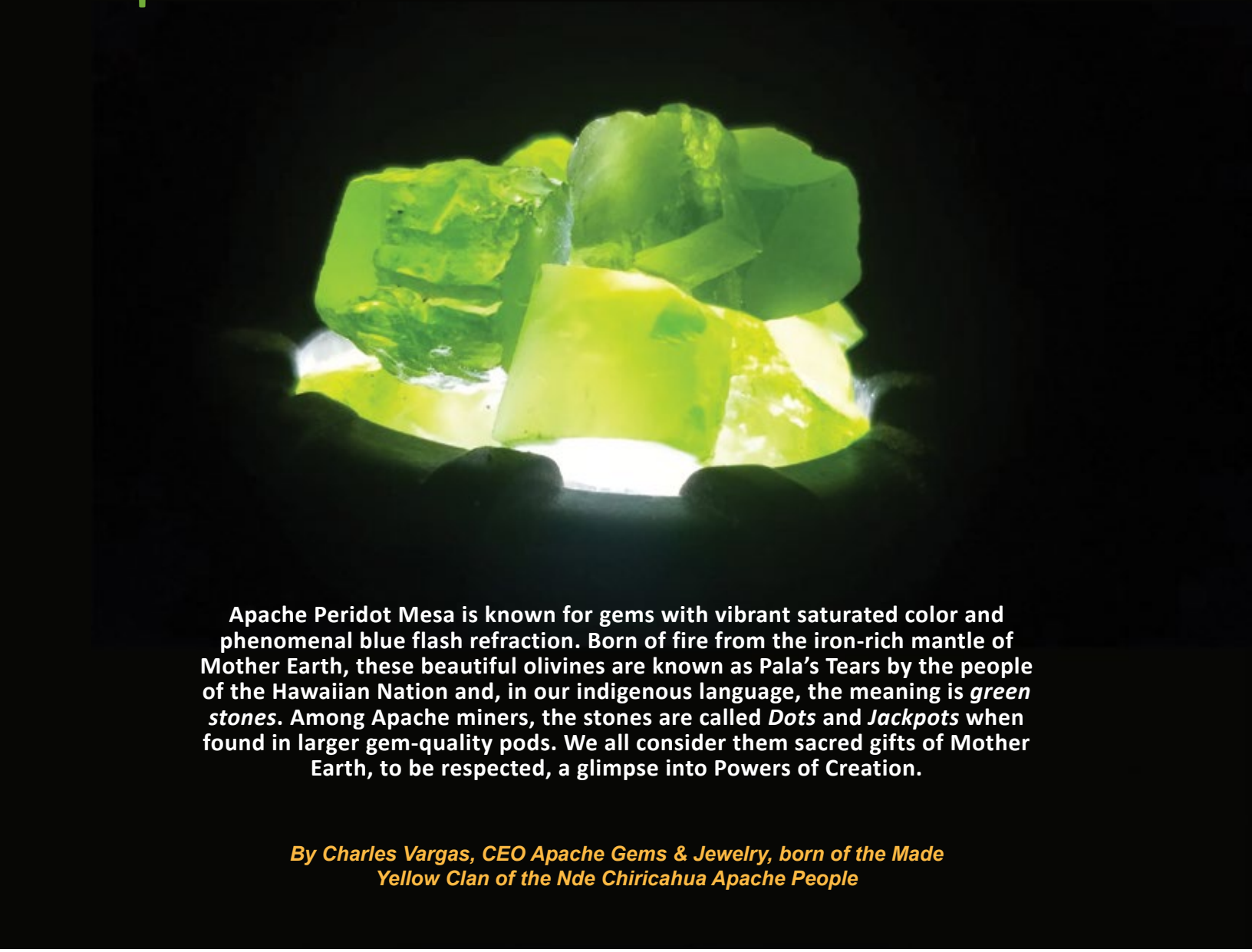
Apache Peridot - Born of Fire from Mother Earth



Apache Peridot Mesa is known for gems with vibrant saturated color and phenomenal blue flash refraction. Born of fire from the iron-rich mantle of Mother Earth, these beautiful olivines are known as Pala's Tears by the people of the Hawaiian Nation and, in our indigenous language, the meaning is *green stones*. Among Apache miners, the stones are called *Dots* and *Jackpots* when found in larger gem-quality pods. We all consider them sacred gifts of Mother Earth, to be respected, a glimpse into Powers of Creation.

By Charles Vargas, CEO Apache Gems & Jewelry, born of the Made Yellow Clan of the Nde Chiricahua Apache People

The people of Geronimo identify as *Nde*—in the Chiricahua dialect of the Athabaskan language, it means *The People)*—also known as *Apache.* We are an ancient civilization and live in harmony with Nature. We share responsibly our wisdom, culture and blessings with others throughout the world.

According to our cultural beliefs, knowledge (technology) is revered as something to be respected, preserved in oral traditions from observations of Nature that should be shared. A fraction of the former Apacheria, our San Carlos Apache land, as small and confined as it may be, holds an abundance of diverse minerals that have become part of our inherited intelligence of geophysics. One of these minerals is the remarkable blue-flash chrome peridot. One amazing example of these peridots is *Geronimo's Secret* that is thought to be a long-held rough stone, which was eventually traded to a dealer from Scottsdale, Arizona who commissioned a cutter to produce the 100-plus-carat polished oval. This mammoth Apache gemstone eventually found its way to Europe and currently resides in the Natural History Museum in London.

Collecting peridot has been done for generations, since the time of our Creation and recorded orally by codec. Early *mining* was carried out by hand with simple tools, as Apaches collected eroded crystal fragments for use and for supplying world markets for more than 100 years. Then, during the late 1980s, recovery of the gems evolved, which brought about improved living conditions for many families at San Carlos.

Miners then began mechanized recovery using heavy equipment. But, one day, an accident caused by one of

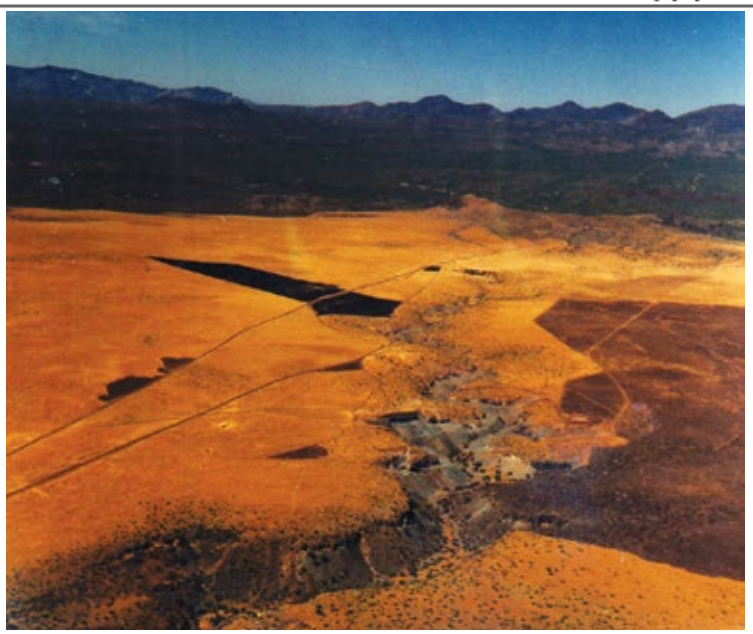
the *Ndah* (non-Apache) contractors resulted in the loss of a miner. The death of this mother of 11 children resulted in discussions of how to improve safety and working conditions in the mining communities. Because peridot is a communal resource and not subsidized or regulated by any government, it was up to the mining community to self regulate and create standards for safety. If a mine didn't comply with the standards set by the community, it would not be allowed to use its equipment. These rules effectively encouraged miners to act responsibly, and they seem to have worked, as no major accidents have happened since.

A look at the geology of Peridot Mesa takes us to the main volcanic cone known locally as *Burnt Mountain,* a caldera dating back approximately 24 million years. The San Carlos property is a two-million acre reserve of the original Apache territory held in trust by the United States for the "federally recognized Indian" portion of the Chiricahua Apache people. The area straddles two tectonic plates, the North American Plate and the Sonoran Plate, centrally located in one of the world's largest copper resources known to date.

These lands include vast volcanic fields in the Gila River basin, central to the reservation's physical boundaries that were set and then reset by Congress more than seven times since the 1872 presidential proclamation that established a reserve for what were thought to be the last remaining Apache people.

The mesa's elevated once-molten and now-frozen flows have been sculpted by erosion and are composed of alkali peridotidic basalt. The Peridot Mesa and similar geological occurrences are the deepest known volcanic vents that have risen from the mantle to the surface. These tectonic volcanic events millions of years ago resulted in the largest reserve of gem quality olivine, Apache Peridot, on Sacred Ground. Hydrothermal activity along these tectonic regions resulted in a wide diversity in minerals provided by Mother Earth, including subduction zones that became serpintinized. This region is known as *Copper Country* because of its copper

Photos
Above: Geronimo's Secret, a 100-plus-carat Apache peridot that is in the Natural History Museum in London.
Opposite page: Rough pre-formed peridot from the Apache Peridot Mesa, Apache Lapidary.



Arial view of canyon mines on Peridot Mesa, an area noted for gem-quality peridot. It is part of the San Carlos volcanic field, located in San Carlos, about 40 km east of Globe, Arizona, on the San Carlos Apache Indian Reservation. The mesa is approximately 23.3 square kilometers and capped by a basalt flow 3-25 m thick, which resulted from a volcanic cone in the southwest corner of Peridot Mesa.

deposits, but it also has significant occurrences of rare gems such as the iridescent Fire Agate (from Slaughter Mountain northeast of San Carlos), amethyst, demantoid garnet, and a spectrum of colored chalcedony. Blue-ice gem silica, pink, purple and red hues, along with a a spider-webbed *White Horse* variety are only a few of the chalcedony colors sought after in Apacheria. And, some 335 miles to the north is the Navajo Nation, a locality known for its intensely colored ruby red chrome pyrope garnet.

Apache Peridot is a distinctive example of the coloration of crystals from their elemental content, with it's notable display of a blue-flash phenomenon. This was more often observed in later production coming from mines farthest from the volcanic cone. Within these vibrant green stones are distinctive traits or genetic markers that may be chemical indicators for the stone's origin.

For decades, miners have recognized these special zones of deeply saturated stones, which offer larger crystal fragments at a distance of more than a mile from the volcano. The apparent slower cooling under a 25-meter basalt cap offered greater conditions for crystal growth size and chemistry development.

Apache Peridots have stronger color saturation than peridots from other origins. Indeed, the elemental composition during its particular formation determines these distinctive features. Chrome diopside, chromite and chromium spinel are just a few of the minerals associated with or found as inclusions in Apache Peridot.

The inclusions of chrome diopside and ghost veils prevalent in Apache peridot were first photographed by John Koivula, GIA, in 1980. And, the rare biotite mica is found only in Apache peridot, and was described by Dr. Edward Gubelin in 1974.

Miners using heavy equipment in the canyons of Peridot Mesa.

Bulldozers now often replace the shovel and wheelbarrow.

Tailings from the mining activities on Peridot Mesa.

Mechanized mining in the western bank of Peridot Mesa.

Apache miner, working the *Dots* on Peridot Mesa.

Peridot is used by local artisans in a variety of jewelry, such as this pair of peridot and turquoise (Arizona) earrings in silver.

Hand tools for finding that special gem peridot in smaller mining operations.

Below left: Bracelet made of peridot beads with Arizona turquoise, spiny oyster shell and sterling clasp, crafted on the San Carlos Reservation.

Below: Apache miner Michael W. Haney shows off some gem quality peridot found on Peridot Mesa.

When it comes to mining peridot, the value system of the Apache is based on the conservation of this precious and finite resource. The removal of tailings and overburden in small operations is still done using shovels and wheelbarrows. Larger operations use mechanized equipment such as bulldozers to push volumes of basalt overburden into dumps piled high in the productive zones of the mesa.

What differs from the first 100 years of production by Apaches is the exploration across the nine-square-mile volcanic flow of Peridot Mesa and the conscious preservation of only removing what is needed.

These flows are like giant iron skillets raised into the sky with white pedestal bases of oceanic beds composed of silts and sand of ancient seas with fossils telling stories of flooded terrain. Even in Apache, these geological locations are understood through the physics of indigenous observations known as *White Clam Shell Turned To Stone, A Sacred Place, since the time of creation as recorded orally in Apache codecs.*

Peridot jewelry is made locally as a means of creating value by precision faceting of gems and cabochons as well as beads and tumbled polished stones, which are distributed for further fashioning.

Currently, silver and gold jewelry is handmade in San Carlos by several families who have revived the collecting of gems from the fields and cutting them in local workshops. With the return of these historical cultural practices, we are seeing more economic benefit from refined craftsmanship, metal foundries and lapidary arts for adornment and medicinal use.

The Apache remain caretakers of Peridot Mesa—a support provided (a blessing) to the people of the San Carlos Reservation to become fully self-determined and self-reliant while doing no harm for the next seven generations.

Photos are courtesy of the author and Apache Gems, as well as the Chiricahua Apache Nation at San Carlos Indian Land. ■