

# CASE STUDY

## CARLOTA MINE

### POWERS GULCH CHANNEL - MIAMA, AZ

#### DIVERSION CHANNEL DROP STRUCTURE LINING



### PROJECT SUMMARY

The Carlota mine is located in the Miami-Globe mining region in the state of Arizona. On average, it produces 25 million pounds of cathode annually. Water is a precious resource in the region and environmental regulations specify zero discharge from mine operations to the nearby Pinto Creek watershed. Construction of heap leach pads in 2008 created the need for a diversion channel to maintain the flow of Powers Gulch without introduction of any leach effluent. Velocities associated with critical and supercritical flow require design of a series of drop structures capable of energy dissipation to control erosion. The use of PYRAMAT® High Performance Turf Reinforcement Mat was the right choice to line the drop structures, based on its high UV stability and unvegetated hydraulic performance. The cost savings over conventional concrete and gabion linings saved significant construction time and costs for the mine owner.



#### PROBLEM

Zero discharge permit required full preservation of natural flow to Pinto Creek



#### SOLUTION

PYRAMAT® was used to provide erosion protection for drop structure diversion



#### INSTALLATION

High Performance Turf Reinforcement Mat was installed at a fraction of the cost of concrete and gabions



#### PERFORMANCE

The unvegetated hydraulic performance of the PYRAMAT® ensured protection without sediment pollution

### FEATURES & BENEFITS

- Woven construction is stronger and more durable than traditional TRMs
- 3D matrix composed of polypropylene mono-filament yarns featuring X3® Fiber Technology for faster root mass development
- Superior UV resistance for up to 75 year design life
- Promotes infiltration of surface water
- Resists heavy duty non-hydraulic stresses
- Engineered percent open area to provide both short-term and long-term protection
- Available in green or tan



VISIT OUR WEBSITE FOR MORE INFORMATION, PRODUCT SAMPLES OR OTHER INQUIRIES OR CALL CUSTOMER SERVICE AT 1.800.621.1273



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