



This Agua Caliente bathhouse, pictured here, was built in the 1910s in what is now downtown Palm Springs; it offered direct access to the healing waters of the Hot Mineral Spring.

# A Spring Everlasting

*The Agua Caliente Band of Cahuilla Indians works to ensure the integrity of the time-honored Hot Mineral Spring.*

**H**YDROGEOLOGIST Scot Stormo surveyed the final stages of the Agua Caliente Hot Mineral Spring retrofit project with well-deserved appreciation. It's an undertaking he began more than a decade ago when he was first contracted by the Agua Caliente Band of Cahuilla Indians to analyze the integrity and output of the Tribe's spring bubbling up in a highly coveted tract of Tribal land in downtown Palm Springs.

As anticipated, he and others on the retrofit team found the quality of water unaltered,

pumping up from a mile and a half below the earth's surface with steadfast regularity at 105 degrees and approximately 24 gallons per minute. "This is a very robust spring," Stormo says.

However, the spring's collection and pumping systems were in dire need of attention. The cylindrical 20-foot steel collection ring, which was constructed more than 50 years ago to contain the spring water before pumping it to what was then the Spa Hotel.

After removing the heavy concrete lid to examine the main orifice, it quickly became

apparent that the tank, or collection ring, was in need of attention, which warranted an extensive plan to fit the spring with a new collection system.

Rigorous study and analysis followed, and the Tribe determined the need for a complete overhaul of the collection system to preserve and protect the spring that Cahuilla Indians have revered since time immemorial.

For centuries, the Cahuilla have been the spring's faithful guardians, considering it a place of great healing and a living entity with great power—a connection point with a spiritual underworld populated by ancient sacred beings (*nukatem*). The early Cahuilla depended on the Hot Mineral Spring for fresh water, bathing, agriculture, and community, and later shared it when others came seeking its curative properties. Even as one century rolled into the next, even with industrial and technological advancements, the Agua Caliente Cahuilla never wavered from their important responsibility as stewards of the spring.

With intention firmly in place, preparation for the retrofit began in late 2014. The project demanded excavating around the structure to reduce the pressure and allow removal of metal components (footings, pumps, beams, and the ring). As this would impact buildings and landscaping, the Tribe took this opportunity to identify plans to revitalize the property at large. After the complete tear-down of the hotel and spa building, a multi-disciplinary retrofit team including Stormo and Tribal Chief Engineer Rob Donnels began the delicate process of removing the old ring and installing a new stainless steel ring more impervious to decay. Of equal importance was devising a sophisticated method of collecting and transporting the water via an external pumping room.

In April 2015, the lid to the old tank was removed for the first time in more than 50 years. After lowering the water level in the tank, the team began analyzing the spring's main orifice, bubblers (secondary outlets for spring water), and surrounding soil. This information helped drive the vital project forward with as little disturbance as possible to the spring and existing system. "We learned several things," Stormo says. "We learned that the spring is very stout, but the material inside the ring consisted of very fine sand buoyed up by the water."

The fluidity of the soil compelled the team to rethink how they would work "in the

wet." Rather than risk disturbing the spring's physiography, they worked in tandem with nature and used the existing ring to protect the spring while placing the new, slightly larger ring around its exterior. After the new ring was in place, they used cutting torches to manually extract the old tank piece by piece. During construction, a plastic geogrid buried in layers provided stability and allowed workers to move about the site.

With the new tank in place, the team began constructing the lid on an elevated patch of ground near the tank. The challenge, says Stormo, was to ensure that the lid, which is considerably heavier than the tank, didn't push the new ring down. The solution was building a bridge support with foundations and cross beams to hold the lid up with minimal stress on the actual tank. To further guarantee the enduring vitality of the Hot Mineral Spring, the delivery of spring water to any future Tribal enterprise will be executed from a pumping room outside of the tank, and an intricate monitoring system will measure water levels and quality without disrupting the spring.

The new lid was placed on the tank during a dedication ceremony on Jan. 9, 2016.

With an estimated shelf life of 50 years, the new ring and pumping system of the Tribe's Hot Mineral Spring assures the continued solvency of the hot waters for which the Tribe and the City of Palm Springs are named. "It may be many years before anyone again sees the spring in its entirety; it probably won't happen in my lifetime," Stormo admits with bittersweet resignation. But as pages of the calendar flip and days tick toward tomorrow, the Agua Caliente Hot Mineral Spring will effervesce as it always has, and always will, under the devoted protection of the Agua Caliente Cahuilla and their descendants.

— MONA M. DE CRINIS

RIGHT, FROM TOP: Road widening construction in 1953 by the City of Palm Springs created the need for a water holding ring; the Tribe's recent work to ensure the Hot Mineral Spring's holding ring lasts well into the future; the completed project, with the new ring in place.

