

**PROVINCE OF BRITISH COLUMBIA
ORDER OF THE MINISTER OF ENVIRONMENT
SECTION 89, ENVIRONMENTAL MANAGEMENT ACT**

Ministerial Order No. M113

Whereas there is evidence in the Elk Valley area of increasing concentrations of contaminants, such as selenium, cadmium, nitrate, and sulphate, in water and/or biota, which may exceed provincial Water Quality Guidelines, and may be causing impairment of ecosystem health, and are from numerous sources related to mining activity in the area;

And whereas there is evidence of calcite formation in some watercourses in the Elk Valley;

And whereas the Minister of Environment wishes to reduce calcite formation and to manage water quality to stabilize and reverse increasing trends in water contaminant concentrations in the short-term, and to set achievable water quality targets within the Elk Valley area over the longer-term for selenium, cadmium, nitrate, and sulphate;

And whereas the water treatment technologies are new and emerging, and advances and improvements in the technology are anticipated over time given global research in the area;

And whereas the regional economy is heavily dependent on mining and related activities;

And whereas the Minister of Environment considers that in order to protect the environment, an area based management plan for the Elk Valley area that is adaptive and reflects this changing technology is advisable for the purposes of environmental management to address current water quality trends for selenium, cadmium, nitrate, and sulphate, and calcite formation;

Now therefore:

I, Terry Lake, Minister of Environment, order that:

1. In accordance with the provisions of section 89 of the Environmental Management Act, the area described in and shown on the map appended as Schedule A to, and forming part of, this Order is designated for the purpose of developing the Elk Valley Area Based Management Plan.
2. In accordance with the provisions of section 89 of the *Environmental Management Act*, the process for the development of the Elk Valley Area Based Management Plan designated in section 1 above, is set out in Schedules B, C and D attached to, and forming part of, this Order.



April 15, 2013

Minister of Environment

Date

(This part is for administrative purposes only and is not part of the Order)

Authority under which Order is made:

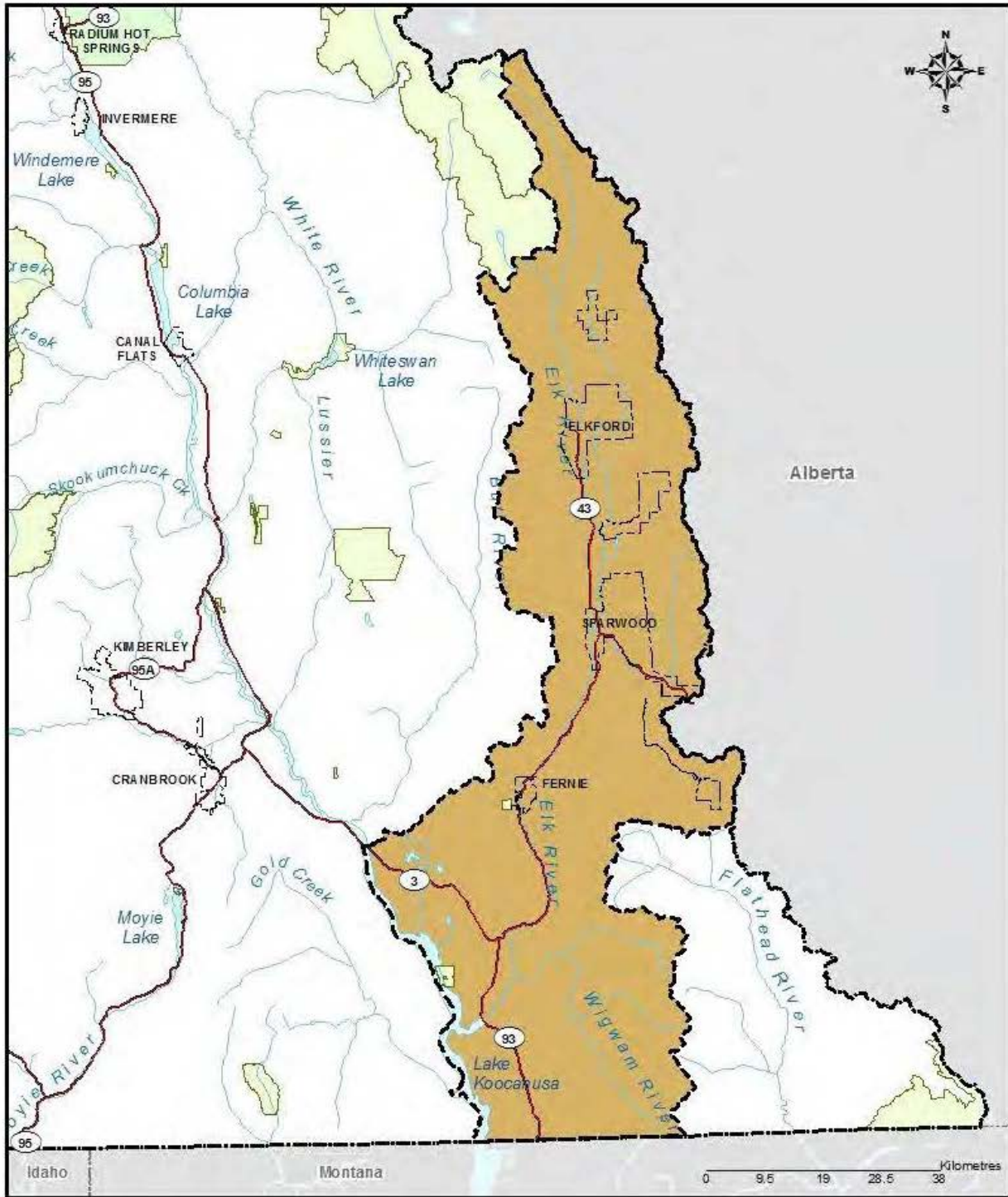
Act and section: Environmental Management Act, Sections 89, 90

Other (specify): _____


SCHEDULE A

ELK VALLEY AREA BASED MANAGEMENT PLAN DESIGNATED AREA DESCRIPTION AND MAP

Commencing at a point on the Canada-USA boundary and the present natural boundary of the west shore of Lake Koochanusa, thence running northerly along the west shore of Lake Koochanusa to where BC Highway 3 crosses the Kootenay River, thence following the south boundary of the BC Highway 3 Bridge to the present natural boundary of the east shore of Lake Koochanusa, thence running easterly to point on the height of land, thence running north-easterly along the height of land to a point on the west boundary of the Elk River watershed at UTM coordinate N 5485499m+/- E 629000m+/-, thence northerly along the west boundary of the Elk River watershed to the intersection of the Height of the Rockies Provincial Park boundary, thence continue along the eastern boundary of Height of the Rockies Provincial Park and thence the eastern boundary of Elk Lake Provincial Park to the Alberta-British Columbia provincial boundary, thence southerly along the Alberta-British Columbia provincial boundary to the north-east corner of the Flathead River watershed boundary, thence westerly and southerly along the west boundary of the Flathead River watershed to the Canada-USA boundary, thence westerly to the point of commencement.



Legend

 Elk Valley Area Based Management Plan Boundary


ELK VALLEY AREA BASED MANAGEMENT PLAN BOUNDARY

Created by GeoBC, Ltd.
 Created on: March 14th, 2013
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Legend

 Elk Valley Area Based Management Plan Boundary

ELK VALLEY AREA BASED MANAGEMENT PLAN BOUNDARY

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SCHEDULE B

PROCESS AND TIMELINE FOR THE DEVELOPMENT OF THE ELK VALLEY AREA BASED MANAGEMENT PLAN

In accordance with section 89 of the *Environmental Management Act*:

1. Teck Coal Limited (“Teck”) is responsible for preparing the Elk Valley Area Based Management Plan (the “Plan”).
2. Teck is authorized to and must prepare a detailed Terms of Reference for the Plan. The Terms of Reference must include all of the following, and meet the requirements in Schedules C and D:
 - a. the purpose of the Plan;
 - b. the issues to be addressed in the Plan;
 - c. the process for First Nations, public and stakeholder consultation;
 - d. the process for recommending Ministerial approval of members of the Technical Advisory Committee and their role during the preparation of the Plan; and
 - e. the process for dispute resolution between the Technical Advisory Committee members.
3. Teck must establish a Technical Advisory Committee in relation to the Plan as set out in Schedule D.
4. Teck must submit the Terms of Reference for approval to the Minister of Environment within 90 days of this Order.
5. Teck must complete the Plan and submit it for approval to the Minister of Environment within 12 months of the approval of the Terms of Reference.

SCHEDULE C

PLAN REQUIREMENTS

At a minimum, the following must be included in the Terms of Reference and in the Plan:

A. Purpose of the Plan

In order to remediate water quality effects of past activities and to guide future development in the Plan area, the purpose of the Plan is to describe the operational actions which will be taken by Teck to:

1. immediately begin to stabilize water quality concentrations of selenium, cadmium, nitrate, and sulphate, and the rate of formation of calcite in the designated area;
2. in the medium-term, reduce the rate of formation of calcite and set targets to demonstrate progressive reduction in water quality concentrations of selenium, cadmium, nitrate and sulphate in the designated area; and
3. in the longer term, further reduce:
 - a. concentrations of selenium, cadmium, nitrate, and sulphate in the designated area to acceptable contaminant levels as identified in section B below, and
 - b. control the rate of calcite formation to acceptable levels as identified in section B below.

B. Issues to be Addressed in the Plan

The Plan must address but is not limited to the following issues:

Assessing Impact

1. The impact of point and non point sources of waste;
2. Identification of all substances that currently exceed provincial Water Quality Guidelines related to the protection of the environment and/or human health in water, sediment, or biota (e.g. fish tissue);
3. The cumulative impacts of point and non point sources of waste;
4. The potential interactive effects of the mixture of contaminants (selenium, cadmium, nitrate, and sulphate) at the target levels established for the short, medium and long-term identified in sections 8, 10, and 11 below;
5. The impact of calcite formation;

6. The economic and social costs and benefits of addressing risks to the environment through treatment;

Outcomes to be achieved

7. Environmental management objectives and outcomes for the designated area including the following:
 - a. protection of aquatic ecosystem health;
 - b. management of bioaccumulation of contaminants in the receiving environment (including fish tissue);
 - c. protection of human health, and
 - d. protection of groundwater;

Water Quality Concentration Targets

8. Immediate establishment of **short-term** concentration targets and time-frames to stabilize water quality concentrations for selenium, cadmium, nitrate, and sulphate;
9. For the purpose of understanding environmental risk and for developing **medium** and **long-term** concentration targets, calculate Site Specific Water Quality Objectives (SSWQO) in accordance with ministry processes;
10. Following the calculation of the SSWQO as per section 9 above, develop **long-term** concentration targets and time-frames for selenium, cadmium, nitrate and sulphate, taking into consideration at a minimum:
 - a. Current contaminant concentrations;
 - b. Current and emerging economically achievable treatment technologies;
 - c. Sustainable balancing of environmental, economic and social costs and benefits; and
 - d. Current and emerging science regarding the fate and effects of contaminants;
11. Establishment of **medium-term** concentration targets and time-frames to demonstrate progressive improvement in water quality in a phased approach, from the **short-term** targets established in section 8 towards **long-term** targets established in section 10;
12. The **long-term** concentration targets for selenium to be established in the Plan under section 10 must include:
 - a. Lake Kooconusa south of the mouth of the Elk River (LK2) : 2 ug/L
13. Establishment of **medium** and **long-term** targets and time-frames to reduce the rate and control the formation of calcite, and for the management of impacted streams;

Monitoring locations

14. Targets for sections 8, 10 and 11 above are to be set for the following locations:

- a. Fording River downstream of Greenhills Creek (FR4)
- b. Fording River at the mouth (FR5)
- c. Elk River downstream of Greenhills Operations (ER1)
- d. Elk River downstream of the Fording River (ER2)
- e. Elk River downstream of Michel Creek (ER3)
- f. Elk River at Elko Reservoir (ER4)
- g. Lake Koochanusa south of the mouth of the Elk River (LK2);

Implementation

15. A detailed plan to demonstrate how the targets under sections 8, 10 and 11 will be achieved; and
16. Identification of ongoing monitoring and public reporting requirements respecting implementation of the Plan.

C. Process for Consultation

With respect to both the preparation and implementation of the Plan, the Terms of Reference must include a process for public and stakeholder consultation including members of:

1. The public;
2. The following levels of government:
 - a. the Province of BC
 - b. the Government of Canada
 - c. First Nations and US Tribes including the Ktunaxa Nation Council, Shuswap Indian Band, the Kootenai Tribe of Idaho and the Confederated Salish and Kootenai Tribes;
3. Local Governments;
4. United States Federal government and the State of Montana Department of Environmental Quality;
5. Environmental non-government organizations;
6. Coal Valley Resources Inc.;
7. Crowsnest Pass Coal Mining Ltd.;
8. NWP Coal Canada Ltd.; and
9. Centermount Coal Ltd. and Centerpoint Resources Inc.

D. Management Plan Under Another Enactment

Teck must determine if there are other existing or proposed management plans for the Elk Valley Area Based Management Plan area, and if so, what coordination is required with persons responsible for those plans. The Terms of Reference and the Plan must outline how the other management plans will be integrated or coordinated with this Plan.

SCHEDULE D

TECHNICAL ADVISORY COMMITTEE

1. A nine (9) member Technical Advisory Committee (“Committee”) to guide development of the Plan is established by this Order. Within 30 days of the approval of the Terms of Reference, members of the Committee must be given the opportunity to participate as approved members and must consist of one representative from each of the following:
 - 1) Teck;
 - 2) The Provincial Government, including
 - i) the Ministry of Environment,
 - ii) the Ministry of Energy, Mines and Natural Gas, and
 - iii) the Environmental Assessment Office;
 - 3) The Government of Canada represented by Environment Canada;
 - 4) US Federal Government;
 - 5) Montana State Government;
 - 6) The Ktunaxa Nation Council; and
 - 7) An independent third-party qualified professional scientist.
2. The independent third-party qualified professional scientist shall be acceptable to all members of the Committee. Where consensus cannot be reached, recommendations must be provided to the Minister of Environment for a decision.
3. The role of the Committee is to provide technical advice to Teck and to the public during the development of the Plan. Teck must consider all advice provided by the Committee. All advice provided by the Committee must be documented in the Plan along with an explanation of how that advice has been used.
4. Teck will consult with the Ktunaxa Nation Council on a funding mechanism for the participation of the Ktunaxa Nation Council on the Committee.
5. Observers for each of the parties represented on the Committee may attend the Committee meetings to the extent that the observer participation does not impede the activities and function of the Committee.
6. The Chair of the Committee is the representative from the BC Ministry of Environment.