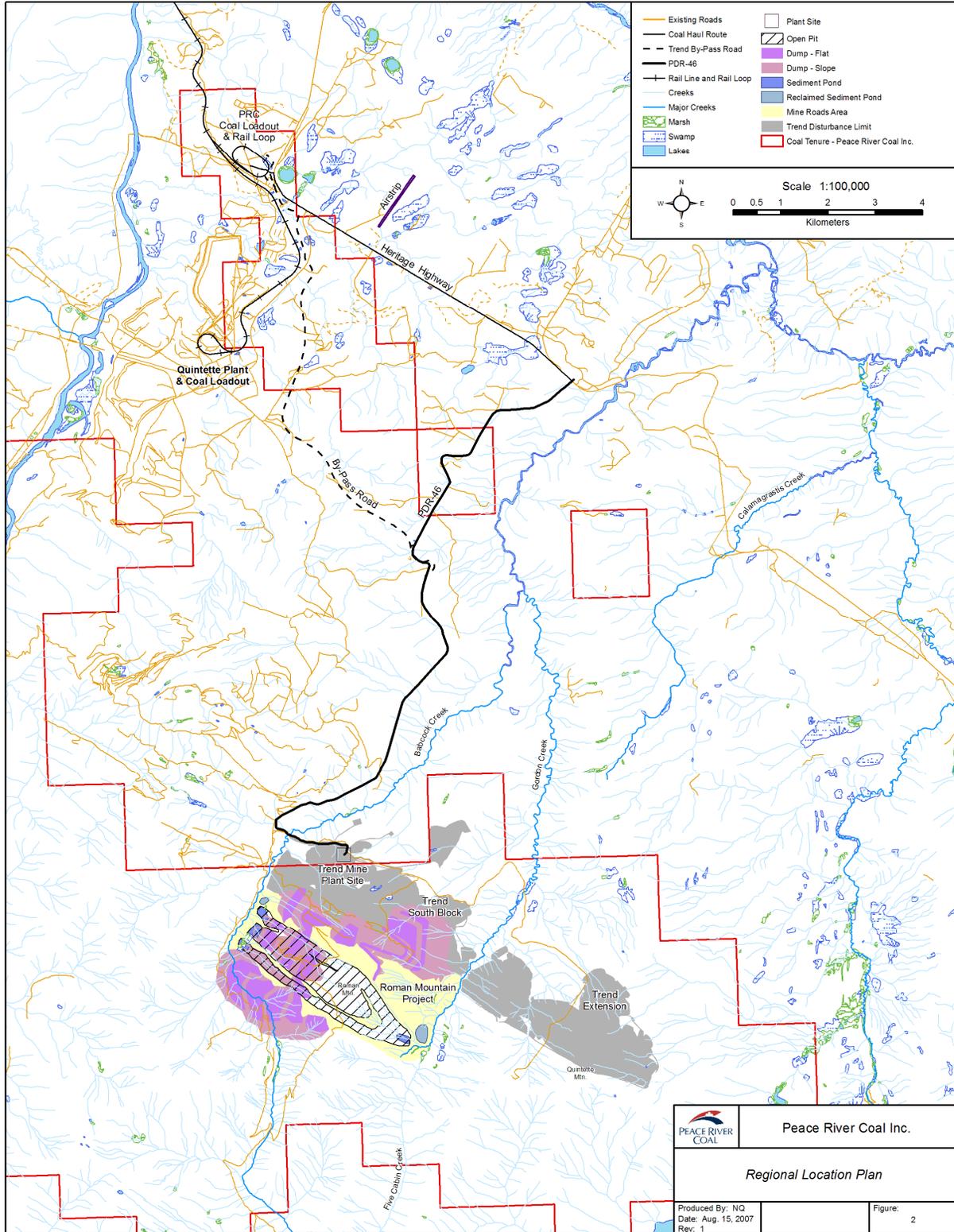


Figure 2 Regional Location Plan



1.3 Project Overview

Roman Mountain is located approximately 25 km south of Tumbler Ridge. The Roman Project will produce two to four million tonnes per annum of metallurgical coal. Approximately 41.5 million Run of Mine (ROM) coal tonnes are available. The average strip ratio is estimated to be 6.4:1 (Bank Cubic Metres per Run of Mine tonnes [BCM:ROMt]), and the area of new disturbance is approximately 1,078 hectares. Pit backfill and utilization of the Trend Mine pit as the Project tailings impoundment area will reduce the Project footprint. Trend Mine overlap is 269 hectares.

The Project will consist of:

- 5-km linear open-pit(s) to be mined in stages
- associated waste rock dumps north and south of the pits (pit backfill to be utilized in the Project and Trend Mine–South block pits)
- a network of mine access and haul roads
- tailings impoundment (Trend Mine–South block pit to be utilized)
- water management structures, including sedimentation ponds and associated collection ditches
- soil stockpiles
- a plant site and associated facilities, including process plant, tailings pond, coarse coal reject pile and sedimentation ponds
- an existing (21 km) coal haul road to the load-out (utilizes Trend Mine roads which will not require upgrade for the Project)
- a 25 kV power line extension from the Trend Mine plant site
- the Trend Mine bulk explosives facility will be utilized
- an office, mine dry and maintenance facility (the existing Trend Mine facility will be utilized)
- a portable sewage treatment plant
- The processed coal will be trucked along the Trend Bypass Road to the existing Trend Rail Loadout for transportation on the Canadian National rail line to Ridley Island coal terminal near Prince Rupert to serve the international metallurgical export market.

2 Geology

2.1 Regional Stratigraphy

The Roman Project property is located directly south of the existing Trend Mine. Coal seams of economic interest are located in the Gates and Gething Formations as at the Trend Mine. The structure of the Roman Project coal seams consists of a large syncline the axis of which strikes northwest–southeast. The axis of the syncline plunges to the northwest. Figures 3 and 4 are cross-sections through the property area which show the structure of the syncline. Typically the limbs of the syncline are dipping at angles between 40 and 65°.

2.2 Coal Seams

There are several seams developed to thicknesses of potential economic interest (>1 m true thickness) in both the Gates and Gething Formations. These seams and their typical thickness range are listed in Table 1.

Table 1 Coal Seams of Interest and Typical Seam Thickness

Formation – Seam Designation	Typical Thickness (metre)
Gates Formation	
D1 Seam	1.0
D2 Seam	1.8
E1 Seam	1.5
E2 Seam	1.5
E3 Seam	1.0
F Seam	2.5
G Seam	3.0
J Seam	6.0
<i>Total Thickness</i>	<i>18.3</i>
Gething Formation	
Bird Seam	2.0
GT1 Seam	2.5
GT2 Seam	2.0
GT3 Seam	1.0
<i>Total Thickness</i>	<i>7.5</i>

3 Project Description

3.1 Open Pit Development

A mine footprint and conceptual phasing (Figures 5, 6, 7 and 8) for the open pit areas was developed for coal release from both the Gates and Gething pits in order to allow for blending. Volumetric analyses of the various pit phases revealed that the pit shells have relatively constant strip ratio progressing in sections from west to east, which simplifies balancing of coal and waste quantities over the project life. In addition, the phasing of the pits was developed to allow for backfilling of mined out pit areas where it was deemed feasible.

The open pit would be developed from west to east with mining of the lower western pit areas taking place first. Initial waste rock from these pits would be used to establish haul roads to the plant site. There are several plant site locations being considered including a location adjacent to the existing Trend Mine process plant. The majority of the waste rock would be placed in an external rock dump located in the upper drainage of Babcock Creek immediately south of the pits.

Mining of the upper pit areas, including the top of Roman Mountain, would take place later in the mine life and allow waste from the upper pit areas to be used to backfill the lower Project pit areas as well as backfilling the mined out Trend South block pits. As mining progresses beyond the western side of Roman Mountain, to allow for mining of the total Roman property, access to the eastern portion of the Gates and Gething pits would be developed from the eastern end of the Trend South block. Development of this haul road would allow for mining of the Gates syncline to the elevations where the coal seams daylight on the eastern slopes of Roman Mountain.

Given the configuration of the pits and coal seams, mining equipment will be selected to meet the required production levels while also maintaining selectivity to limit dilution and increase coal recovery.

3.2 Coal Processing and Handling

A conceptual coal processing and handling circuit was developed. There are two plant site options for the Roman Project:

Option 1: Trend-Roman Combined Plant

A new plant would be constructed adjacent to the existing Trend plant to service all production from South, Extension and Roman blocks.

Option 2: Trend-Roman Combined Plant–Loadout

A new plant would be constructed between the Trend Bypass Road and the Trend rail load-out to service production from South, Extension and Roman blocks and potentially the Horizon Mine, a project currently in the pre-application phase of the provincial environmental assessment process.

3.3 Infrastructure Development

Infrastructure development associated with the Roman Project is expected to include the following (in addition to the coal processing and handling infrastructure):

- water management structures, including in-pit sedimentation ponds
- powerline and substation
- initial pit access road development
- tailings and coarse coal co-disposal pipeline/dewatering systems

A camp is not expected to be necessary. Workers are expected to travel from Tumbler Ridge.

4 Regulatory Context

4.1 Canadian *Environmental Assessment Act*

The Proponent will consult with the federal regulatory agencies to determine whether there is a Canadian *Environmental Assessment Act (CEAA)* trigger for the Project.

As part of the Trend Mine regulatory process, the following conclusions were reached by Canadian Environmental Assessment Agency:

- A section 35 *Fisheries Act* authorization was not required by the Fisheries and Oceans Canada (DFO) as the harmful alteration, disruption and destruction of fish habitat was avoided. DFO did not exercise any powers or duties under section 5(1) of the *CEAA* for the Trend Mine.
- Babcock and Gordon Creeks were deemed non-navigable at the Trend Mine site by Transport Canada Navigable Waters Division. The Roman Project is located upstream of the Trend Mine.
- A Base Factory License requires a federal environmental assessment by Natural Resources Canada (NRCAN). NRCAN conducted a screening assessment of the license application for the Trend Mine Factory site submitted by the third party explosives supplier. A Base Factory License will be issued to the Third Party Contractor for the Trend Mine once the construction is complete in September 2007. The Roman Project would utilize this same explosive supply source.

4.2 British Columbia *Environmental Assessment Act*

According to the Reviewable Projects Regulation of the British Columbia *Environmental Assessment Act (BC EAA)*, a coal project which exceeds 250,000 tonne per annum production rate will require an environmental assessment certificate. The Roman Project production rate is planned at 2 to 4 million clean tonnes per annum.

5 Consultation

Prior to creation of the Partnership between NEMI, Hillsborough and Anglo, NEMI introduced the Roman Project to government agencies in mid-May 2004 as part of the discussion on possible future development of its Trend property. Detailed discussions with key agencies commenced in early 2007.

5.1 Federal Government Agencies

The Proponent will consult with the following federal government agencies:

- Canadian Environmental Assessment Agency
- Department of Fisheries and Oceans
- Transport Canada
- Natural Resources Canada
- Environment Canada

The Proponent met with representatives of the Canadian Environmental Assessment Agency and Department of Fisheries and Oceans in Vancouver in May 2004. At that time, the Proponent introduced the Trend property to the agencies. The Trend property consists of five coal blocks: South, Extension, Hambler, Roman and Q West. Initial development was to occur as the Trend Mine in the South and Extension coal blocks. The company also indicated that future exploration and mine development would occur in the remaining blocks: Roman, Hambler and Q West subject to global coal market conditions.

5.2 Provincial Government Agencies

The Proponent has commenced or will initiate discussions with the following provincial government agencies:

- Ministry of Energy, Mines and Petroleum Resources
- Ministry of Environment
- Ministry of Forests and Range
- Ministry of Agriculture and Lands
- Ministry of Transportation
- Ministry of Tourism, Sport and the Arts

The Proponent met with MEMPR and MOE, EPD in Vancouver in May 2004. At that time, the Proponent introduced the Trend property to the agencies. The company also explained that future exploration and mine development would occur in the remaining blocks: Roman, Hambler and Q West subject to global coal market conditions. Sufficient exploration information is now available for the company to submit a proposal for the Roman block.

A meeting with a representative of the BC Environmental Assessment Office was held in Victoria on January 16, 2007. The Proponent provided preliminary project information

and a proposed project schedule to representatives from the MOE, EPD on February 12, 2007 in Prince George. Project details were presented to MOE and MEMPR representatives on June 15, 2007 in Prince George, MEMPR in Dawson Creek on June 20, 2007 and MOE, Ecosystems Section on July 10, 2007 in Fort St. John.

5.3 Regional and Local Government Agencies

The Proponent will contact the following regional and local government agencies:

- Northern Health Authority
- District of Tumbler Ridge
- District of Chetwynd

5.4 Aboriginal Peoples

5.4.1 Identification of Aboriginal Groups in the Project Area

The Project is located in an area within or near the traditional territory of several aboriginal groups, some of which are signatories to Treaty No. 8 while others have been identified for the purposes of consultation.

The following groups are signatories to Treaty No. 8 in British Columbia and members of the Treaty 8 Tribal Association.

- Saulneau First Nations
- West Moberly First Nations
- Halfway River First Nation
- Prophet River First Nation
- Doig River First Nation
- Fort Nelson First Nation

Other Treaty 8 Signatories

- McLeod Lake Indian Band
- Blueberry River First Nations

Three other groups have been identified for purposes of consultation.

- Kelly Lake Cree Nation
- Kelly Lake Métis Settlement Society
- Kelly Lake First Nation

One group is in late-stage treaty discussions with government

- Lheidli T'enneh Nation

5.4.2 Summary of Meetings and Consultation to Date

The Proponent, beginning in the spring of 2004 began to consult with six aboriginal groups. The Proponent introduced the Trend property as having five coal blocks: South,

Extension, Hambler, Roman and Q West. Initial development was to occur in the South and Extension coal blocks. It was also explained that future exploration and mine development may occur in the remaining blocks: Roman, Hambler and Q West.

Saulteau First Nations

There have been over 286 interactions between the Proponent and SFN since May 2004, including meetings and discussions. Most recently, PRC met with SFN Chief and Council, the Land Manager and the Coal Coordinator at the Saulteau Band Office on July 10, 2007 and two SFN reps at a meeting chaired by the BCEAO on July 11, 2007 to provide information on the Roman Project.

McLeod Lake Indian Band

There have been over 245 interactions between the Proponent and MLIB since May 2004, including meetings and discussions. Most recently, PRC met with the Land Manager and one councillor at McLeod Lake office on July 11, 2007 to provide information on the Roman Project.

West Moberly First Nations

There have been over 390 interactions between the Proponent and WMFN since May 2004, including meetings and discussions. Most recently, PRC met with the Chief councillor, the Land Manager and three band councillors on July 6, 2007 in Moberly Lake and also the Land Manager on July 10, 2007 in Chetwynd to provide information on the Roman Project.

Kelly Lake Community

Interactions between the Proponent and the Kelly Lake groups include meetings and discussions total 54, 39 and 228, respectively for the KLCN, KLFN and KLM. Most recently, PRC met with the President of the KLM at McLeod Lake office on July 11, 2007 to provide information on the Roman Project.

Halfway River First Nation

Interactions between the Proponent and the Halfway River Nations commenced at the meeting held in McLeod Lake Indian Band office, attended by other aboriginal groups and chaired by the BCEAO on July 11, 2007.

5.5 Tenure Holder Consultation

The Proponent will continue to contact and consult with Crown tenure holders in the Project area including forestry and oil and gas companies, guide outfitters and trappers.

6 Environmental, Social and Heritage

6.1 Physical Setting

The Project lies on the north-eastern flank of the mountain ridgeline that includes Roman and Quintette Mountains. These mountains reach elevations of 2,027 and 1,900 metres,

respectively. The pit and dumps span an elevation range between 1,340 and 1,840 metres. The highest elevation areas are located in the middle of the coal block.

The mine site is in the watershed of Flatbed Creek, which flows into the Murray River. Mine development activity will occur in higher elevation area of the Babcock Creek watershed, a major Flatbed tributary. Gordon Creek, the largest Babcock Creek tributary, is in mine site area (Figure 2).

The footprint of the Roman Project is located within the same watershed as the Trend Mine. As such, comprehensive baseline data, including fish and wildlife, vegetation and water quality information collected for the Trend Mine operation, are directly applicable to the Roman development study. Data collection commenced in 2003/2004, so there are substantial environmental data available to describe baseline conditions. These data have been provided in various regulatory applications as well as annual report documents to MEMPR and MOE, and include the following: Trend Small Mine (TSM) Project–*Mines Act* Permit Application, Trend Mine Expansion–*Mines Act* Permit Application, Trend Mine–*Environmental Act* Permit Amendment (Effluent), TSM Project–*Environmental Act* Permit Application (air quality), and Annual Reports to the MEMPR and MOE for 2006 and 2007.

6.2 Socio-Economics and Public Health

At the planned production level, the Roman Project will directly employ approximately 250 new people who are expected to reside primarily in Tumbler Ridge. The mine will make a substantial contribution to the sustainability of northeast coal transportation infrastructure, including rail and port. At the two million tonne per annum level, with today's coal prices and exchange rates, the mine will have gross annual revenues of approximately \$160 million, and will make a substantial contribution to the local economy. The initial capital cost of the Project is estimated at \$25 million based on utilization of the rail and load-out developed for the Trend Mine.

The Proponent will consult with the First Nations and aboriginal groups, local communities and government to scope an appropriate socio-economic study for the Roman Project. The company Proponent will address issues related to public health and safety.

6.3 Provincial Land and Resource Use

A Land and Resource Management Plan (LRMP) exists for the Dawson Creek area to guide resource management activities. The plan incorporates the principles of integrated and responsible resource development into a long-term plan for Crown land in consideration of environmental and social values.

Link for area <http://srmwww.gov.bc.ca/rmd/lrmp/dawson/images/map1.jpg>.

The LRMP area is divided into 12 resource management zones (RMZ's) to reflect resource values, existing economic activity, environmentally important areas and Agricultural Land Reserve boundaries.

The Dawson Creek planning area nearly encompasses the Peace River Coalfield in its entirety. There are billions of tonnes of coal resources in this coalfield. During operation, Quintette and Bullmoose coal mines accounted for the largest proportion of jobs in all industrial sectors in the LRMP area. Potential for long term future extraction of coal is very high throughout the coalfield. It is recognized that coal resources have high

economic value. Mineral exploration and extraction, and associated mining infrastructure are acceptable uses of the land outside Protected Areas.

The development of the Roman Project is consistent with the Dawson Creek Land and Resource Management Plan.

6.4 Additional Field Studies for 2007

6.4.1 Air Quality

Dustfall data has been collected at the Trend coal processing and rail loadout areas since January 2006. Historical measurements of dustfall are available for several locations in the vicinity of the (now closed) Bullmoose and Quintette Mines for the years 1993 to 2000, excluding 1997. Dustfall measurements at Pine Valley Coal are available from 2001 to 2005. A dustfall monitoring program is being implemented for the Roman Project area.

PM₁₀ and PM_{2.5} data has been collected since January 2007 by PRCI at the Tumbler Ridge airport. PM₁₀ data from Pine Valley Coal is available from 2001 to 2005.

Meteorological data from Tumbler Denison, Tumbler Ridge and Red Deer are available.

6.4.2 Climate and Hydrology

The field studies planned for 2007 can be grouped into two categories: i) ongoing operation and maintenance of the site flow monitoring stations and the site weather station; and ii) a baseflow characterization study of the upper reaches of Gordon Creek and Babcock Creek.

PRC operates a network of six flow monitoring stations that will provide useful data for characterizing the hydrology of the Roman Project. These stations are located at:

- the outlets of three sedimentation ponds at the Trend Project (SP-1B, SP-2, and SP-3)
- Babcock Creek at Talisman Road (B2)
- Gordon Creek at Talisman Road (G2)
- Barbour Creek below Horizon Creek

The last station is sited on a stream draining the Horizon Project, but is close enough to the Roman Project to provide useful information on the regional variation of runoff. The water levels at all six stations are automatically monitored with pressure transducers. Control at the outlets of the three sedimentation ponds is provided by sharp-crested compound weirs. All other sites rely on the development of empirical rating curves to convert the water levels to equivalent discharge measurements. A program has been implemented to make frequent discharge measurements with a current meter at the last three stations listed above. The pressure transducer readings are validated with periodic manual readings of staff gauges.

PRC established an automated weather station at the Trend Mine in December 2005 to monitor precipitation, air temperature, humidity, wind speed and wind direction. This station will continue to operate through 2007 and will provide useful information for inferring the climate of the Roman Project.

As part of the environmental impact assessment, a study will be undertaken to estimate the impact of the mining operation on baseflows of Gordon Creek and Babcock Creek. Part of this study will involve a field program of about one week duration. The program will entail an accretion study to identify sources of water to the upper reaches of these two streams during low flow conditions. Technicians will walk along the length of the two streams from their headwaters to the Talisman Road (or Stations B2 and G2). As the technicians work downstream, the flow of all significant tributaries on the left and right banks will be measured. In addition, the flow of the main stem will be measured at frequent intervals. The field program will be conducted during a period of relatively stable flows to facilitate interpretation of the collected data.

6.4.3 Terrestrial

6.4.3.1 Study Areas

Local Study Area

A Local Study Area (LSA) is the area within which project effects can be predicted with a reasonable degree of accuracy and confidence, and where effects are likely to be most concentrated. The Roman LSA for vegetation and wildlife is delineated by an 800 m buffer around all project components (e.g., mine footprint, haul route). The boundary is intended to encompass the largest disturbance buffers used in the effects assessments for wildlife and vegetation (i.e., 800 m). The terrestrial field surveys focus on the LSA.

Regional Study Area

The Roman Regional Study Area (RSA)¹ includes all sub-watershed units that may be affected by the project, and a landscape-level representation of all habitats/ecosystem units that may be affected by the project. This RSA is based on that used for the Trend Mine Project but has been expanded to include the proposed Horizon mine². The boundary is generally delineated by sub-watershed unit boundaries except for the western boundary which follows the Murray River. The size of the RSA (49,565 ha [496 km²]) is intended to reflect the large seasonal home ranges of the grizzly bear and woodland caribou. Residual project effects are assessed and characterized in terms of their effect within the RSA, and analytical tools (e.g., habitat suitability mapping) are applied to the RSA. The RSA also provides a broader context for discussion of project-related effects, and sets the general boundaries for the collection and review of existing literature and information.

6.4.3.2 Approach

Multiple field sessions intended to supplement the existing vegetation and wildlife baseline information, and integral to the development of the terrestrial ecosystem mapping (TEM) were conducted in June, August and December 2004, and in January and June 2005. Reconnaissance level TEM coverage for the RSA and SIL³ 2 TEM coverage for the mine footprint were finalized in 2005. In support of this mapping, a total of 506

¹ Note that the RSA boundary is the same as the area for which the TEM is developed

² The RSA for the Horizon Mine Project is the same as the Roman RSA

³ Survey Intensity Level

TEM plots, including both ground inventory plots and quick visual plots (Luttmerding et al. 1990), were surveyed in the LSA during the 2004 and 2005 summer field sessions. In addition, 79 detailed terrain/soil sites were surveyed in 2004 and 2005 to support the development of the TEM, and as input to the reclamation plan. Site reconnaissance surveys were undertaken to record observations of wildlife and/or wildlife sign and to make general descriptions of habitat values in the LSA in the summer (2004 and 2005)⁴ and winter (January 2005). Information from these surveys was used to refine the wildlife habitat models. Songbird surveys were conducted in late June 2004 and 2005. Breeding bird surveys were conducted late June 2004 and 2005 using a simple point count method (RIC 1999) applied along road transects on Talisman Road, PDR-46, and sections of the Heritage Highway and Murray River FSR. A total of 21 points count stations were surveyed two to four times each.

Fifteen rare plant plots were surveyed in June 2004 and 2005 and August 2005 in areas identified as having exceptionally high potential for rare plant occurrence (e.g., alpine tundra). In addition, any rare plants identified at the TEM plots, soil survey site and point count stations were recorded. A wetland survey was conducted in and around the mine footprint in June 2005.

Data on biophysical parameters and vegetation characteristics (e.g., dominant species) were collected, a general assessment of wildlife value was made, and any evidence of wildlife use was recorded. Finally, incidental wildlife or wildlife sign observations made by project-related personnel (including mine staff) in 2004 and 2005 were compiled for the RSA.

Additional field programs for vegetation, wildlife and soils in 2007 are:

- breeding bird survey
- wildlife transects
- rare plant survey
- refinement of TEM (with ground verification) to increase SIL for mine permit application
- vegetation sample collection for metals analysis
- additional soil surveys to increase SIL for mine permit application

6.4.4 Geochemistry (Acid Rock Drainage and Metal Leaching)

- Core samples will be drilled from two sections through entire stratigraphy to confirm units are analogous to Trend. Testing will include static tests only. Kinetic testing is not expected to be necessary unless new units are encountered.

⁴ Typically in conjunction with TEM and rare plant surveys

6.4.5 Aquatic

6.4.5.1 Babcock Creek Watershed

Sediment

Sediment quality data have been collected from watercourses throughout the Roman footprint. Babcock and Gordon Creek sediments were collected in the upper and lower reaches at least twice from 2004 to 2006. These data were sufficient for determining baseline for the Trend Mine Expansion. Therefore, it is assumed that this database will suffice for the Roman baseline assessment as well.

Benthic Invertebrate and Periphyton

Data regarding benthic invertebrate and periphyton community structure and tissue chemistry (i.e., total selenium) were collected from three stations in Babcock Creek and two stations in Gordon Creek in 2004/2005. Historical data (i.e., from 1981 and 1998) are also available for several additional stations. These data were sufficient for characterizing baseline conditions for the Trend Mine Expansion. Therefore, it is assumed that this data set will be sufficient for the Roman baseline assessment as well.

Fish

Babcock Creek is non-fish bearing at the location of the Roman Project. Gordon Creek is fish bearing along its entire stretch.

Slimy sculpin were collected from three stations in Babcock Creek and one in Gordon Creek and bull trout were collected from two Babcock Creek stations for assessment of selenium and metal concentrations in tissues. These data were sufficient for determining baseline metals content for the Trend Mine Expansion, as well as “trigger” and “not to exceed” levels for selenium management. Therefore, it is assumed that these data will be sufficient for the Roman baseline assessment as well.

Surface Water Quality

An extensive water quality baseline database was developed for the Trend Mine Expansion Assessment. This database included water quality data from the upper and lower reaches of Babcock and Gordon Creek and spanned from September 2003 to September 2005. As part of the ongoing monitoring program from the Trend Mine, additional water quality data have been collected along Babcock and Gordon Creeks. The Roman baseline will include these water quality data up to May 2007 and is considered adequate for establishing baseline conditions for the Roman Project.

Ground Water Quality

An extensive regional groundwater quality database has been compiled for coal mines in the immediate vicinity of Roman Mountain, including the Trend mine. This will be supplemented by site-specific water quality data to be collected during autumn 2007 from monitoring wells completed in both recharge and discharge zones, at different depths and within different lithologies. Water quality data does or will include dissolved metals, anions, nutrients and standard parameters such as pH, alkalinity and conductivity. These data will be considered sufficient for the Roman baseline assessment.

6.4.5.2 Five Cabin Creek Watershed

It is not anticipated that the Roman Project will impact the Five Cabin Creek watershed. However, in the event that baseline conditions must be established for Five Cabin Creek prior to Roman development, an extensive baseline database has been collected by NEMI, HLB and Anglo.

6.4.6 Heritage

6.4.6.1 Traditional Use Study

The Proponent will consult with the First Nations and Aboriginal groups to scope an appropriate Traditional Land Use study for the Roman Project by building on the existing study conducted by the First Nations on the Trend Mine.

6.4.6.2 Archaeology

The Proponent will conduct an archaeology assessment to meet the requirements of the EAA.

7 Project Schedule

The Proponent proposes to advance development on the Roman Project through the following five phase process:

7.1 Phase I (January to June 2007)

- collect and preliminary review available baseline information; preliminary issue identification and scoping
- hold initial meetings with regulatory agencies
- initiate balance of environmental field programs, notably seasonal aquatic baseline programs
- identify and meet with First Nations, other aboriginal groups and stakeholders

7.2 Phase II (June to October 2007)

- submit Project Description and issuance of Section 10 BC *EAA* Order
- define environmental field program in consultation with consultants and regulators, continue environmental baseline monitoring
- decision from federal departments regarding *Canadian Environmental Assessment Act*
- issuance of Section 11 BC *EAA* Order
- maintain ongoing liaison with regulatory agencies, including negotiation of detailed Terms of Reference for the environmental assessment and review of draft mitigation and management plans
- conduct consultation with First Nations, other aboriginal groups, stakeholders and public
- conduct field geotechnical investigation for all mine structures and facilities
- conduct scoping studies to evaluate mining options and set direction for feasibility work

7.3 Phase III (October 2007 to February 2008)

- develop detailed impact assessment, mitigation planning and environmental management program development
- prepare and submit Application (February 2008)

7.4 Phase IV (March to October 2008)

- conduct consultation with First Nations, other aboriginal groups, stakeholder and public

- complete feasibility report
- prepare *Mines Act* permit application and other key permit applications
- liaise with regulatory agencies during review
- hold public meetings
- develop stakeholder and First Nations agreements as may be required
- respond to final information requirements from regulatory agencies for issuance of *Mines Act* permit and environmental assessment certificate

7.5 Phase V (November 2008)

- issuance of environmental assessment certificate and *Mines Act* permit and reclamation certificate