

News Release

Red rock meets its match.

A California producer finds a cost-effective way to process hard, abrasive material with help from Unified® Screening & Crushing.

Mitch Brown was sitting on a valuable deposit of very hard granite. As the owner of Porterville Rock & Recycling in Porterville, California, Mitch had more than 100 million tons of “red rock” at the company’s Wilcox mine site. It’s used in difficult roadbed situations as well as some ready-mix concrete applications. That’s why Mitch got a permit to mine and process the hard granite, and went to work.



Mitch Brown – Porterville Rock & Recycling

**Problem and opportunity:
One tough material.**

Mitch’s deposit presented an immediate challenge: It’s one of the hardest types of granite in the world. This “red rock” is metabasalt, which has a 13% wear on a 500-revolution LA Rattler Test. It’s also a highly abrasive material that’s notoriously tough on equipment—something Mitch discovered when the screen media he used to process the abrasive stone began to wear out almost immediately.

The Porterville Wilcox operation was set up with a variety of three-deck, 6’ x 16’ screen boxes, using wire cloth screens from well-known manufacturers. The screens Mitch’s crew originally installed in one box were:

- **Top deck:** Competitor’s 2” opening, wire cloth with 3/8” double wire.
- **Middle deck:** Competitor’s wire cloth screens with urethane strips and both 1-1/8” and 1-1/16” openings.
- **Bottom deck:** Unified’s wire cloth screens with square opening design, using 1/2” and 3/8” openings.

The original upper deck screens were no match for the hard granite. They lasted just three weeks. The top- and middle-deck screens wore out much too soon and needed premature change-out.

Finding a hard granite-resistant screen.

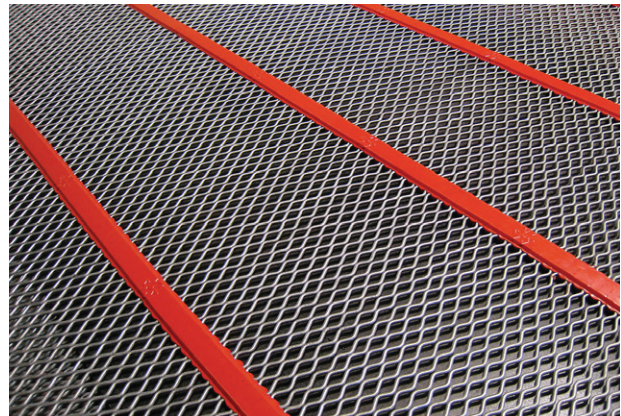
Unhappy with the wear life, Mitch Brown decided that he had to find a tough-wearing wire cloth; one that would stand up to the punishing red rock. He put a call into Ray Sailer, general manager at Unified® Screening & Crushing—California. With his decades of experience, Ray leads a team of Unified service representatives dedicated to creating customer solutions—a team that had helped Porterville Rock many times before. Mitch thought they might have some better ideas for screening hard granite.

Ray visited the Wilcox mining site and observed the operation. He recommended starting on the middle deck with 1-1/8” opening, diamond (D)-type, SuperFlow® screens manufactured with 3-gauge Tufflex® wire. For the bottom deck, Ray recommended keeping the square opening Unified screens.

Unified's SuperFlow® screens are a hybrid design; with an advanced combination of Tufflex® wire and polyurethane to deliver greater flexibility, longer life, and extremely accurate sizing.

The Tufflex® wire is highly durable against abrasive material, such as hard granite. SuperFlow® handles damp and sticky material with vibrating wires that greatly reduce blinding. The wire and the screens are manufactured in North America with various styles for different applications. A unique and expensive tempering process gives Tufflex wire greater ductility (flexibility) and higher tensile strength than oil-tempered and other high-carbon wire types.

Moving to the top deck, Ray Sailer and the Unified service reps recommended replacing the competitor's 2" opening wire with Unified's 2" opening, 1/2" wire diameter, high-carbon scalper screen—which is ideal for high impact and abrasive-resistant screening. The return on this deck alone generated 2-to-1 better performance. Unified then replaced the feed end with their rubber impact screen.



"D" Style SuperFlow Screens

Putting Unified to the test.

Unified also recommended a series of tests to prove the accurate sizing and superior wear-life of the SuperFlow® screens. With a number of competitor screens in stock, Porterville Rock embarked on a series of side-by-side tests. The tests began with a three-week cycle and continued all the way to a test that lasted six months. Test product ran on both top and middle screen decks with maximum production scheduling. The plant passes 200 to 250 tons per hour on an eight-hour day schedule.

First, the Wilcox plant had run the original competitor screens, which had to be changed out after three weeks. Then, the SuperFlow® screens were installed and ran until they were changed out—*three months later*.

Unified engineers tested both the competitor and Unified SuperFlow® screens in a 6' x 16' screen box with four 6' x 4' sections: impact end, secondary screen, third screen, and finally the discharge screen section. In all areas and all tests, the SuperFlow® screens easily outperformed the competitor screens by a minimum factor of three to one.

Success in the field.

Mitch Brown said that Porterville Rock saw a great reduction in the number of change-outs, plus screen cost savings and production increases in every test and section.

"Unified supplied us with the Tufflex® SuperFlow® screens that outlast any previous product we have used," Mitch said. "With the material wearing longer, we've had a cost-savings benefit due to the longevity of the screens. In today's economy, it helps to have a dependable product that can improve your bottom line. And in addition to their higher quality product, you can't beat the service and support you get from Unified Screening & Crushing."

For more information visit: www.unifiedscreening.com