

Project Info



May 2019



CC8™ and CC13™ Bulk Rolls



8,240m²



Transverse layers



Eagle Gold Mine, Yukon, Canada



JDS Energy



CC8™ and CC13™ were used to provide erosion control and channel lining to two spillways

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CASE STUDY
VIDEO**



Concrete Canvas® installation at Eagle Gold Mine in Canada

In May 2019, Concrete Canvas® (CC) GCCM* was installed as an erosion control liner for two spillways. The first connects the heap leach pad to an events pond and the second, an emergency spillway for the events pond.

The spillways formed part of the Eagle Gold Mine operated by Victoria Gold, located in northern Yukon, approximately 200km from the Alaskan Border. The local area is subjected to seasonal variance of 20° to -30°C.

Alternatives to Concrete Canvas that were considered included poured concrete with an applied coating. This was discounted due to concerns about the logistical requirements and installation rates.

The spillways were designed to convey any overtopped heap leachate in the case of extreme weather events. The spillway would only likely experience any flow in the case of a 200-year storm event. The site is heavily monitored by the Canadian mining regulator and Ministry of Mining.

The main spillway is approximately 500m in length with profile sections of 5-8m at 7-15%. CC8™ was used for fall sections of 7.5% and CC13™ was used where the fall of the section increased to 15%.

*Geosynthetic Cementitious Composite Mat



Eagle Gold Mine site



Main spillway



Main spillway channel to be lined with CC



Emergency spillway channel to be lined with CC



Bulk rolls of CC13 and CC8 deployed via spreader beam



Installation starting downstream of main spillway.



Hydration of the lined channel



Joints were sealed and screwed for increased impermeability



Upstream section of completed channel



Installation of percussion anchors on emergency spillway section



Both completed CC spillway channels on the Eagle Gold Mine site

The emergency spillway is approximately 140m in length of varying width at 50% gradient and lined exclusively with CC13™ as per the specification of the engineering consultant, BGC Engineering.

The main spillway was installed as per standard CC channel lining detail; hydrated overlaps, Soudal 250XF bead, SS screws at 200mm centers, 100-150mm overlap with a 1.3m anchor trench (0.75 x 3) along either crest with ground pins. It was calculated that the main spillway did not require intermediate fixings.

The emergency spillway had Gripple rock anchors at fixings of no less than 1.8m centers along its main section. At the 90° corner, anchor centers were no less than 0.5m apart.

The onsite contractor, JDS Energy and Mining Inc installed the material at a rate of 750 – 850m² per day in temperatures of 15°C. The area can reach lows of -30° in winter.

Spillway with Concrete Canvas® in winter conditions.

