Customer Success Story

Location: Napa Valley, CA





AMI system reduces boron and produces high quality water for premium wine production

Maintaining consistent water quality and removing unwanted impurities is vital for grape cultivation and winemaking.

Challenge

A vineyard in Napa Valley is renowned for its distinct bottlings and organic farming practices.

The vineyard faced a challenge common in winemaking—high levels of boron in their water source. They needed a water treatment solution to remove boron and ensure the health of their vines.

One of the key goals was achieving a boron level below 0.5mg/L for optimal wine.



Solution

Applied Membranes Inc built a state-of-the-art **30 GPM (7 m3/h)** water treatment system in one 40-ft container. The double pass Reverse Osmosis (RO) system removes boron to acceptable levels while maintaining essential mineral balance for vine health. The permeate from the 2-pass RO system, with pH adjustment to facilitate boron removal, achieved the desired boron level of less than 0.5 mg/l.

A portion of the concentrate is recycled to help achieve higher recovery rates and conserve valuable water for the vineyard.

AMI also provided a distribution system for use at this and other client properties in Napa Valley. The system serves as a pump station for three separate irrigation zones. It includes **pumps rated at 20 GPM to 160 GPM** for pumping AMI RO product water, including filtered water blending. All pumping units are skid-mounted with integrated top shade structure for protection from direct sunlight.

Key Components:

- Double pass RO system
- One 40-ft container insulated and air conditioned
- Three 24x72 greensand media filters
- Chemical injection units
- Pumping distribution system

Results

The AMI system enhanced grape quality and overall vine health. By effectively removing boron, the system improved the quality and longevity of the vines. This enabled the vineyard to plant new vines for future wine production.

Ease of installation and service: The containerized system provided ease of maintenance and serviceability.

Consistent delivery of high-quality water essential for vine health, and wine production, quality and yields.

Reliability: Results consistently demonstrated that the system reliably reduced boron levels, safeguarding the vines.

The entire system was integrated seamlessly into a durable container with walkways for ease of access. Pumping system is used for different irrigation zones and shared across several vineyards.

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