

Glowing lava, hot ash create delicious Sonoma County wines

The secret to Sonoma County's world class wines? You're standing on it.

It's a bright September morning, and 700 feet above the Valley of the Moon, high up on the eastern slope of Sonoma Mountain, the sun is warming vivid green rows of grapevines. Along the terraced hillsides above Jack London State Park, every vine is hung with bunches of plump and firm blue-purple grapes awaiting harvest.



They are tended by Brian Shepard on land that once was Jack London's original Beauty Ranch. Shepard grew up here on his famous relative's mountainside. More than 100 years ago, London was a pioneer of sustainable farming, and Shepard carries on the tradition. His father, Milo, was also born here in 1925, just nine years after London's death.

Tall, lanky, straight backed, Shepard deploys careful irrigation, soil amendments and an array of vineyard skills to keep the vines thriving for that one final ripening. He knows the character of every slope and hollow of his 180-acre ranch, and as he surveys the mountainside and vistas, it's a scene of agrarian achievement and stunning beauty.

So it's hard to imagine that the exact spot was once a hellish place. This slab of Sonoma County was once rocked by volcanic explosions and tremors, a scene of cataclysmic destruction, smothered by soaring columns of superheated ash, glowing lava, sulfurous fumes. Open fissures and erupting cones stretched in smoking lines from horizon to horizon, and the forests and life on the landscape were reduced to wasteland.

Today only the volcanoes' bones remain, with hot springs and buried ash in the mountains called Sugarloaf, St. Helena, Mayacamas and Sonoma. But the two events, the harvest and the cataclysm, are intimately linked. The premium wines from Shepard's vineyards are literally rooted in the violent history of the landscape.

Volcanic geology

Sonoma County has the distinction of being the most diverse premium wine-growing region in the United States, and the reason for that incredible variety can be found in its unique geology.

If the landscape were uniformly flat, grapes grown here would all be pretty much the same. But it isn't flat. To the geologist's eye, Sonoma County is a crazy quilt, the scene of an immense collision of forces and the resulting wreckage. And since the modern varieties of wine grapes and their fruit respond differently depending on the type of soil, the aspect of the land, exposure, slope and heat,

the complex landforms are what determine where varieties of grape can be grown and how and, finally, shape the quality of the wines they produce.

Perhaps nowhere is this better seen than on Sonoma Mountain, a 14-mile-long, 8-mile-wide landmark in the heart of Northern California's premier wine country, and the site of Shepard's ranch.

At its forested peak, the view from Sonoma Mountain is more than 2,000 feet down. Off to the west, there's a distant glimpse of blue ocean and east, there's the matching rugged spine of the Mayacamas Mountains. The Napa Valley is just on the other side. Sonoma Mountain seems permanent, eternal, but a hundred million years ago the land here was out beneath the sea, part of the ocean floor, riding the sheet of crust that lies beneath the entire Pacific Ocean. Then that giant Pacific plate collided with the continental plate carrying California and the rest of North America. The continental plate was driven up and over the diving oceanic plate. In the process, vast swaths of the seabed were scraped off and mounded into the hills and bedrock of west Sonoma County.

The titanic pressure also created vast cracks, like the 800-mile-long San Andreas fault and its local branches. The grinding faults lurched and broke, opening long valleys like the Petaluma and Bennett, and narrow bays like Tomales and Bodega. And in some places, they squeezed the bedrock between them up into high ridges, as if the stone was toothpaste.

Sonoma Mountain

That's how Sonoma Mountain first formed.

On a dirt road dug through one of the hills in the middle of his vineyard, Shepard stops his truck and steps down into the bottom of the narrow cut. With the soil surface six feet above his head, he puts a hand on the subsoil, a flat wall of uniform gray and tan-white crumbly rock and talcum fine dust. It's evidence of what happened here: thick and compressed volcanic ash.

The oceanic plate that passed under California carried another feature with it, a hot spot above a reservoir of molten mantle. That plume found the fractured faults, and when it did, it broke through in a series of explosive volcanic events right across Sonoma County, from San Francisco Bay up to Lake County. The eruptions lasted thousands of years at a time, and as recently as 10,000 years ago they deposited layers of cinder, lava and deep drifts of volcanic ash, covering everything on the mountain.

The volcanoes' peaks have now mostly eroded away. But neighbors

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putting in wells on the mountain still hit petrified redwood trees, ash-smothered forests turned to stone 30, 40, 60 feet down.

The evolving landscape also reshaped the local weather. As the mountain climbed higher, it rose above the cooling ocean fogs drifting in from the west, and formed a barrier that left its eastern slopes warmer, exposed to the morning sun's heat. The ridge is also high enough to wring rain from passing storms, and the drenching fills fast moving creeks, cutting steep shaded canyons, breaking down rock, charging porous volcanic rock aquifers and springs, filling and leveling slopes and hollows with slumping sediment.

The whole process is on display along the dirt trails that cross the wild parts of the mountain: outbreaks of rock and different soils and microclimates and conditions, now colonized by a rich variety of life, from windswept grass slopes and spring-fed fern hollows to dry exposures of heat-tolerant chaparral.

And each of these biomes offers a different set of features for growing wine grapes. In Shepard's vineyard, some terraces trace the shade line of oak woodlands, and in others, wind around redwood trees towering incongruously among the vines. Now, more than a dozen varietals of wine grapes are being cultivated on the mountain's different elevations, faces and pockets, in spots suited to their particular preferences.

On the lower western flanks, washed by the wind and fog in the Petaluma gap, the vineyards are largely planted with pinot noir and chardonnay, which benefit from the cooling.

Full sun, fog

High on the east face, like Shepard's Jack London Vineyard, cabernet, merlot, zinfandel and syrah are at home in the full morning sun and fog-free warmth. Elsewhere, there are sauvignon blanc and semillon, pinot gris and petit verdot, rooted in the fast-draining volcanic soils.

Depending on the grower's skill and the vintner's craft, the effect of the place is captured in the bottle.

Shepard's grapes, which are sold exclusively to Kenwood Vineyards, have produced top-scoring red wines over the years under the iconic Jack London Vineyard Sonoma Mountain label.

Can you taste the volcano in the wine? Shepard smiles, looks away. The wine business markets things like minerality, bramble and blackberry flavors.

But the vintage harvests and poor ones, the stellar-tasting years and the less special — they all come from the same soil, Shepard notes with the quiet assurance of someone who's spent four decades working the same unique patch of earth.

The land of Sonoma County is still restless, surfing atop that diving layer of oceanic crust.

Successful viticulturists like Shepard succeed by reading the landscape, and the vine.

To the grape grower, the land isn't simply a platform for holding the vines down, it's a partner in a dynamic relationship, and the history of the land dominates the affair. Finding its secrets unlocks the grape.

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