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February 27, 2020

Stefan Crampton
Project Manager
Pacific Yukon Region
Impact Assessment Agency of Canada
757 W Hastings St Suite 210A
Vancouver, BC V6C 3M2

Dear Stefan,

Reference: IAAC Information Request for Fording River Operations Castle Project – Calculation of Change in Area of Mine Operations

Thank you for the opportunity to provide the Impact Assessment Agency of Canada (IAAC) with additional information about the Castle Project (the Project) as per your request by email dated February 4, 2020. The conference call between IAAC and Teck on February 10, 2020 and subsequent email exchange provided clarity on IAAC's request and the approach Teck should use to respond. The requested revised calculation determined that the Project would result in an approximately 36% change in area of mine operations for the existing mine (Fording River Operations or FRO).

IAAC Information Request:

> *The* Physical Activities Regulations *(the Regulations) define the term "area of mining operations" as "the area at ground level occupied by any open-pit or underground workings, mill complex or storage area for overburden, waste rock, tailings or ore". The calculation of increase in area of mining operations must look at the change in area of these components only. Depending on project-specific circumstances, this may include components of the existing mine that are under construction, constructed but not in operation, in operation, in the process of being decommissioned, or in care and maintenance. It may also include components for which regulatory approvals have been issued but construction has not yet started.*
>
> *Provide revised calculations for increase in area of mining operations associated with the Project, utilizing only the components captured by the definition in the Regulations (see above). To calculate the increase in the area of mining operations, determine the area occupied by the components of the existing mine that are listed in the definition, determine the area of mining operations that would result from the proposed expansion, and then compare the two to estimate the percentage increase. The areas should be calculated on a two-dimensional basis.*

It may be useful to tabulate the size of each of these components for the existing mine, and compare them to the size of the components that meet this definition associated with the Castle Project, to provide clarity in these calculations.

Teck Response:

Teck has calculated the increase in area of mining operations associated with the Project using a classification based on the definition in the *Regulations*. The classification includes three categories for parts of the mine that are:

- in use (constructed),
- permitted (not constructed), and
- proposed (new).

The classification includes subcategories based on specific mine components including:

- Pit (area where ore or waste rock is being mined)
- Mill complex and ore storage (area where ore is being stored, handled, and processed)
- Soil storage (area for soil stockpiles prior to use during reclamation – qualifies as overburden storage under the *Regulations*)
- Waste rock storage (area where rock that is mined to access the ore is stored)
- Tailings storage (area where fine materials washed off of the ore in the mill complex is stored)
- Interim reclamation (area where soil and vegetation have been placed, but that might be repurposed for additional use as an area of mine operations)

Any part of FRO or the Project that is not within one of the subcategories does not count as part of the area of mine operations under the *Regulations* and was not included in the calculations.

All parts of FRO (Appendix 1) were classified into categories and subcategories based on their current use or on their permitted use if no construction had occurred there. Parts of the mine that have a future permitted use, but are currently in use for another purpose were classified using their current use. Fording River Operations has a long history of mining and many areas of mine operations have been repurposed for new activities. For example, many areas that once were a mine pit are now used for waste rock storage.

The parts of the Project were classified using Teck's current understanding of the Project. The Project is still conceptual, but is based on one pit with waste rock likely being placed into FRO[1] or backfilling the Project pit. Some waste rock would be stored between FRO and the Project. Tailings storage would not require any new area. Instead it would be stored within FRO or the Project itself (i.e. part of pit back-filling). The Project would not require any new area for a Mill or for interim reclamation.

The area of mine operations for the Fording River Operations was calculated to be 5,630 ha including 4,400 ha of in use area of mine operations and 1,230 ha of permitted but not constructed area (Table 1). The area of mine operations for the Project was calculated to be 2,010 ha (Table 2).

[1] Project waste rock would only be placed in portions of FRO classified as 'area of mine operations' under the *Regulations*.

The percent change in project area is approximately 36% (2,010 ha / 5,630 ha = 35.7%) which is below the threshold in Item 19(a) in the Schedule to the *Regulations*:

> *"The expansion of an existing mine, mill, quarry or sand or gravel pit in one of the following circumstances: in the case of an existing coal mine, if the expansion would result in an increase in the area of mining operations of 50% or more and the total production capacity would be 5 000 t/day or more after the expansion".*

Table 1 Fording River Operations Area of Mine Operations based on *Physical Activities Regulations*

Fording River Operations	**In-Use (*Constructed*) (ha)**	**Permitted *(Not constructed)* (ha)**	**Total (ha)**
Pit	630	220	**850**
Mill Complex and ore storage	60	-	**60**
Soil Storage	30	-	**30**
Waste Rock Storage	2,970	1,010	**3,980**
Tailings Storage	120	-	**120**
Interim Reclamation	590	-	**590**
Total	**4,400**	**1,230**	**5,630**

Table 2 Castle Project Area of Mine Operations based on *Physical Activities Regulations*

Castle Project	**Proposed *(new)* (ha)**
Pit	1,520
Mill Complex and ore storage	-
Soil Storage	140
Waste Rock Storage	350
Tailings Storage	-
Interim Reclamation	-
Total	**2010**

Thank you for your consideration. If you require further information, or would like to schedule a meeting regarding this matter, please contact Dave Baines, at <Original signed by> or david.baines@teck.com.

Sincerely,

<original signed by>

Dave Baines
Senior Regulatory Approvals Lead, Environment and Social Responsibility
Teck

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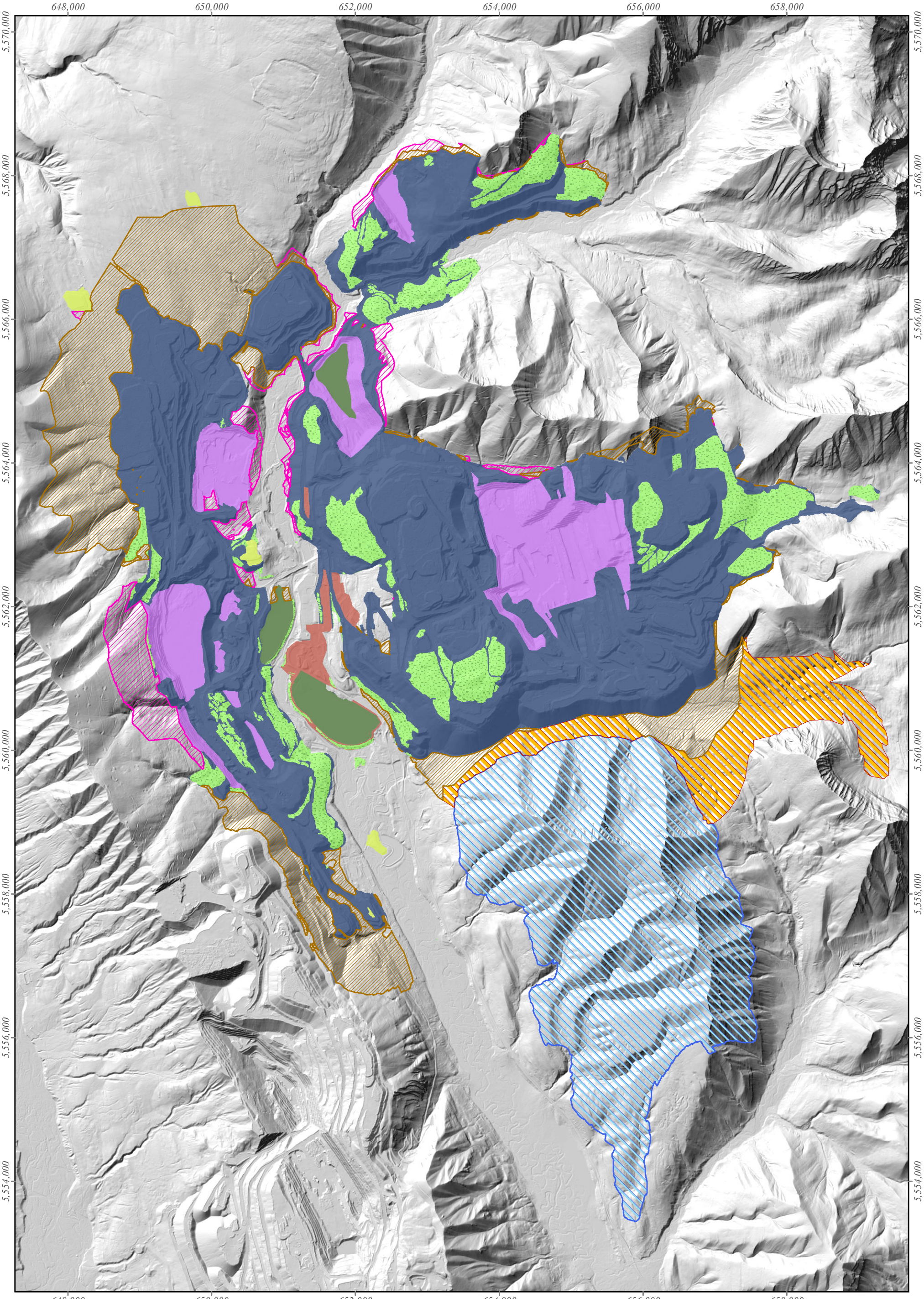
Appendix 1:

Fording River Operations and Castle Project Area of Mine Operations classification map based on *Physical Activities Regulations*



Teck

Fording River Operations

Proposed Castle Development

Permitted

Current Development

N