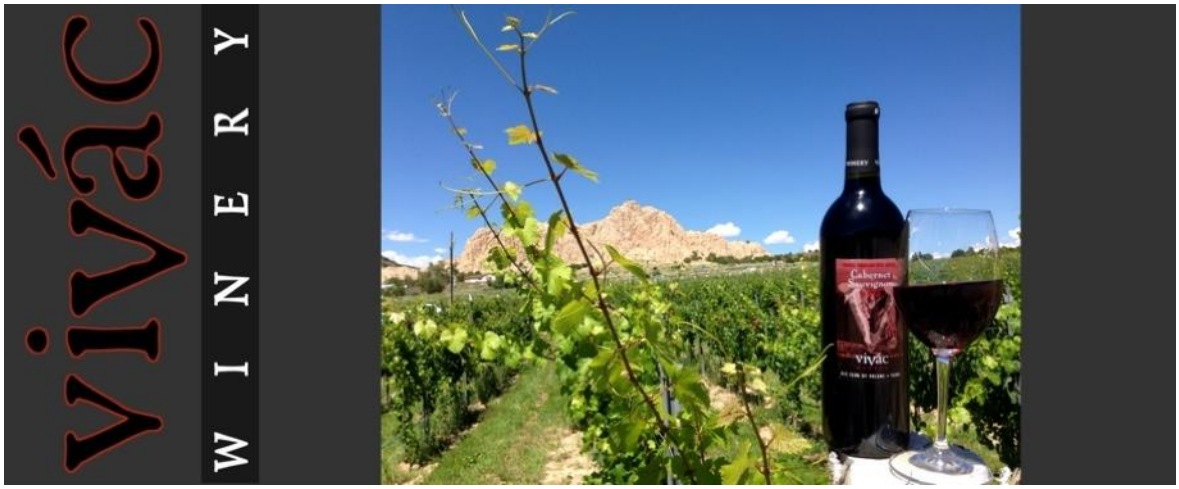
FORSTA FILTERS
Self Cleaning Water Filters



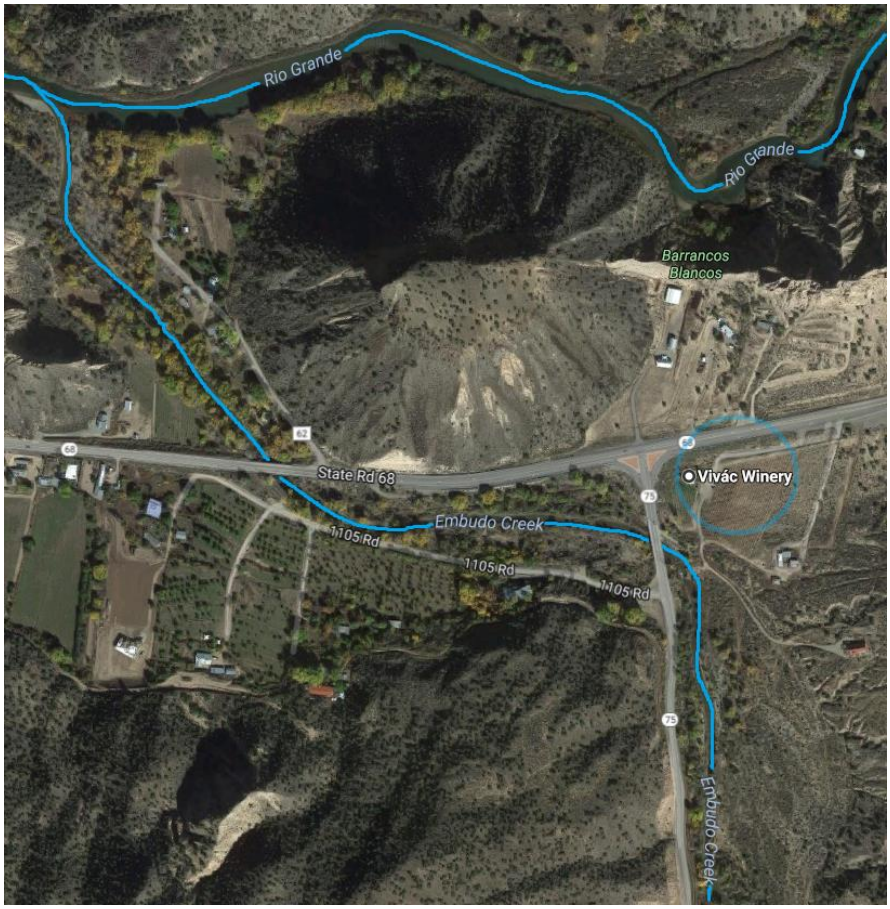
CASE STUDY – RIVER WATER FILTRATION: Forsta Self-Cleaning Filter Protects Vineyard Irrigation System; Contributes to Water Efficiency

Vivác Winery is the creation of brothers Jesse and Chris Padberg, along with their wives, Michele and Liliana Padberg, respectively. In November of 1998 Jesse and Chris embarked on a new mission "to make the best wine possible and have a good time doing it!" This meant professionally crafted, world-ranked, dry red wines-a first for New Mexico.

By choosing only the highest-quality products-from the best New Mexcio grapes, the most advanced winemaking equipment and processes, real corks, to Riedel logo glasses in the tasting rooms-Vivác is a rarity.

At every turn the Padbergs treat their wines with the utmost care; hand-harvesting & hand-sorting grapes, & even using a gentle bladder pump & gravity feed so as not to bruise the wines. Only high-quality French oak barriques and stainless steel barrels are used for aging. After bottling, these lightly filtered & fined wines rest for 12 months before they are sold. Every winemaking step is done meticulously by hand.

The ever-expanding Estate Vineyards (3) are farmed organically & keep Northern New Mexico focused on agriculture. In March of 2013, Jesse Padberg was looking for a water filter to protect the Vineyard's irrigation system. The Vivác Winery pulls irrigation water from the Rio Embudo (Embudo Creek), a tributary of the Rio Grande. The confluence of the two rivers is approximately 1/2 mile from where Vivác draws its irrigation water.



Google Earth Image, Marked to Indicate Confulence of Rio Grande/Embudo Creek & Vivác Winery Location

For Vivác it was important not to rely on having an operator on location to monitor a manual filter during irrigation sessions. In other words, they needed their filter to be self-cleaning. Padberg says that he easily found information on the internet about Forsta Self-Cleaning Filters. He found high quality product info on the web, and that led him to contact Forsta Engineers to size a system specific to the Vineyard's needs.

The irrigation system at Vivác pumps water through a 4" pipe at 30-50psi. Forsta engineers selected a filter that would allow filtration capacity at 200 micron up to 500gpm. The C4-90 model filter with a 200 micron screen would protect the irrigation system, eliminate the need for routine maintenance, and would provide tremendous water savings when compared to a conventional sand filter.

The Rio Embudo /creek water quality varies according to season and weather. 200 micron filtration was recommended to withstand the variability of the source water and to be fine enough to protect the drip and spray nozzle irrigation system (The small orifices of drip systems make them especially vulnerable to clogging).

Once operational, Padberg noted that the filter reaches differential anywhere from every 5 min. to every 3 hours, depending on the quality of water on a given day. Backwash duration is set at 15 seconds, meaning that each backwash of the C4-90 requires just 15gallons.

According to New Mexico state regulations, the winery is allowed 3 acre feet of water per acre per year. The area is a desert, and though some years are better than others, drought is a constant consideration. Utilizing the water efficient method of drip irrigation, combined with spray nozzles allows the Vineyards to make the most of their water.

Padberg explained the irrigation system saying that, “While it is running, the system pumps around 8-10 gallons per second. There are three irrigation zones, each get one hour of water three times per week when it’s really hot. Not an exact science, we mostly play it by ear. If the cover crop starts getting dry, we irrigate. We run 1 sprinkler per 3 plants and a 1 gallon per hour dripper on each plant.”

Adequate filtration of incoming water to an irrigation system is an integral part of that system’s long-term efficiency. Forsta self-cleaning screen filters use, on average, less than 3% of the volume of water required to backwash a comparable sand media system.

An agricultural operation that combines efficient self-cleaning screen filtration with a drip irrigation system is set-up for long-term water savings and success. Forsta self-cleaning filters protect drip tubing from debris buildup which can reduce energy efficiency. As irrigation piping and drip tubing orifices become smaller due to buildup it takes more energy to pump water through them. By utilizing available system pressure for cleaning, Forsta self-cleaning filters consume a minimal amount of energy.

With the filter operational for nearly three years, Padberg says his experience with Forsta’s equipment has been good. He would recommend Forsta Self-Cleaning Filters to others with similar applications.

Contact Forsta Filters today for the solution to your irrigation water filtration needs.

About the Author:
Polly Stenberg is Director of Sales with Forsta Filters Inc. - A California-based original equipment manufacturer. Stenberg has conducted case study reviews with customers using Forsta self-cleaning filters in drinking water, wastewater, cooling, agricultural/landscape irrigation and industrial process systems. Polly can be reached at 310-837-7177 x 405 or by emailing polly@forstafilters.com Visit Forsta on the web at www.forstafilters.com