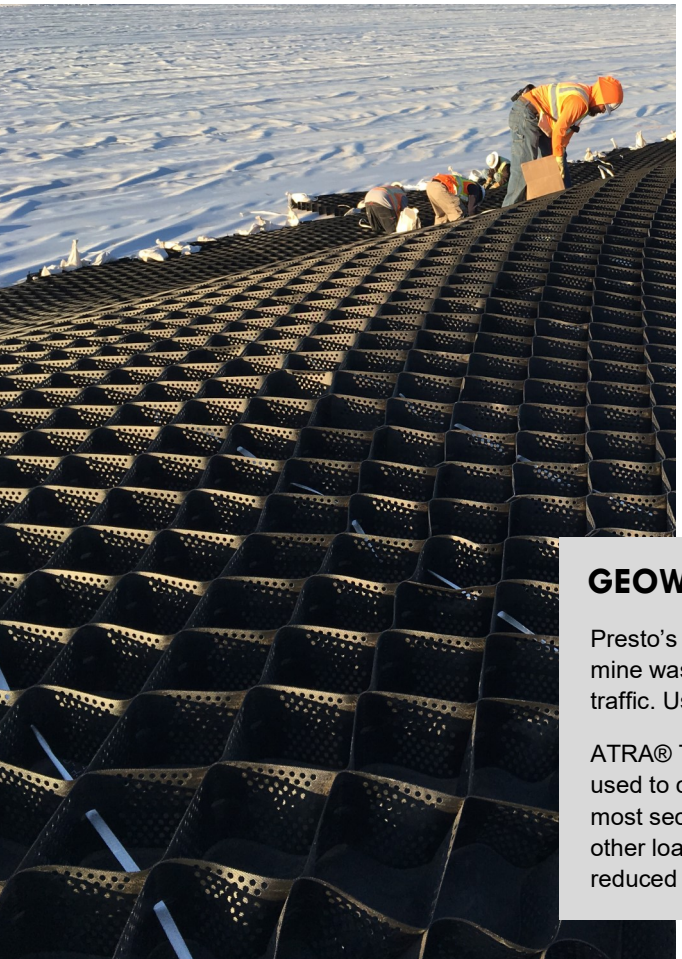
GEOWEB®

MINING POND SITE ACCESS

3D SOIL STABILIZATION SUPPORTS SITE ACCESS
Western United States, June 2017



SITE ACCESS TO EVAPORATION POND INTEGRATES 3D SOIL CONFINEMENT SYSTEM; UTILIZES ON-SITE WASTE ROCK

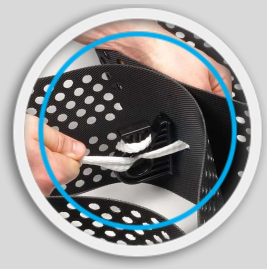
PROJECT SYNOPSIS

Presto Geosystem's design team was contacted by a mining engineering firm to help create a stable ramp over a liner system into a 1 million square foot evaporation pond. The pond was being built at a large open -pit mineral mine in the Western United States. The ramp to the pond would have to support large loaders and dump trucks required to remove accumulated sediment from the pond and protect the liner system from damage.

GEOWEB CONFINEMENT & LOAD TRANSFER DEVICE

Presto's GEOWEB soil confinement system, filled with on-site mine waste rock provided lateral load reinforcement to support traffic. Use of on-site waste rock reduced project costs.

ATRA® Tendon Clips (high-strength load transfer devices) were used to connect tendons with the GEOWEB cell walls for the most secure connection. With 2X the pull-through strength of any other load transfer device, the number required per section was reduced by half, saving on time and cost of installation.



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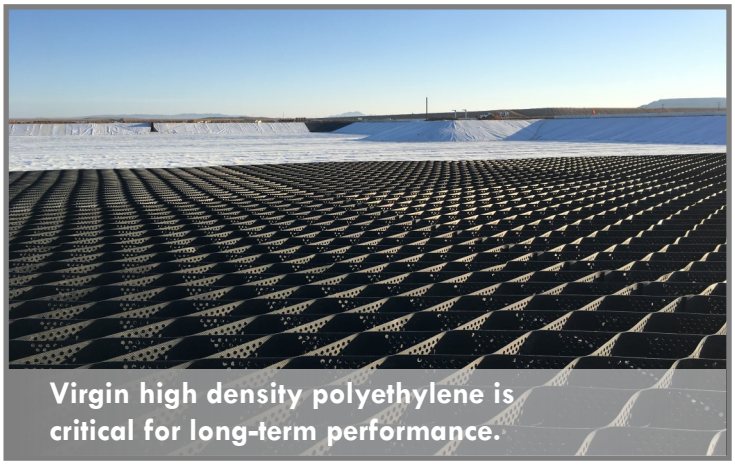
Tendon supported GEOWEB sections protect the pond liner.

Tendons transfer the loads from the GEOWEB to the anchored trench.



Virgin high density polyethylene is critical for long-term performance.

PROJECT SUMMARY

The GEOWEB 3D soil confinement system, utilizing the mine's on-site rock infill, was selected to help stabilize the access ramp into the pond.

In order to support the load and driving forces of an articulated truck—the largest piece of equipment that would use the ramp—Presto recommended the GEOWEB 6-inch deep material. The material was anchored with three polyester tendons per panel and the patented ATRA® Tendon Clip load transfer device every fourth cell downslope. The tendons were anchored to a 4-inch PVC pipe, buried 2-feet below grade, at the crest of the slope in the same anchor trench that secured the liner system.

The liner system consisted of, from bottom to top, a geosynthetic clay liner (GCL), a 60 mil HDPE secondary geomembrane, a 200 mil geonet, and a 60 mil textured HDPE primary geomembrane.

PROJECT RESULTS

A total of approximately 75,000 sf of Presto GEOWEB material was installed on the 16-foot vertical, 3H:1V ramp and infilled with **on-site mine waste** without anchor penetrations through the liner system.

Request FREE Project Evaluation

GEOSYSTEMS

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