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BACCHUS CAVES AND QUIKRETE[®] UNCORK PERFECT WINE STORAGE Constructing Wine Caves with Shotcrete Becomes a Refined Process

ATLANTA (June 28, 2016) – During the past two decades, <u>Bacchus Caves</u> has established a reputation for being the premier company for constructing the highest-quality and most elaborate private and commercial underground developments in the country. While each project presents its own set of unique challenges, the recently completed private 6,000 square-foot residential cave built outside of Springfield, Mo. proved extremely challenging so Bacchus Caves consulted with <u>QUIKRETE®</u> to come up with a joint solution for the unique ground support conditions. QUIKRETE recommended using <u>QUIKRETE® MS – Fiber Reinforce Shotcrete</u> as the preliminary support material in very weak ground that could not be stabilized with standard excavation and wet mix shotcrete practices.

Typically, Bacchus Caves excavates eight to 10 feet of soil then applies wet mix shotcrete at the end of each work day to stabilize the tunnel. Unfortunately, on the Missouri project, the ground would not accommodate excavation in more than two-foot intervals, so applying shotcrete in a dry process proved to be the best option for stabilizing the tunnel immediately. In a dry process, water is added to the shotcrete at the spray nozzle rather than being blended with the shotcrete in the pump before being spray-applied. Through a close working relationship with QUIKRETE, Bacchus Caves successfully excavated the complex cave system and installed more than 1,000 cubic yards of <u>QUIKRETE® MS – Fiber Reinforce Shotcrete</u>.

"The entire experience we had with QUIKRETE was a positive one and we continue to use their product to this day on commercial cave project we are building in Hill Country, Texas, we truly feel like we are part of team when using their products" said David Provost, President of Bacchus Caves.



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In the second shotcrete phase, four-inch by four-inch wire mesh was attached to the entire interior subterranean surface and wet mix shotcrete spray-applied as the final tunnel liner. The wet mix method, which could be applied at a much higher rate than dry mix, was placed in four passes to create the six-inch tunnel liner. All the shotcrete pumps were equipped with fast-switching rock valves for surge-free operations at the hose so the shotcrete could be pumped distances greater than 400 feet through a line two inches in diameter.

The finished cave features wine storage space, a wine tasting room, a dining room, a bathroom and a banquet preparation area accessible through a four-story spiral staircase or elevator from the home's basement and an outside entrance. A grand entertainment space highlighted by a natural stone fountain framed by arching shotcrete walls and ceilings, quartzite floors, 200 hand-formed recessed lights and a chandelier that mimics a tree root, the wine cave maintains a perfect 60 degree temperature at all times.

Founded by David Provost in 1997, Bacchus Caves boasts an extensive list of large, highprofile underground projects including the 20,000 square-foot Cliff Lede Winery and 23,000 square-foot Meritage Resort & Spa, both in the Napa Valley region, where the modern cave industry started. Driven by the motto, "Anything is Possible Underground," Bacchus Caves aspires to leave the landscape on the surface of an underground project uninterrupted to retain its natural beauty. In addition to the fiscal and aesthetic benefits, Provost suggests that the most appealing aspect of an underground project is that no two are the same. For more information on Bacchus Caves visit <u>www.bacchuscaves.com</u>.

QUIKRETE[®] Shotcrete MS is a single component Micro Silica enhanced repair and restoration material that achieves a compressive strength of more than 9,000 PSI at 28 days, and features very low rebound and permeability characteristics. The QUIKRETE[®] Companies offers a full line of shotcrete products that can be applied through a wet or dry process to deliver the combination of high strength, high adhesion, low rebound and low sag. These characteristics make QUIKRETE[®] Shotcrete MS ideal for use in rehabilitating bridges, tunnels, parking garages, ramps, piers, dams and other concrete structures. QUIKRETE[®] shotcrete has been used on many renovation and restoration projects including the SeaWorld[®] in Texas, Alcatraz Island and Stanford Linear Accelerator in California, and Spokane River in Washington.

The QUIKRETE[®] Companies

The QUIKRETE[®] Companies is the largest manufacturer of packaged concrete and cement mixes in the U.S. and Canada, and an innovative leader in the commercial building and home improvement industries. QUIKRETE[®] also offers related products through numerous wholly-owned subsidiaries including SPEC MIX[®], Pavestone[®], Custom Building Products[®], Target Technologies[®], Daubois[®] and QPR[®]. Collectively, QUIKRETE[®] products are manufactured and distributed from nearly 150 facilities in the U.S., Canada, Puerto Rico and South America, allowing for unsurpassed distribution and product depth. The QUIKRETE[®] Technical Center also ensures that professionals and consumers alike are provided with the most innovative and highest quality products available on the market. For additional information on The QUIKRETE[®] Companies or its products, please visit <u>www.quikrete.com</u> or call (800) 282-5828.

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