SECTION A – FILE REVIEW

Site Location

- Highway 774, south of Beaver Mines, Alberta, and approximately 4.2km southbound along Highway 774 from the junction between Highway 507 and Highway 774.
- UTM Coordinates: Easting 699956, Northing 5477739 (NAD 83, Zone 11U)
- SE-4-6-2 W5M
- NTS mapsheet 82G

Chronological Background

Table 1A provides a chronological background for this site.

Site Geology, Hydrogeologic and Geomorphologic Setting

This segment of highway 774 is a paved, two lane highway that runs along the northeast/southwest oriented Beaver Mines Creek valley that is located within the transition area between foothills terrain to the east and the Front Ranges of the Rocky Mountains to the west. The site itself consists of a large embankment fill across an unnamed creek that drains into Beaver Mines Creek a few hundred metres to the southeast. There is a sign facing southbound traffic that reads "Limber Pine Bed & Breakfast, 1km" a few metres northbound from the site.

The published surficial geology of this site consists of non-glacial coarse stream alluvium and lenses of ice-contact glaciofluvial deposits such as kames, kame terraces and kame morraines[1]. The bedrock geology of the site area lies within a region mapped as the upper Cretaceous Alberta Group and the Belly River – St. Mary River Successions[2].

There is no hydrogeological data for this site aside from visual observations of groundwater seepage discharging from the embankment around and below the culvert outlet during the June 2008 inspection.

Description of Past Site Problems

No records of previous site problems were located during the documentation review for this site.

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[1] Bayrock, L.A., Reimchen, T.H.F. (1975): Surficial Geology, Alberta Foothills and Rocky Mountains, Bayrock and Reimchen Surficial Geology Ltd., Sheet No. 6, Scale 1:250,000.
[2] Prior, G.J., Hathway,. B., Glombick, P.M., Pana, D.I., Banks, C.J., Hay, D.C., Schneider, C.L., Grobe, M., Elgr, R. and Weiss, J.A. (2013): Bedrock Geology of Alberta; Alberta Energy Regulator, AER/AGS Map 600, Scale 1:1,000,000.

Alberta Transportation
Site S33 – Limber Pine Creek
Highway 774, Beaver Mines, AB
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 June 2008 during a call-out requested by Alberta Transportation. Annual site inspections were performed in 2009 and 2010. Inspections were discontinued in 2010 following site repair in late 2009.

Description of Mitigative Measures Implemented

A site repair was completed in late 2009. This repair included adding a new segment of culvert outlet and rebuilding the slope. Rip-rap was placed at the culvert outlet and in one of the erosion gullies.

Table A1 – S33 – Limber Pine Creek

Chronological Background

Date	Description
1987	Current highway surface paved (granular base course and double seal coat applied).
June 2008	First inspection by AMEC as a call-out requested by AT to inspect an erosion area in the road embankment slope around and above the culvert outlet at this site. Risk Level was assigned at 44. Recommendations included repairing the culvert outlet and erosion area.
August 2009	Site inspection by AT and AMEC personnel. No change to the recommended risk level (45) or the recommendations for repair of the culvert outlet and erosion area.
June 2010	Site inspection by AT and AMEC personnel. Site had been repaired since 2009 inspection. Recommended Risk Level reduced to 3. Recommended the site be monitored by the maintenance contractor to identify further problems. No further inspections as part of the Geohazard Assessment Program were recommended.