

Jackson Wine, firms collaborate on advance to water recycling

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Representation of the Kantharos Process Water Systems plans to install a 90 percent efficiency water recycling plant in a full-scale test at Jackson Family Wines' north Santa Rosa facility. (courtesy of Kantharos)

NAPA — Civil engineering firm Riechers Spence & Associates and wastewater treatment systems integrator Heritage Systems, both of Napa, have pooled their resources in development and installation of a new water recycling system that helped Jackson Family Wines cut wash water use by 70 percent in a yearlong test.

Riechers Spence designed, Heritage installed and U.C. Davis verified results of the pilot installation at Jackson's Cardinale winery in Oakville.

The hope is that a full-scale installation at Jackson's blending and bottling facility in Windsor will show that it's possible to reuse 90 percent or more of the water for rinsing barrels and tanks while retaining three-quarters of the water heat used in cleaning and sterilization.

This water savings is estimated to save 6 million gallons a year at the Skylane facility in Windsor, as well as savings in electricity and natural gas, according to Robert Boller, head of sustainability and production for Jackson. A planned geothermal heating and cooling loop through the surrounding industrial park was a factor in locating the scale test in Windsor.

For a 100,000-gallon winery, this system is half the cost of a pond with liners, aerators, pH adjustment equipment and connections to irrigation, but ongoing costs of cleaning the filter membrane and operating the equipment is more expensive than traditional systems, according to Riechers President Hugh Linn.

However, it could make the difference between being able to build or expand a winery or not.

"For wineries in the entitlement process the biggest issues are water, waste and traffic, and this deals with two of those," he said.

The rinse water stream is run through reverse-osmosis treatment with specially selected filter membranes. Resulting concentrated wastewater has one-10th the volume of the output from a traditional system but 10 times the strength of dissolved wine solids. That concentrate can be processed again for disposal in a sewer or hauled to a biodigester at a municipal treatment plant.

Riechers Spence and Heritage developed the concept and equipment, and Jackson Wine Estates helped check with regulators about any needed approvals. Combined investment is estimated at a half-million dollars. However, since it is a closed-loop system that recycles rinse water before it reaches a drain, fewer regulators needed to be involved.

The two Napa firms early this year formed Kantharos Process Water Systems LLC to design and install the systems. Riechers Spence staff will analyze winery treatment needs. Heritage, which developed the automated treatment pond monitoring system called Pond Sentry, will install and maintain the systems.

For more information, call 707-252-3379 or visit www.kantharoswater.com ^[1].

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