

Teck

Elk Valley Water Quality Plan
Phase 3 Consultation Summary Report

July 2014

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and
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Kirk&Co.

About Kirk & Co. Consulting Ltd.

Kirk & Co. is a recognized industry leader in designing and implementing comprehensive public and stakeholder consultation and engagement programs. Utilizing best practices, consultation and engagement programs are designed to maximize opportunities for input. Kirk & Co. works with internationally-recognized polling firms to independently analyze and report on large volumes of public and stakeholder input.



MUSTEL GROUP
MARKET RESEARCH

About Mustel Group

Mustel Group has been a leading marketing and public opinion research firm in western Canada for more than 25 years. Submissions received as part of this consultation were independently verified by Mustel Group.

The views represented in this report reflect the priorities and concerns of consultation participants. They may not be representative of the views of the public and other stakeholders because participants self-selected into Phase 3 Consultation, and therefore do not reflect a random sample.

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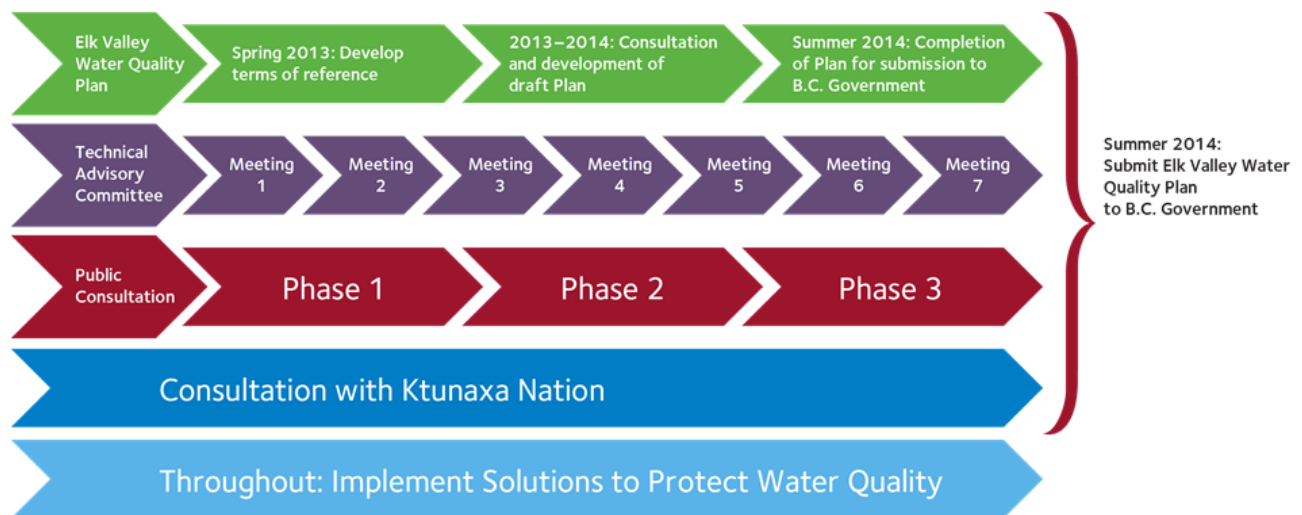
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1. Introduction

1.1. Elk Valley Water Quality Plan

In April 2013, the Government of B.C. established a process to create an Elk Valley Water Quality Plan, the goal of which is to manage selenium, cadmium, nitrate and sulphate, as well as to address evidence of calcite formation. The Plan will establish short-, medium- and long-term targets for improving water quality, as well as targets to manage rates of calcite formation.

Teck is developing the Elk Valley Water Quality Plan in cooperation with governments in Canada and the U.S., First Nations, and the public. The Plan must be submitted to the B.C. Government in the summer of 2014. Once approved by the provincial government, Teck will implement the Plan.



Timeline for development of the Elk Valley Water Quality Plan

More information about the development of the Elk Valley Water Quality Plan can be found at www.teck.com/ElkValley.

2. Phase 1 Consultation – October 28-November 29, 2013

The process to develop the Elk Valley Water Quality Plan includes several rounds of public consultation with opportunities for feedback.

Phase 1 Consultation took place from October 28-November 29, 2013. During Phase 1 Consultation, Teck provided information regarding the process to develop the Elk Valley Water Quality Plan and sought input regarding current and potential water treatment and water quality management approaches, as well as Teck's plans for ongoing mitigation strategies and the supporting socio-economic impact analysis.

The Phase 1 Consultation Summary Report can be found at www.teck.com/ElkValley.

3. Phase 2 Consultation – April 9-May 5, 2014

Phase 2 Consultation took place from April 9-May 5, 2014. During Phase 2 Consultation, Teck provided an update regarding the progress made in developing the Plan, including information about research of ecologically-protective levels. Teck sought input regarding the short-, medium-, and long-term approaches to be included in the Elk Valley Water Quality Plan, and how communities and the public would like to be consulted about the Adaptive Management of the Plan after it has been implemented.

The Phase 2 Consultation Summary Report can be found at www.teck.com/ElkValley

4. Phase 3 Consultation – June 13-July 4, 2014

Phase 3 Consultation regarding the Elk Valley Water Quality Plan took place from June 13-July 4, 2014. This report summarizes input received during Phase 3 Consultation.

4.1 Purpose – Phase 3 Consultation

During Phase 3 Consultation, Teck presented content from the draft Elk Valley Water Quality Plan and sought comments regarding six key elements of the Plan. These included the proposed target levels for the identified water quality constituents (selenium, nitrate, sulphate, cadmium and calcite), the implementation plan for mitigation measures to achieve those targets, the options assessed and chosen to manage water quality, and how Teck proposes to monitor and adapt the Plan.

The input received during Phase 3 Consultation is summarized in this report and will be considered, along with advice from the Technical Advisory Committee and technical and socio-economic information, as Teck finalizes the Elk Valley Water Quality Plan for submission to the B.C. Ministry of Environment.

4.2 Notification

Notification of opportunities to participate in Phase 3 Consultation included the following:

- **Invitation and Reminder Emails:** Approximately 460 emails were sent to past consultation participants encouraging participation in small group meetings and reminding them of the opportunity to participate in online consultation
- **Reminder Phone Calls:** Calls were made in follow-up to the email invitations, inviting or reminding people about meetings and the online consultation.
- **Newspaper Advertising:** Advertisements were placed in the following publications between June 10 and July 4, 2014, inviting members of the public to participate in online consultation:
 - Fernie Free Press (4 advertisements)
 - Fernie Fix (1)
 - Elk Valley Herald (4)
 - Crowsnest Pass Herald (4)
 - Kootenay Advertiser (4)
 - Cranbrook Daily Townsman (4)
 - E-know online news site

- **Radio Advertising:** Radio advertisements ran daily from June 13 to July 4, 2014 on the following stations:
 - The Drive 102.9 and 99.1 FM
 - B104 Total Country 104.7
- **Postcard Mailer:** A postcard inviting recipients to participate in online consultation was mailed to approximately 8,500 Elk Valley households during the week of June 16, 2014.
- **Plan Website:** Teck has developed a dedicated website for the Elk Valley Water Quality Plan (www.teck.com/ElkValley). The Phase 3 consultation discussion guide and an online feedback form were posted on the website on June 13, 2014.
- **Employee Notification:** Emails were sent on June 16, 2014 to Teck employees at all Elk Valley operations and offices inviting employees and family members to participate in online consultation.
- **Availability of Consultation Materials:** Discussion guides were available for the public at municipal offices and libraries in Fernie, Sparwood and Elkford.

4.3 Participation

There were a total of **47 participant interactions** during this Phase 3 Consultation regarding the Elk Valley Water Quality Plan from June 13-July 4, 2014:

- 22 people attended two small group meetings
- 25 submissions were received

Some people participated through multiple methods, such as attending a small group meeting and providing a submission.

4.4 Consultation Methods

Phase 3 Consultation materials were available online at www.teck.com/ElkValley beginning on June 13, 2014. Input and feedback were collected through the following methods:

4.4.1 Discussion Guide

A Phase 3 Discussion Guide provided an update regarding the progress made in developing the Elk Valley Water Quality Plan and presented draft sections of the Plan for comment. The discussion guide invited comment from the public and stakeholders regarding six key elements of the Plan:

- Human health assessment
- Management options
- Water quality targets
- Implementation plan
- Monitoring
- Adaptive Management

The Discussion Guide was distributed at two small group meetings and was available on the Teck website. A feedback form was available online at www.teck.com/ElkValley.

A copy of the Discussion Guide can be found at www.teck.com/ElkValley in the Reports & Documents section.

4.4.2 Online Consultation

All consultation materials were available on the Plan website (www.teck.com/ElkValley) including an online feedback form which could be submitted directly from the website.

4.4.3 Small Group Meetings

24 people attended two small group meetings held on the following dates:

Small Group Meetings		
Location	Date	Time
Sparwood	June 25, 2014	12:30 – 4:00 p.m.
Fernie	June 25, 2014	5:30 – 9:00 p.m.

A Kirk & Co. facilitator and meeting recorder attended the small group meetings with the Teck team. At each meeting, participants were provided with the discussion guide and were encouraged to provide a submission. Members of the Teck team presented information, focusing on the consultation topics, and participants were invited to ask questions and provide feedback during the meeting.

Key themes from each of the small group meetings are summarized in this report beginning on page 8.

Meeting notes from the small group meetings can be found at www.teck.com/ElkValley in the Reports & Documents section.

5. Key Results

5.1 Key Themes from Small Group Meetings

The following are the key themes from the two small group meetings. As much as possible, the language expressed by participants was retained in the key themes.

Meeting	Key Themes
<p>Sparwood Small Group Meeting June 25, 2014 12:30 – 4:00 p.m.</p>	<ul style="list-style-type: none"> • Some participants asked how the Plan would address other potential mine operations in the Elk Valley or an expansion of Teck’s mining operations, and whether future operations would have to meet the targets outlined in the Plan • Some participants sought confirmation that monitoring data would be available publicly and that monitoring would be undertaken often enough to accurately measure water quality on an ongoing basis • Some participants asked whether Teck was monitoring selenium levels in animals that eat fish on a daily basis, such as otters • Some participants asked about the status of Teck’s implementation of specific recommendations that were made in the Valley-Wide Selenium Management Action Plan • Some participants suggested that Teck monitor levels of selenium in fish tissue samples rather than relying on water quality measurements, noting that fish tissue measurements would account for water quality, sediment quality and selenium in food that fish eat • Some participants asked why the targets outlined in the Phase 3 Discussion Guide are seemingly higher than where Teck expects selenium levels to be, and whether the targets could or should be set lower • Some participants asked for more information about calcite and how Teck was addressing the formation of calcite in the Plan • Some participants suggested that the Plan should outline specific timelines for availability of monitoring data and a regular review process so that members of the public and key stakeholders would know when to expect information
<p>Fernie Small Group Meeting June 25, 2014 5:30 – 9:00 p.m.</p>	<ul style="list-style-type: none"> • Some participants wanted more information about the closure of the District of Sparwood’s municipal well due to elevated selenium levels and requested additional information about the location of a new well • Some participants requested that Teck identify how

Meeting	Key Themes
	<p>often it plans to continue testing water quality throughout the Elk Valley</p> <ul style="list-style-type: none"> • Some participants asked whether Teck had or was lobbying to raise the provincial water quality guidelines • Some participants asked whether operations would be reduced or halted at any of Teck’s mines if water quality targets could not be achieved • Some participants asked whether other mining operations in the Elk Valley would be required to comply with the EVWQP water quality requirements and guidelines • Some participants asked if Teck was planning to expand any of its operations in the Elk Valley • Some participants inquired about the use of egg ovary data as a component in the monitoring and evaluation of effects on fish species • Some participants were interested in the rationale behind the use of Westslope cutthroat trout as the sentinel species in the assessment of fish populations and health within the Elk Valley • Some participants wanted to know more about the extent of the baseline studies completed and questioned whether the baseline studies would be able to provide a clear enough indication of whether the Plan is successful or not

5.2 Results from Submissions

Twenty-five submissions were received during Phase 3 consultation. A summary of themes from the submissions is provided below:

- 9 respondents were in agreement with the Plan and water quality targets as outlined in the Phase 3 discussion guide
- 4 respondents stated that monitoring data should be provided to the BC government and the public at regular intervals
- 4 respondents asked who would be responsible for maintaining water treatment facilities and other mitigation measures, should Teck cease mining operations in the Elk Valley
- 4 respondents expressed support for Teck’s leadership role in addressing water quality concerns and were appreciative of the amount of work that Teck put into developing the Plan
- 2 respondents were hopeful that Teck would achieve the targets stated in the Phase 3 discussion guide within the stated timeframes
- 2 respondents stated that there should be a legally-enforceable commitment made by Teck to maintain water quality in the Elk Valley beyond the life of its mines

- 2 respondents stated that the water quality targets outlined in the Phase 3 discussion guide were too high, and that they should be set at levels equal to the water quality guidelines
- 2 respondents asked how the concentrations provided in the Phase 3 discussion guide were expressed (e.g. peak daily, average daily, average monthly or average annual), concerned that if averages were used, then peak values would be higher
- 2 respondents noted that continued research and development is essential to determine further innovative technologies and techniques to address water quality issues, particularly earlier use of covers and passive water treatment technologies
- 1 respondent expressed several detailed concerns regarding the selection of management options and suggested the following:
 - Earlier consideration than currently planned for options such as passive treatment, flooded pits, and dump covers
 - Division of the strategy into options suited to legacy, current and proposed sites
 - Identification of Core and Contingent strategies
 - Effective and timely technology transfer of research results
 - Integration among relevant Teck activities such as Biodiversity, Cumulative Effects Management and Fish and Fish Habitat
- 1 respondent expressed several detailed concerns, aimed primarily at the provincial government, regarding the policy vacuum with respect to acceptable risk from the constituents of potential concern in the order, namely the following:
 - The lack of clear (or any) policy regarding acceptable risk when guidelines are exceeded
 - The lack of integration across ministries within the context of the new Integrated Decision Making model as well as the requirement for sustainability across economic, social and environmental factors
 - The need for clear support and direction to statutory decision makers and their technical support staff regarding the relative role of science and policy in their decisions (the two are related but not equivalent).
- 1 respondent noted that the Plan did not address a scenario in which the water quality targets are not met, and asked what would happen in that case
- 1 respondent expressed concerns with how construction of clean water diversions may disturb sensitive ecosystems around watercourses, and suggested that Teck should offset any disturbance by replacing habitat
- 1 respondent included a link to a press release from GE regarding the installation of a water treatment facility in a mine in northeast British Columbia and asked whether Teck or other mining companies in British Columbia were considering using this technology to remove selenium and nitrate
- 1 respondent stated that monitoring should be carried out, at least in part, by an independent monitor
- 1 respondent stated that the three active water treatment facilities outlined in the Phase 3 Discussion Guide should be constructed and in operation before any further mining expansion is approved
- 1 respondent asked about high radon gas readings in Sparwood and whether they were connected to coal mining activities
- 1 respondent stated that providing jobs should not come at the expense of rivers, and that spending money on attempting to address the problem does not justify them either
- 1 respondent stated that the socio-economic assessment is an important element of the Plan that was missing from the Phase 3 Discussion Guide

