

## SECTION A – FILE REVIEW

### Site Location

- ▶ Highway 742:02, south of Canmore. AB and approximately 3.8 km southbound along Highway 742 from the Canmore Nordic Centre turn-off. The site is located on the northwest side of the upper portion of Canmore Creek Valley, immediately downstream of North Whiteman’s Dam and upslope of the Grassi Lakes Provincial Recreation area.
- ▶ UTM Coordinates: Easting 611373, Northing 5658951 (NAD 83, Zone 11U)
- ▶ 3-25-024-11 W5M
- ▶ NTS mapsheet 82O/3

### Chronological Background

Table 1A provides a chronological background for this site.

### Site Geology, Hydrogeologic and Geomorphologic Setting

The highway is oriented along a bearing of 050/230 (i.e. northeast/southwest) along a bedrock slope on the lower portions of the east flank of Mount Rundle. There are areas of exposed bedrock on these slopes as well as large areas blanketed with a layer of talus. The highway is unpaved with a relatively narrow gravel running surface. There are no ditches along either side of the road at the site and there is a guardrail along the downslope side of the road.

This area is located within the heavily deformed region of the Rocky Mountain thrust belt. The site is located in very close proximity to the Rundle Thrust and lies within a region mapped as the Lower Mesozoic-Lower Cretaceous in age with regions of upper Paleozoic rocks<sup>1</sup>. This bedrock is dominantly dolomitic siltstones and limestones with interbedded sandstones.

Surficial geology maps indicate this area consists primarily of colluvium with a composition determined by the underlying bedrock<sup>2</sup>.

There is no hydrogeological data for this site aside from visual observations of erosion patterns, likely resulting from surface runoff from the road surface.

### Description of Past Site Problems

No record of previous site problems were located for this site.

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<sup>1</sup> Hamilton, W.N., Price, M.C., and Langenberg, C.W. (compilers), 1999; Geological Map of Alberta, Alberta Geological Survey, Alberta Energy and Utilities Board, Map No. 236, scale 1:1,000,000.

<sup>2</sup> Bayrock, L.A., Reimchen, T.H.F. (1975): Surficial Geology, Alberta Foothills and Rocky Mountains, Bayrock and Reimchen Surficial Geology Ltd., Sheet No. 4, Scale 1:250,000.

Alberta Transportation  
Site S30 – Highway 742 Gabion Wall  
Highway 742:02, Canmore Creek Valley  
Site Data – Summary Binder

### **Description of Past Investigations**

No records of previous site investigations were noted during the documentation review for this site.

This site was first inspected by AMEC in August 2007 during a call-out request following the collapse of the western end of the gabion wall. A proposal for repair was submitted to AT in fall of 2008 and can be found in section G of this binder. Annual site inspections were performed in 2008, 2012, 2013, 2014 and 2015.

### **Description of Mitigative Measures Implemented**

No mitigative measures implemented to date, however in 2012 it was noted that the collapsed gabion baskets had been removed. This was done reportedly by a group responsible for the Grassi Lakes Trail below the site.

A repair proposal was submitted to AT by AMEC in fall 2008 and can be found in section G of this binder.

**Table A1 – S30 – Highway 742 Gabion Wall**  
**Chronological Background**

Date	Description
Late 1980's	Current highway constructed.
Early 1990's	Gabion wall constructed by AIT.
July-August 2007	Western end of the gabion wall collapsed.
August 2007	AMEC visited the site on a call-out request by AT. Recommended risk level was assigned to 72. Recommendations included completely removing the existing fill embankment and restructuring the highway, restoring the erosion protection to the downslope embankment face including a shotcrete repair.
June 2008	First inspection by AT and AMEC personnel as part of the Southern Region Geohazard Annual Inspections. Recommended risk level set to 78. Recommendations include regrading the road surface and establishing an impermeable berm along the downslope edge of the road, removing debris from the collapsed segment of the gabion wall, applying a shotcrete repair, repairing the undermined portions of the eastern end of the gabion wall.
June 2012	Site inspection by AT and AMEC personnel. Collapsed gabion baskets had been removed. Several additional gabions had collapsed or been removed. Continued erosion under the base of the wall. Recommended risk level increased to 88. No change to recommendations.
May 2013	Site inspection by AT and AMEC personnel. Recommended risk level reduced to 72 due to the decrease of erosion activity. Recommendations include regrading the road surface, establishing an impermeable berm along the downslope edge of the road, performing a suitable repair option such as a shotcrete panel wall with anchored waler.
May 2014	Site inspection by AT and AMEC personnel. Recommended risk level increased to 80 due to increased erosion activity. No change to recommendations.
May 2015	Site inspection by AT and AmecFW personnel. Recommended risk level increased to 88 due to consistent erosion below the collapsed geogrid section. No change to recommendations.