LINE CREEK OPERATIONS PHASE II PROJECT DESCRIPTION UPDATE

Submitted To:
BC Environmental Assessment Office
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Victoria, BC, V8W 9V1

Pursuant To:
British Columbia Environmental Assessment Act

Submitted By:
Teck Coal Limited – Line Creek Operations

September 2011
# ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AEMP</td>
<td>Aquatic Effects Monitoring Program</td>
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<tr>
<td>BC</td>
<td>British Columbia</td>
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<tr>
<td>BC EAO</td>
<td>BC Environmental Assessment Office</td>
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<tr>
<td>BCEAA</td>
<td>British Columbia <em>Environmental Assessment Act</em></td>
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<tr>
<td>BRN</td>
<td>Burnt Ridge North</td>
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<tr>
<td>BRS</td>
<td>Burnt Ridge South</td>
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<tr>
<td>CEA</td>
<td>Canadian Environmental Assessment</td>
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<tr>
<td>CEAA</td>
<td>Canadian <em>Environmental Assessment Act</em></td>
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<tr>
<td>CP</td>
<td>Canadian Pacific</td>
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<tr>
<td>DFO</td>
<td>Fisheries and Oceans Canada (formerly Department of Fisheries and Oceans Canada)</td>
</tr>
<tr>
<td>e.g.</td>
<td>For example</td>
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<tr>
<td>EAC</td>
<td>Environmental Assessment Certificate</td>
</tr>
<tr>
<td>EMS</td>
<td>Environmental Management System</td>
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<tr>
<td>HADD</td>
<td>Harmful alteration, disruption or destruction</td>
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<tr>
<td>HSR</td>
<td>Horseshoe Ridge</td>
</tr>
<tr>
<td>i.e.</td>
<td>That is</td>
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<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>LCO</td>
<td>Line Creek Operations</td>
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<tr>
<td>masl</td>
<td>Metres above sea level</td>
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<tr>
<td>MEMPR</td>
<td>Ministry of Energy Mines and Petroleum Resources</td>
</tr>
<tr>
<td>MM</td>
<td>Mount Michael</td>
</tr>
<tr>
<td>MSAN</td>
<td>Mine Services Area North</td>
</tr>
<tr>
<td>MSAWX</td>
<td>Mine Services Area West Extension</td>
</tr>
<tr>
<td>NLC</td>
<td>North Line</td>
</tr>
<tr>
<td>NLX</td>
<td>North Line Extension</td>
</tr>
<tr>
<td>No.</td>
<td>Number</td>
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<tr>
<td>Teck</td>
<td>Teck Coal Limited</td>
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<tr>
<td>the Project</td>
<td>the LCO Phase II Project</td>
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**UNITS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>%</td>
<td>percent</td>
</tr>
<tr>
<td>°</td>
<td>degrees</td>
</tr>
<tr>
<td>ha</td>
<td>hectare</td>
</tr>
<tr>
<td>kg/day</td>
<td>kilograms per day</td>
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<tr>
<td>km</td>
<td>kilometre</td>
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<tr>
<td>km²</td>
<td>square kilometres</td>
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<tr>
<td>kV</td>
<td>kilovolt</td>
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<tr>
<td>m</td>
<td>metre</td>
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<tr>
<td>m³</td>
<td>cubic metres</td>
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<tr>
<td>m³/day</td>
<td>cubic metres per day</td>
</tr>
<tr>
<td>Mmtcc</td>
<td>million metric tonnes of clean coal</td>
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1 INTRODUCTION

Teck Coal Limited (Teck), the Coal Business Unit of Teck Resources Limited, is the leading North American producer of steel making and thermal-grade coal. The company operates six open-pit mines in western Canada: Cardinal River, Coal Mountain, Fording River, Greenhills, Elkview and Line Creek. Five of these mines are in the Elk Valley of southeastern British Columbia (BC); Cardinal River is in west-central Alberta. Together they account for annual production capacity in excess of 20 million tonnes of high-grade metallurgical coal.

As part of Teck’s plan to sustain production into the future, Teck is proposing an extension north of the existing Line Creek Operations (LCO) mine. The proposed new operating areas are referred to as Burnt Ridge North and Mount Michael, and collectively the development is referred to as the Line Creek Operations Phase II Project (the Project).

The Project was originally described in Project description documents that were provided to the British Columbia Environmental Assessment Office (BC EAO) and Canadian Environmental Assessment Agency (CEA Agency) in 2009 (Teck 2009a,b). Those documents provided the information necessary for the BC EAO and federal government agencies to make a determination as to whether the Project triggered review under the British Columbia Environmental Assessment Act (BCEAA; Government of British Columbia 2002) and/or the Canadian Environmental Assessment Act (CEAA; Government of Canada 1992). On the basis of their review, it was determined that:

- The Project is subject to review under the BCEAA because, pursuant to Part 3 of the Reviewable Projects Regulation, the proposed Project would be a modification of the existing Line Creek Operations, have a production capacity of greater than or equal to 250,000 tonnes per year of clean or raw coal or a combination of clean and raw coal, and result in the disturbance of at least 750 hectares of land that was not previously permitted for disturbance (BC EAO 2009b).

- The Project is subject to review under the CEAA because, under Section 5 of the CEAA, a screening level environmental assessment is required because Fisheries and Oceans Canada (DFO) may take action in relation to subsection 35(2) of the Fisheries Act (Government of Canada 1985a) for the purpose of enabling the Project to be carried out in whole or in part (CEA Agency 2010).

The BC EAO and the CEA Agency signed the Canada-British Columbia Environmental Assessment Delegation Agreement March 2, 2010 for the Project, delegating the screening level federal environmental assessment of the proposed Project and the preparation of the screening report to the BC EAO pursuant to subsection 17(1) of the CEAA (BC EAO and CEA Agency 2010). The agreement sets out the roles and responsibilities of the parties with respect to the delegation of the federal environmental assessment process, including the role of DFO as the federal responsible authority. The assessment report, to be prepared by the BC EAO through the delegated process, will be used by the responsible authority to take the appropriate course of action pursuant to paragraph 20(1)(a), (b), or (c) of the CEAA.
Teck has subsequently been conducting an environmental assessment to meet the requirements of BCEAA and CEAA. Primary activities undertaken to date have included:

- Implementation of baseline studies to collect information about the existing environment in the Project area.
- Consultation with First Nations, provincial, federal, regional, municipal and United States of America government agencies and their representatives about the Project and the environmental assessment.
- Consultation with the public through implementation of open houses in Elkford and Sparwood, BC in 2010, meetings with interested stakeholder groups, and other communications.
- Development of draft Application Information Requirements that set out the information to be included in Teck’s (i) application for an Environmental Assessment Certificate (EAC) under the BCEAA; and (ii) application for decision on the Project by the responsible authority under the CEAA. This process included review of the draft Application Information Requirements by First Nations, provincial, federal, regional, municipal and United States of America government agencies who participate in a Working Group established by BC EAO for the environmental assessment, and by the public during a formal 30-day public review period.
- An iterative cycle of environmental assessment and Project refinements to reduce environmental, economic, social, heritage and health effects of the Project is currently underway.

As a result of these activities, Teck has undertaken a review and evaluation of site-specific selenium management options that could be implemented at LCO to contribute to Teck’s commitment to stabilize and reduce the trend of selenium loadings in the Elk Valley (Teck 2010a,b). The evaluation considered options that could be implemented for both the proposed Project and the existing LCO, and which could meet an immediate objective of reducing and maintaining LCO's selenium loads to below 2010 levels, as assessed in the Fording River downstream of the confluence of Line Creek. The site-specific selenium management options analysis conducted for LCO will form a component of the regional selenium management plan that is being developed by Teck.

The review and evaluation of site-specific selenium management options is now complete and selenium management options for the proposed Project have been incorporated into the overall project plan. Specifically, active selenium water treatment in Dry Creek was identified as the most suitable option for the Project and will contribute to Teck’s objective of maintaining total selenium loadings from LCO to below 2010 levels in the Fording River downstream of Line Creek.

As part of the evaluation of selenium management options at LCO, Teck has also identified selenium management options that will be implemented at the existing LCO to contribute to maintaining total selenium loadings from LCO to below 2010 levels. These include installation of selenium active water treatment in West Line Creek in two phases, to be commissioned in 2014 and 2018, respectively. These selenium management
measures are not part of the Project; however, they have been designed to mitigate cumulative effects of existing LCO and the Project and will be evaluated as part of the environmental assessment for the Project.

This Project Description Update is provided to update interested parties on the revised Project description and is intended to supersede Section 1 (Proponent Information), Section 2 (Project Information1) and Section 7 (Environmental Assessment Process and Regulatory Triggers) of the 2009 Line Creek Operations Phase II Project Description (Teck 2009a).

For the most part the Project is consistent with the mine plan and implementation schedule that was originally presented (Teck 2009a,b). The primary updates to the Project can be summarized as follows:

- Installation of a selenium active water treatment plant that will reduce selenium load from mine-affected water. The treatment plant is projected to be commissioned in 2022.

- Updates to the surface water management plan to include a diversion system that will convey selenium-concentrated water from the toe of the Dry Creek rock drain to a sediment pond and the active water treatment plant.

- Updates to the Project footprint to incorporate selenium management infrastructure, namely the active water treatment plant, sediment pond and diversion system noted above.

- Updates to the description of on-site infrastructure to incorporate the need for access and power to the selenium management infrastructure, including addition of a clearspan bridge across Dry Creek to provide access to the sediment pond, active water treatment plant, and the Dry Creek diversion system.

- Updates to the environmental assessment and mining schedule to adapt to the selenium management options evaluation and incorporate the results into the Project.

- Minor modifications to the mine pit shell to incorporate updated information on coal reserves and geotechnical recommendations for pit walls and slopes.

- Restriction of the Burnt Ridge North pit by approximately 400 m to eliminate the potential requirement for a water outfall to Grace Creek and an unnamed tributary to the Fording River located northwest of the Dry Creek watershed.

The rationale for the selection of the final Project will be presented in the EAC Application. Updated Project information is further presented in the following sections.

1 With the exception that no update to Section 2.2 (Project History) or 2.3 (Deposit Geology and Resource Characterization) is presented in this document, as this information is still relevant to the Project.
2  PROJECT INFORMATION

2.1  Proponent Contacts

Updated proponent contact information is presented below.

The Proponent of the Project is:

Teck Coal Limited
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Calgary, Alberta
T2G 0R3
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Fax: 403.265.8794
Website: www.teck.com

Contact information for Teck Resources Limited’s President and Chief Executive Officer is:

Don Lindsay, President and CEO
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550 Burrard Street
Vancouver, BC V6C 0B3
Telephone: 604.699.4000
Fax: 604.699.4750
Email: Don.Lindsay@teck.com

Contact information for the Senior Vice President of Teck Resources Limited’s Coal Business Unit (Teck Coal Limited) is:

Ian Kilgour, Senior Vice President, Coal
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550 Burrard Street
Vancouver, BC V6C 0B3
Telephone: 604.699.4000
Fax: 604.699.4750
Email: Ian.Kilgour@teck.com

The principal Teck representative responsible for the LCO Phase II Project is:

Don Sander
General Manager, Line Creek Operations
PO Box 2003
Sparwood, BC V0B 2G0
Telephone: 250.425.2555
Fax: 250.425.7144
Email: Don.Sander@teck.com
For the purposes of the environmental assessment of the Project, the principal contact person is:

Kevin Podrasky  
Project Lead, Permitting  
PO Box 2003  
Sparwood, BC V0B 2G0  
Telephone: 250.425.3169  
Fax: 250.425.3176  
Email: Kevin.Podrasky@teck.com

2.2 Project Location and Overview

The general location of the Project remains unchanged. The Project is located within the East Kootenay region in the southeastern portion of BC (Figure 1), immediately north of the existing LCO open-pit mine (Figure 2). The centre of the Project footprint is located at approximately 114° 47’ 7.35” W and 49° 59’ 2.96” N. The Project area is located in the drainage basins of Dry Creek, Grace Creek and a small unnamed creek, all of which are tributaries to the Fording River (Figure 2). The area forms part of the Front Ranges of the Canadian Rockies, with elevations reaching over 2,450 metres above sea level (masl). The Project footprint will encompass portions of two peaks, referred to as Burnt Ridge North and Mount Michael. The proposed Project is located on fee simple land owned by Teck and on Crown land on coal licences held by Teck (Appendix A). The Project is located within the asserted traditional territory of the Ktunaxa First Nation. With the exception of ungulate winter range, no designated environmentally sensitive locations or cultural sites are located in the immediate vicinity of the Project (Figure 3).

Access to the Project area for the purpose of implementing baseline studies in support of the environmental assessment is north via Highway 43 (Elk Valley Highway) from Sparwood then east on Fording Road to Ewin Creek Road and then along an existing Forest Service Road that traverses the Dry Creek Valley bottom.

Access for construction of a sediment pond, newly proposed water treatment plant and other water management infrastructure located north of the mine footprint will also be via the route described above for baseline studies. Access to the sediment pond and water treatment plant site will require the construction of a clear-span bridge across Dry Creek.

Primary access to the Project area for the purposes of construction and operation of the mine will be via the existing LCO, which is accessed from Highway 43 and Line Creek Mine Road, and then along proposed new haul roads within the Project footprint.
LEGEND
CANADIAN PACIFIC RAILWAY
CONTOUR (500 FOOT INTERVAL)
EXISTING CABLE BELT
SECONDARY HIGHWAY
WATERCOURSE
BRITISH COLUMBIA - ALBERTA BORDER
EXISTING LINE CREEK OPERATIONS DEVELOPMENT AREA
EXISTING TRUCK DUMP
LINE CREEK OPERATIONS PHASE II PROJECT FOOTPRINT
OPERATIONAL BOUNDARY FOR LINE CREEK PHASE II PROJECT
PERMITTED COAL REFUSE AREA
PROCESS PLANT SITE
PROVINCIAL PARK
WATERBODY

REFERENCE
1: 50,000 scale hydrography and elevation data obtained from GeoGratis. Railway and Provincial boundary data obtained from DMTI. Projection: UTM Zone 11 Datum: NAD 83
The coal reserves in the proposed Project area have been under evaluation for several years. The proposed Project area has also been previously disturbed by other activities, including oil and gas exploration, timber harvesting, and exploration for mineral resources. The Project area is located immediately north of and adjacent to the Burnt Ridge South (BRS), Mine Services Area North (MSAN) and Mine Services Area West Extension (MSAWX) pits in the northern portion of the existing LCO operating area. As an extension of the current operations, the Project will mine the same coal deposits being extracted by existing mining operations and will use existing mine facilities to process and load the coal. The location of the proposed development in relation to existing operations is shown in Figures 1 and 2.

Based on the updated mine plan, development of the new operating area is estimated to provide an aggregate total of 59 million metric tonnes of clean coal (Mmtcc) and will extend operational mine life by 18 years. The proposed Project will generate about 637 million m³ of waste rock. Waste rock will be placed in new spoil areas within the upper portions of the Dry Creek valley, the pits to be developed on Burnt Ridge North and Mount Michael (once mined out), and the existing MSAWX and BRS operational spoil areas. The new operating area identified for the Project totals about 1,840 hectares (ha). This area includes about 1,140 ha for development of mine pits and waste rock spoil areas, and 700 ha for an operational buffer that will be used to develop the proposed surface water management and treatment infrastructure, and to manage incidental rock accumulation associated with normal waste rock dumping and mining activities.

Changes to the Project footprint over those presented in the 2009 Project description documents are limited to very minor changes in the pit and waste spoil boundaries to reflect the updated mine plan (discussed further below), and to move the operational boundary in the north end of the Project area to encompass the proposed sediment pond and water treatment plant. The changes to the Project added approximately 40 ha to the overall Project area (mining footprint and operational boundary) over the Project description presented in 2009 (Teck 2009a,b). The sediment pond and water treatment plant will be located as close to the toe of the rock drain as feasible given safety and topographic constraints associated with the narrow, steep Dry Creek valley.

Development of the Project is planned in several phases. The construction phase is planned to begin in the second quarter of 2013. Operations are planned to begin in 2014, with mining beginning in the south phases of Mount Michael and Burnt Ridge North. Mining will end in the year 2031. Activities following 2031 will comprise those necessary to complete reclamation and closure.

The main components and activities associated with the construction and operations phases of the Project comprise development and operation of:

- the Burnt Ridge North and Mount Michael open-pit mining areas;
- transportation and electrical transmission infrastructure for coal and waste hauls, pit access and provision of power to operating areas including the area designated for eventual construction of the selenium water treatment plant;
- a marshalling area, a fuel and lube station, and parts storage areas;
• waste rock spoils in the Dry Creek valley, completed Burnt Ridge North and Mount Michael pits, and existing operating areas;

• a rock drain on Dry Creek to convey surface water through the waste spoils;

• surface water management systems including construction of outlet structures to drain water from final pit areas, a debris trap and inlet berm to facilitate collection of mine-affected water from the toe of the Dry Creek rock drain, and a pipe diversion system to convey mine-affected water to a new sediment pond in the Dry Creek valley bottom (Figure 4); and

• selenium management activities proposed as a selenium active water treatment plant in the Dry Creek valley, with projected commissioning in 2022.

The Project is limited to the mining of coal from the Project area and the transportation of that coal to an existing cable belt where it will be transported to LCO’s existing coal process plant. The existing facilities have the permits and approvals required for their operation and have sufficient capacity for the new coal produced from the Project. Use of the existing infrastructure in place at the LCO mine is not included in the scope of the LCO Phase II Project, as no change will occur to these systems. The only exception to this is that the environmental assessment will consider the contribution of coarse coal rejects from the Project in terms of its potential effect on ground and surface water, as per the Section 11 order issued for the Project under the BCEAA (BC EAO 2010). Where existing operations have the potential to contribute cumulatively to the effects of the proposed Project they are considered as part of the cumulative effects assessment. Existing facilities are further described in Section 2.4.

Reclamation and closure activities will be conducted progressively where and when mining has ended and the area is available for these activities. Final reclamation and closure activities will be completed once mining operations end.

The construction phase labour force is anticipated to be about 206 full-time equivalents. Teck estimates that the operations phase workforce would be about 485 persons per year (direct jobs), including contractors. This number of direct jobs is similar to the current LCO workforce.