

**APPENDIX 24-B
KSM PROJECT 2009 AND 2010 VISUAL QUALITY
BASELINE REPORT ADDENDUM**

Seabridge Gold Inc.

KSM PROJECT Visual Quality Baseline Report Addendum

SEABRIDGE GOLD



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KSM Project – Visual Quality Baseline Report Addendum

TABLE OF CONTENTS

Table of Contents.....	i
List of Figures.....	ii
List of Tables.....	ii
List of Plates.....	ii
Acronyms and Abbreviations.....	v
1 Introduction.....	1-1
1.1 Project Proponent.....	1-1
1.2 Project Location.....	1-1
1.3 Project Overview.....	1-1
1.4 Description of Changes to Project Infrastructure since 2009.....	1-4
1.4.1 Mine Site Changes.....	1-4
1.4.2 Adjustments to Coulter Creek Access Road Alignment.....	1-4
1.4.3 Change to PTMA Access from Highway 37.....	1-4
2 Methods.....	2-1
2.1 Planning and Pre-field Trip Preparation.....	2-1
2.1.1 Review of Land and Resource Management Plans, GIS Data Collection and Project Baseline Studies.....	2-1
2.1.2 Viewshed Analysis.....	2-1
2.2 Conducting Fieldwork.....	2-1
3 Results.....	3-1
3.1 Literature Review and GIS Data Collection.....	3-1
3.2 Viewshed Analysis.....	3-1
3.3 Fieldwork.....	3-2
3.3.1 Sulphurets Glacier / Frank Mackie Glacier.....	3-2
3.3.2 Access to Processing and Tailing Management Area.....	3-8
References.....	R-1

LIST OF FIGURES

Figure	Page
Figure 1.2-1. KSM Project Location.....	1–2
Figure 1.3-1. KSM Project Layout	1–3
Figure 3.2-1. Areas with a Potential View of Project Infrastructure	3–3
Figure 3.2-2. Visual Quality Viewpoints, 2010 and 2012	3–5

LIST OF TABLES

Table	Page
Table 3.1-1. Recreational Features Inventory Ratings in the Study Area.....	3–1

LIST OF PLATES

Plate	Page
Plate 3.3-1a. View 20 – Viewpoint 12 – Looking north-northwest from a point above the Sulphurets Glacier (September 29, 2010).....	3–2
Plate 3.3-1b. View 21 – Viewpoint 12 – Looking north-northeast from a point above the Sulphurets Glacier (September 29, 2010).....	3–2
Plate 3.3-1c. Viewpoint 12 – Location and bearings from a point above the Sulphurets Glacier (September 29, 2010).	3–2
Plate 3.3-2a. View 22 – Viewpoint 13 – Looking west from a point near the Glacier above Ted Morris Creek (July 8, 2012).....	3–7
Plate 3.3-2b. View 23 – Viewpoint 14 – Looking northwest from a point above the East Sulphurets Glacier (July 8, 2012).....	3–7
Plate 3.3-2c. Viewpoints 13 and 14 – Location and bearings from point above the Sulphurets Glacier and near the Glacier above Ted Morris Creek (July 8, 2012).....	3–7
Plate 3.3-3a. View 24 – Viewpoint 15 – Looking west from a point on a bank of the Bell-Irving River (July 2, 2012).....	3–8
Plate 3.3-3b. View 25 – Viewpoint 15 – Looking northwest from a point on a bank of the Bell-Irving River (July 2, 2012).....	3–8

Table of Contents

Plate 3.3-3c. Viewpoint 15 – Location and bearings from a point on the bank of the Bell-Irving River (July 2, 2012).....	3–8
Plate 3.3-4a. View 26 – Viewpoint 16 – Looking north from a point on a mountain overlooking Treaty Creek (July 2, 2012).	3–9
Plate 3.3-4b. View 27 – Viewpoint 16 – Looking north from a point on a mountain overlooking Treaty Creek (July 2, 2012).	3–9
Plate 3.3-4c. Viewpoint 16 – Location and bearings from a point on a mountain overlooking Treaty Creek (July 2, 2012).	3–9
Plate 3.3-5a. View 28 – Viewpoint 17 – Looking north from a point on a mountain overlooking Treaty Creek (July 2, 2012).	3–10
Plate 3.3-5b. View 29 – Viewpoint 17 – Looking north from a point on a mountain overlooking Treaty Creek (July 2, 2012).	3–10
Plate 3.3-5c. Viewpoint 17 – Location and bearings from a point on a mountain overlooking Treaty Creek (July 2, 2012).	3–10
Plate 3.3-6a. View 30 – Viewpoint 18 – Looking southeast from a point on Highway 37 (September 29, 2012).....	3–11
Plate 3.3-6b. View 31 – Viewpoint 18 – Looking southwest from a point on Highway 37 (September 29, 2012).....	3–11
Plate 3.3-6c. Viewpoint 18 – Location and bearings from a point on Highway 37 (September 31, 2012).....	3–11
Plate 3.3-7a. View 32 – Viewpoint 19 – Looking south-east from a point on the shore of Bell-Irving River (September 21, 2011).....	3–12
Plate 3.3-7b. Viewpoint 19 – Location and bearings from a point on the shore of Bell-Irving River (September 21, 2011).....	3–12

Acronyms and Abbreviations

Terminology used in this document is defined where it is first used. The following list will assist readers who may choose to review only portions of the document.

BC MOF	British Columbia Ministry of Forests
BC MOFR	British Columbia Ministry of Forest and Range
CCAR	Coulter Creek access road
MTT	Mitchell-Treaty Twinned Tunnels
PTMA	Processing and Tailing Management Area
RFI	Recreational Features Inventory
the Project	KSM Project
TMF	Tailing Management Facility
TCAR	Treaty Creek access road
WAAS	Wide Area Augmentation System

1 Introduction

The purpose of this document is to update the 2009 visual quality baseline study for the KSM Project to incorporate changes to the Project. These changes are described below.

1.1 Project Proponent

Seabridge Gold Inc. (Seabridge) is the proponent for the proposed KSM Project (the Project), a proposed gold, copper, silver, and molybdenum mine.

1.2 Project Location

The Project is located in the coastal mountains of northwestern British Columbia. It is approximately 950 km northwest of Vancouver and 65 km northwest of Stewart, within 30 km of the British Columbia–Alaska border (Figure 1.2-1).

1.3 Project Overview

The Project is situated in two geographical areas: the Mine Site and PTMA, connected by twin 23-km tunnels, the Mitchell-Treaty Tunnel (MTT) (Figure 1.3-1). The Mine Site is located south of the closed Eskay Creek Mine, within the Mitchell, McTagg, and Sulphurets Creek valleys. Sulphurets Creek is a main tributary of the Unuk River, which flows to the Pacific Ocean. The PTMA is located in the upper tributaries of Teigen and Treaty creeks. Both creeks are tributaries of the Bell-Irving River, which flows to the Nass River and into the Pacific Ocean. The PTMA is located about 19 km southwest of Bell II on Highway 37.

The Mine Site will be accessed by a new road, the Coulter Creek access road, which will be built from km 70 on the Eskay Creek Mine Road. This road will follow Coulter and Sulphurets creeks to the Mine Site. The PTMA will be accessed by a new road, the Treaty Creek access road, the first 3-km segment of which is a forest service road off of Highway 37. The Treaty Creek access road will parallel Treaty Creek.

Four deposits will be mined at the KSM Project – Kerr, Sulphurets, Mitchell, and Iron Cap – using a combination of open pit and underground mining methods. Waste rock will be stored in engineered rock storage facilities located in the Mitchell and McTagg valleys at the Mine Site. Ore will be crushed and transported through one of the MTT to the PTMA. This tunnel will also be used to route the electrical power transmission lines. The second tunnel will be used to transport personnel and bulk materials. The Process Plant will process an average of 130,000 tpd of ore to produce a daily average of 1,200 t of concentrate. Tailing will be pumped to the Tailing Management Facility from the Process Plant. Copper concentrate will be trucked from the PTMA along highways 37 and 37A to the Port of Stewart, which is approximately 170 km away via road.

The mine operating life is estimated at 51.5 years. Approximately 1,800 people will be employed annually during the Operation Phase. Project Construction will take about five years, and the capital cost of the Project is approximately US\$5.3 billion.



Figure 1.2-1

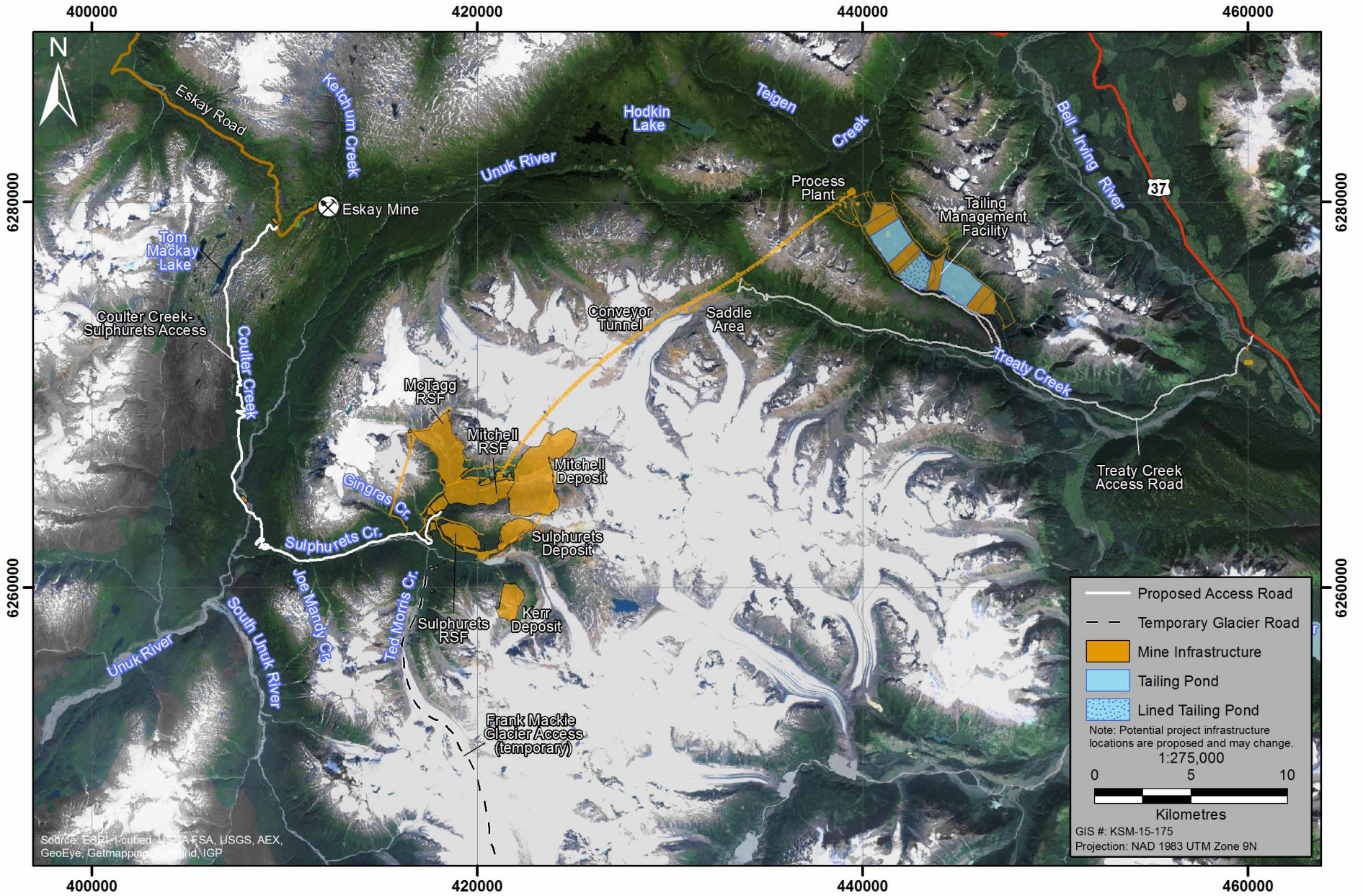


Figure 1.3-1

Figure 1.3-1

1.4 Description of Changes to Project Infrastructure since 2009

Changes to Project infrastructure since the 2009 visual quality baseline study was completed are summarized below.

1.4.1 Mine Site Changes

Seabridge has changed the mine plan for the Mitchell deposit to incorporate underground mining. The deposit will initially be developed using open pit mining methods. From year 26 to year 51.5, the deposit will be mined underground using block caving. Underground mining will reduce the size of the Mitchell Pit footprint. The Iron Cap deposit was added and will be mined using underground block caving mining methods. The block cave will draw mineralized rock down, and a surface depression will develop above the production footprint in the form of a crater. The crater will remain post-closure.

1.4.2 Adjustments to Coulter Creek Access Road Alignment

Sections of the CCAR alignment have changed and the Unuk River bridge location has been moved. Laydown, waste, and borrow areas, as well as construction camps along the CCAR have been identified. No further visual analyses is required as changes to the CCAR are captured in the 2009 study.

1.4.3 Change to PTMA Access from Highway 37

The 2009 visual quality baseline assessed the proposed Teigen Creek access road along the Teigen Creek Valley. This option is no longer being considered. Access to the PTMA from Highway 37 is now being proposed via the Treaty Creek Valley. The Treaty Creek access road (TCAR) will begin at Highway 37 approximately 19 km south of Bell II (Figure 1.3-1). The road will cross the Bell-Irving River on a proposed 118 m three-span bridge. Approximately 17 km along TCAR, the road turns into the North Treaty lower road which turns north and follows the west side of the North Treaty Creek/Teigen Creek Valley for approximately 12 km to the Treaty Ore Preparation Complex plant site. At this same junction, the TCAR will transition into the Treaty Saddle Road which provides access to the east portal in the Mitchell-Treaty Saddle area (Rescan 2012c).

2 Methods

2.1 Planning and Pre-field Trip Preparation

2.1.1 Review of Land and Resource Management Plans, GIS Data Collection and Project Baseline Studies

The Cassiar Iskut-Stikine Land and Resource Management and Nass South Sustainable Resource Management plans were reviewed to identify visual quality objectives.

Information from the BC Ministry of Forest and Range's (BC MOFR) Recreational Features Inventory (RFI) was used to identify and locate potentially visually sensitive areas (BC FLNRO 2004). The RFI delineates the provincial land base into recreation feature polygons based on recreation features and activities supported by these features. It classifies polygons in terms of their "local significance" for providing recreation opportunities and supporting recreation activities and sensitivity to alteration (BC MOF 1998).

2.1.2 Viewshed Analysis

Viewshed analysis was undertaken to determine where an observer could see Project infrastructure. The viewshed model uses frequency values to create an output that represents locations that could be viewed from Project infrastructure. The analysis assumes that observers that can be seen from the Project site can also see the Project infrastructure. The analysis was combined with the GIS data layers to help inform the field work.

2.2 Conducting Fieldwork

Field information was collected by a hydrology field crew during site visits in October 2010 and during visits by a visual quality crew on July 2 and July 8, 2012. Helicopters were used to access viewpoints, landing at the closest safest spot to the viewpoint. The viewpoint was then accessed by foot. On the ground, the viewpoint was adjusted slightly to ensure it was sampled as closely as possible to potential human activity (e.g., for activities on rivers a location close to the water was chosen).

The following work was undertaken at each viewpoint:

- Photographs and compass bearings were taken from ground positions in the direction of the Project site using a digital camera.
- GPS coordinates were measured using a Garmin 60CX (with an accuracy 3 to 5 m, 95% typical using a Wide Area Augmentation System [WAAS] in North America or less than 10 m, 95% typical, where WAAS was not available); and
- Current weather conditions were recorded.

The photographs provided a visual landscape inventory of the visually sensitive landscapes within the visual quality baseline study area.

3 Results

3.1 Literature Review and GIS Data Collection

Based on a review of land and resource use baseline studies related to the Project, there are several recreational tenures (e.g., heliskiing and guided backcountry operators) operating in the Mine Site area and on adjacent slopes (Rescan 2010). The heliskiing commercial recreation licence includes a number of mountains on both sides of Treaty Creek. There are recreational users using areas along or across the Bell-Irving River, including between Teigen and Treaty Creeks.

Based on a review of Project heritage baseline studies, there is a designated provincial heritage site (Treaty Creek site) at the confluence of the Bell-Irving River and Treaty Creek.

In the area of the Mine Site, BC MOFR's RFI classification system rates portions of the Sulphurets and the Frank Mackie Glacier with a sensitive rating of *moderate* and a significance rating of *high*. This rating indicates that there is a higher potential for development to result in an adverse effect to recreation resources and/or raise public concerns. There is no area within or next to the Mine Site with a sensitivity rating greater than *moderate* (Table 3.1-1).

Table 3.1-1. Recreational Features Inventory Ratings in the Study Area

Scenic Area	RFI Sensitivity Rating	RFI Significance Rating
Sulphurets Glacier \ Frank Mackie Glacier	Moderate	High
Treaty Creek Confluence with Bell-Irving River	Moderate	Moderate
Treaty Creek at Saddle Portal	Low	Moderate
Treaty Creek	Low	Moderate

Source: BC FLNRO (2004)

The section of the TCAR near the confluence of Treaty Creek and Bell-Irving River has a sensitivity rating of *moderate*, and a significance rating of *moderate*. This indicates that development could result in a moderate effect to recreational interests. Other areas along the TCAR have a *low* sensitivity rating and significance rating between *low* and *medium*.

3.2 Viewshed Analysis

The viewshed analysis identified areas where Project infrastructure could be seen (Figure 3.2-1). The results of this analysis were compared with the literature review findings and RFI results listed in Table 3.1-1. Based on this comparison, it is likely that the Project could be seen from the following areas:

- Sulphurets Glacier / Frank Mackie Glacier; and
- Treaty Creek.

Based on these areas, sample sites for subsequent field investigations were identified (Figure 3.2-2).

3.3 Fieldwork

3.3.1 Sulphurets Glacier / Frank Mackie Glacier

Photographs of views 20 and 21 were taken on September 29, 2010, from a point near the top of the south end of the western arm of the Sulphurets Glacier. The weather was sunny with scattered clouds, and good visibility. The viewpoint was obstructed by topography to the north, but it was not obstructed by any vegetation (Plates 3.3-1a to 3.3-1c).



Plate 3.3-1a. View 20 – Viewpoint 12 – Looking north-northwest from a point above the Sulphurets Glacier (September 29, 2010).



Plate 3.3-1b. View 21 – Viewpoint 12 – Looking north-northeast from a point above the Sulphurets Glacier (September 29, 2010).

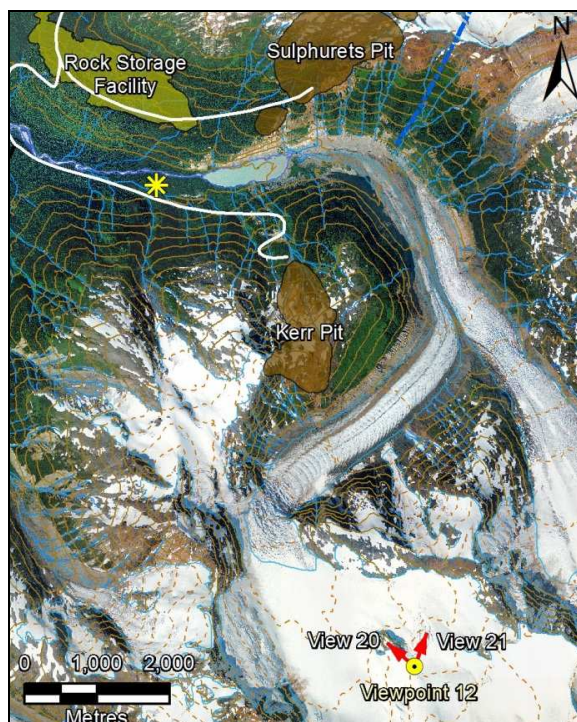
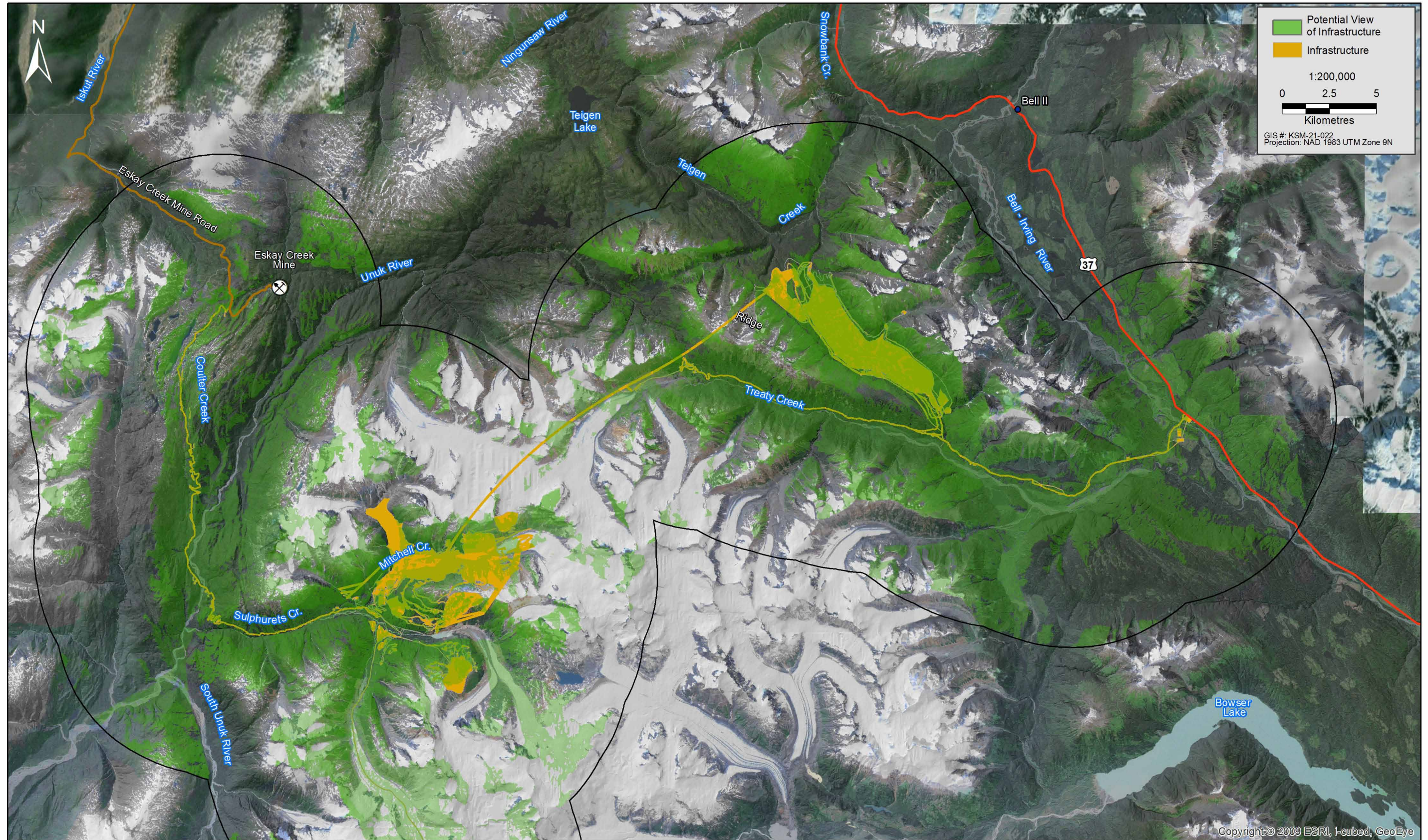
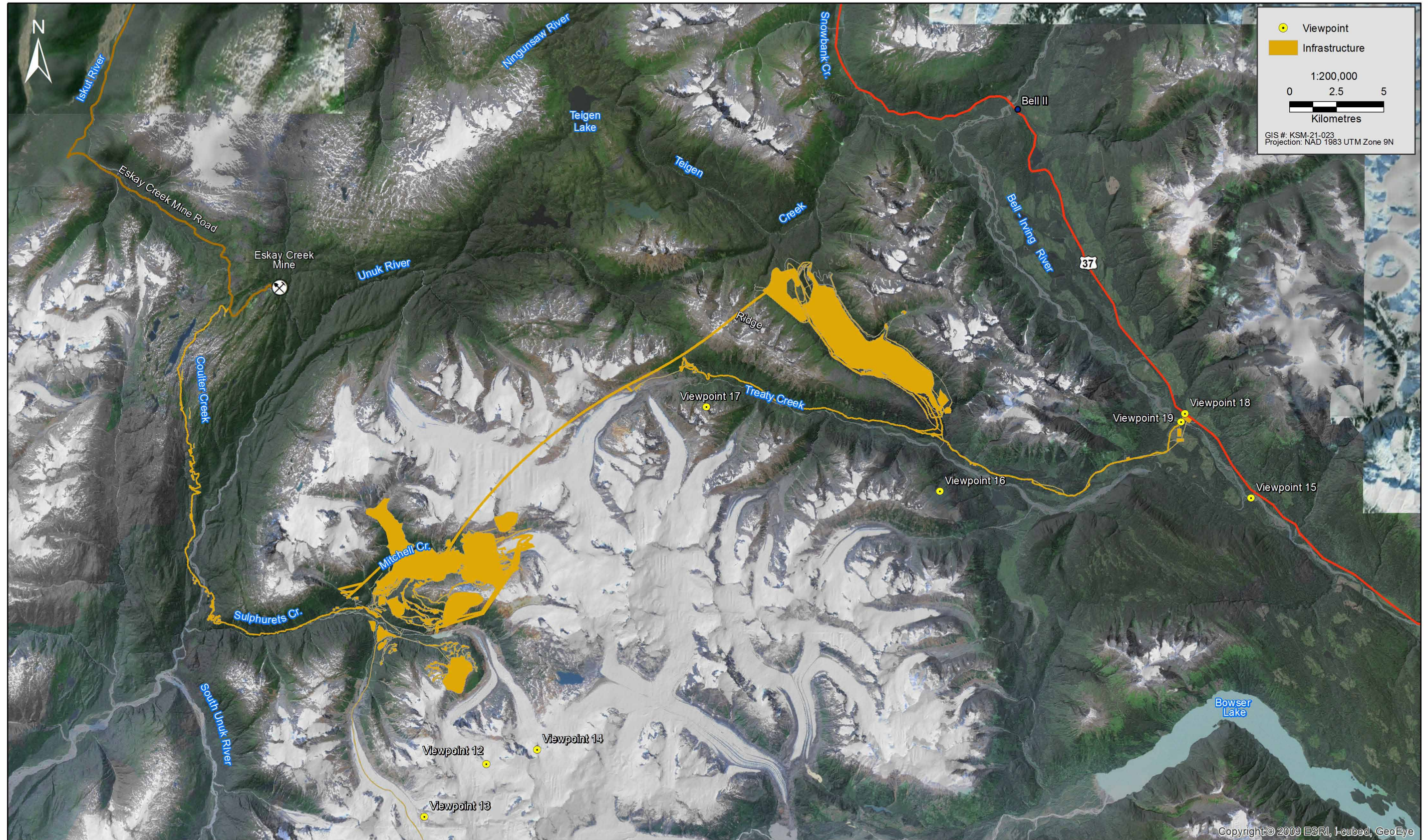


Plate 3.3-1c. Viewpoint 12 – Location and bearings from a point above the Sulphurets Glacier (September 29, 2010).



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Photographs of views 22 and 23 were taken on July 8, 2012, from points to the south of proposed Project infrastructure. The view 22 photograph was taken near the glacier above Ted Morris Creek. The view 23 photograph was taken above the East Sulphurets Glacier. The area is un-vegetated or covered with snow throughout the year. The weather was cloudy with variable visibility. The views towards proposed Project infrastructure were obstructed by the surrounding mountains (Plates 3.3-2a to 3.3-2c).



Plate 3.3-2a. View 22 – Viewpoint 13 – Looking west from a point near the Glacier above Ted Morris Creek (July 8, 2012).



Plate 3.3-2b. View 23 – Viewpoint 14 – Looking northwest from a point above the East Sulphurets Glacier (July 8, 2012).

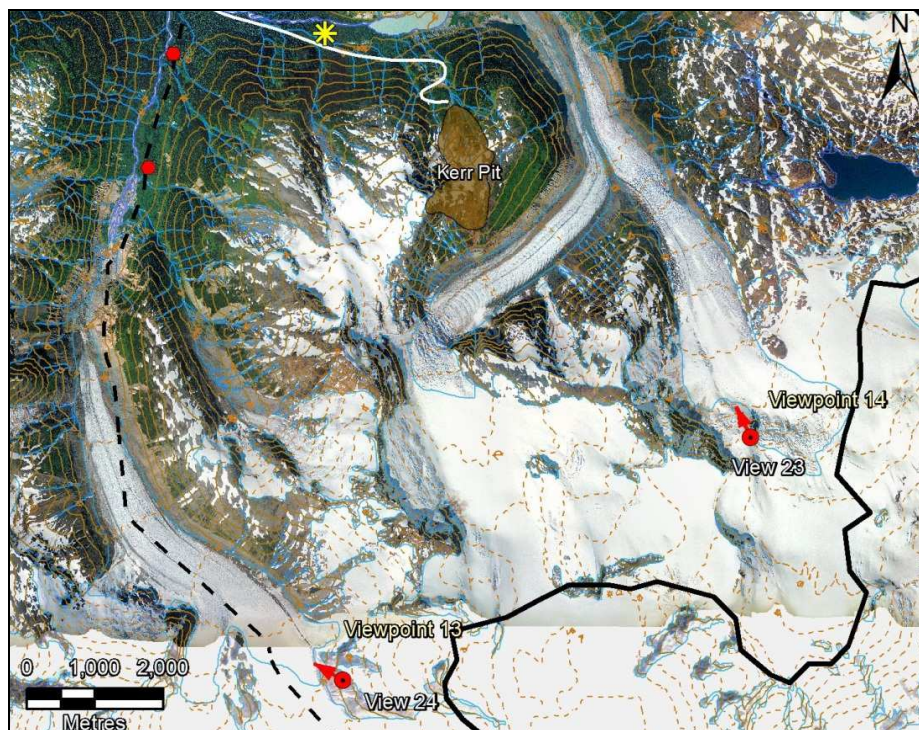


Plate 3.3-2c. Viewpoints 13 and 14 – Location and bearings from point above the Sulphurets Glacier and near the Glacier above Ted Morris Creek (July 8, 2012).

3.3.2 Access to Processing and Tailing Management Area

Photographs of views 24 and 25 were taken on July 2, 2012, from a point on the bank of the Bell-Irving River east of the Treaty Creek site (Nisga’a Final Agreement Act [2000]). This site is in a forested area and is difficult to access, so a viewpoint location was chosen nearby at a location across the Bell-Irving River. The weather was cloudy, and the visibility was good. The viewpoint was obstructed by vegetation to the north (Plates 3.3-3a to 3.3-3c).



Plate 3.3-3a. View 24 – Viewpoint 15 – Looking west from a point on a bank of the Bell-Irving River (July 2, 2012).



Plate 3.3-3b. View 25 – Viewpoint 15 – Looking northwest from a point on a bank of the Bell-Irving River (July 2, 2012).

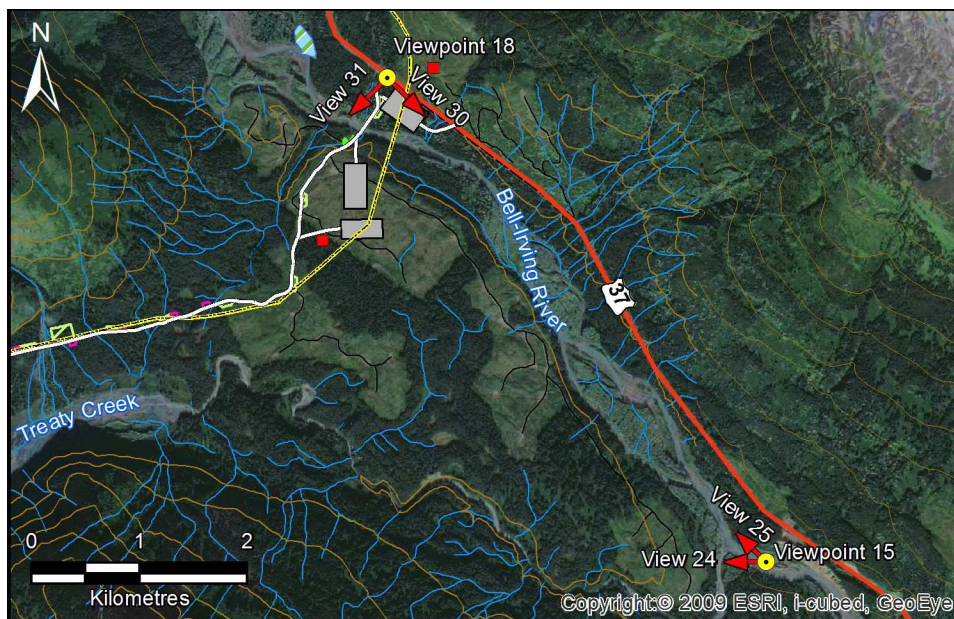


Plate 3.3-3c. Viewpoint 15 – Location and bearings from a point on the bank of the Bell-Irving River (July 2, 2012).

Photographs of views 26 and 27 were taken on July 2, 2012, from a mountain overlooking Treaty Creek. The weather was cloudy, and the visibility was good. The viewpoint was obstructed by sparse vegetation (Plates 3.3-4a to 3.3-4c).



Plate 3.3-4a. View 26 – Viewpoint 16 – Looking north from a point on a mountain overlooking Treaty Creek (July 2, 2012).



Plate 3.3-4b. View 27 – Viewpoint 16 – Looking north from a point on a mountain overlooking Treaty Creek (July 2, 2012).

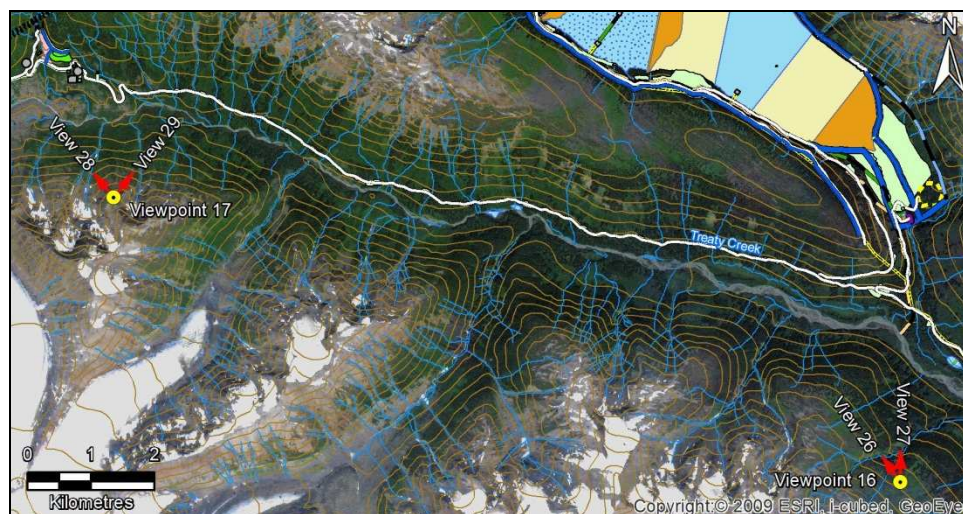


Plate 3.3-4c. Viewpoint 16 – Location and bearings from a point on a mountain overlooking Treaty Creek (July 2, 2012).

Photographs of views 28 and 29 were taken on July 2, 2012, from a mountain overlooking Treaty Creek. The weather was cloudy, and the visibility was good. The viewpoint was obstructed by sparse vegetation and topography (Plates 3.3-5a to 3.3-5c).

Photographs of views 30 and 31 were taken on September 29, 2012, from a point on Highway 37 near the Bell-Irving River. This location is in a forested area. The weather was cloudy, and the

visibility was good. The viewpoint was obstructed by vegetation. The highway and an existing forestry road could be seen from this location (Plates 3.3-6a to 3.3-6c).



Plate 3.3-5a. View 28 – Viewpoint 17 – Looking north from a point on a mountain overlooking Treaty Creek (July 2, 2012).



Plate 3.3-5b. View 29 – Viewpoint 17 – Looking north from a point on a mountain overlooking Treaty Creek (July 2, 2012).

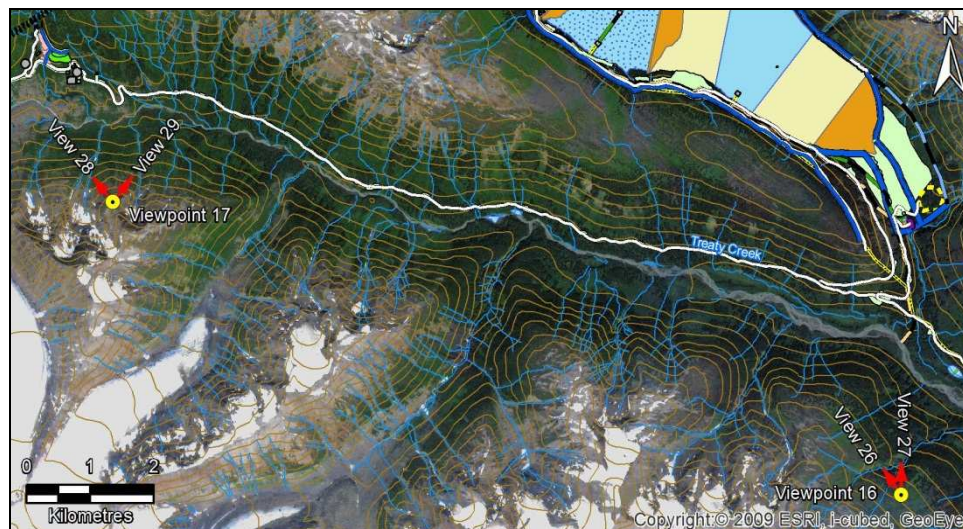


Plate 3.3-5c. Viewpoint 17 – Location and bearings from a point on a mountain overlooking Treaty Creek (July 2, 2012).

Photographs of view 32 were taken on September 21, 2011, from the location where a current forest service road meets the shore of the Bell-Irving River. The weather was high overcast. The viewpoint was obstructed by vegetation and topography. The old forest service road could be seen from this location (Plate 3.3-7a to 3.3-7b).



Plate 3.3-6a. View 30 – Viewpoint 18 – Looking southeast from a point on Highway 37 (September 29, 2012).



Plate 3.3-6b. View 31 – Viewpoint 18 – Looking southwest from a point on Highway 37 (September 29, 2012).

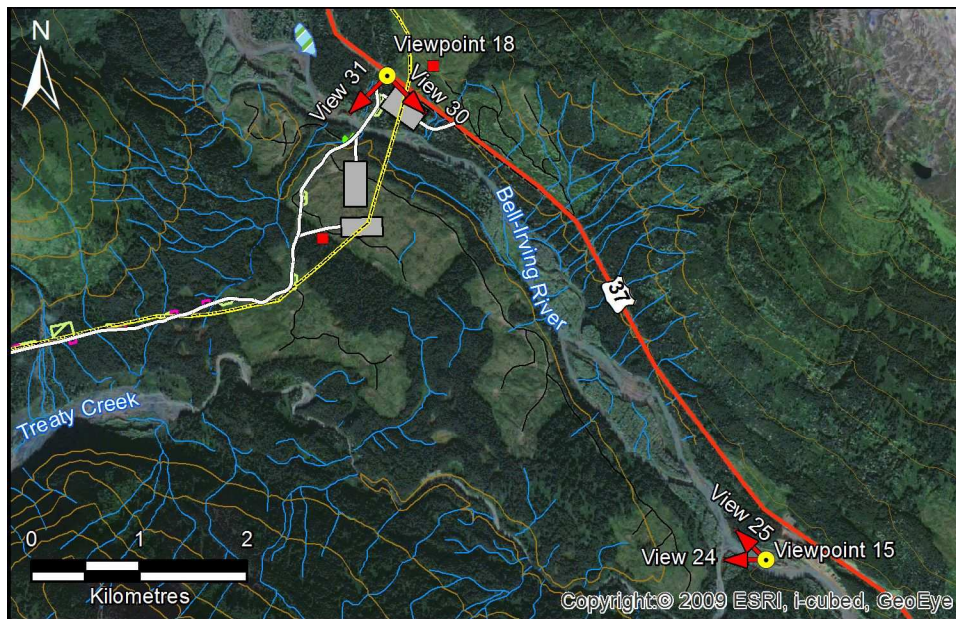


Plate 3.3-6c. Viewpoint 18 – Location and bearings from a point on Highway 37 (September 31, 2012).



Plate 3.3-7a. View 32 – Viewpoint 19 – Looking south-east from a point on the shore of Bell-Irving River (September 21, 2011).

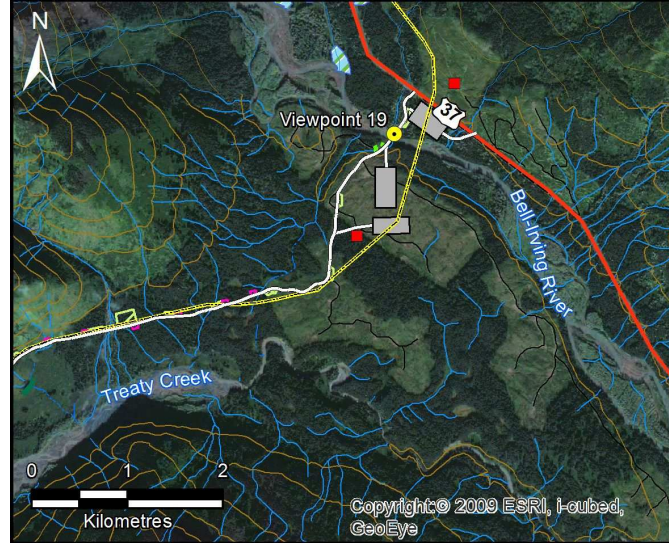


Plate 3.3-7b. Viewpoint 19 – Location and bearings from a point on the shore of Bell-Irving River (September 21, 2011).

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