

## CASE HISTORY

# West Coast Winery

## Improving water supply security & advancing sustainability goals

### THE CHALLENGE

Amidst a growing drought crisis, a large California winery sought to develop new water sourcing options that were secure, cost-effective and of high quality – particularly during harvesting season and peak water use. Groundwater supplies were available, but exceeded the maximum contaminant level (MCL) for nitrate (45 mg/L). After a thorough review of available technologies and providers, the company selected a solution developed by Envirogen Technologies based on our High Performance Ion Exchange technology.

### THE SOLUTION – ADVANCED ION EXCHANGE

Envirogen modular ion exchange (IX) systems have been in use in potable water applications throughout the United States for over a decade. For this winery, the system was designed based on a model simulation that could predict, with a high degree of accuracy, treatment performance, waste rates and materials consumption. From project acceptance, the system went on-line in 4 months.



### THE RESULTS

The Envirogen High Efficiency IX system was first employed during the client's grape harvesting season in 2014. Over 3.5 million gallons of groundwater were treated at cost of \$0.0043/gallon. Nitrate removal ratios of 80% achieved with a 0.316% waste rate.

### IX Nitrate Treatment Results

Total gallons treated	3.56 million
Waste generated	11,250 (during runtime treating)
Waste rate	0.316%
Average incoming NO <sub>3</sub>	80 mg/L
Average outlet NO <sub>3</sub>	16 mg/L
Percent removal	80%
Treatment costs	\$4.30 per 1000 gal
Run time	110.6 hours
Average flow	536 gpm

## THE BENEFITS

Envirogen's high efficiency IX system met the need for reclaimed impacted groundwater – at lower than predicted costs. Benefits included:

- Improved security of water supply – especially during peak use periods
- Lower cost water supplies during peak demand periods
- Effective, efficient treatment with low waste rates
- Enhanced sustainability profile with less reliance on surface water sources
- Flexibility to use broader groundwater assets on an 'as needed' basis



## Envirogen IX Highlights

- Guaranteed performance
- Low lifecycle costs
- Low waste rates < 0.001%
- On-site regeneration
- Low energy requirements
- No pH adjustment needed
- Rapidly deployable
- Fully automatic operation
- Continuous flow
- NSF approved
- Residuals management
- O&M programs available

## Technology & Services for Impacted Groundwater

Envirogen is an industry leader in the treatment and clean-up of impacted groundwater. Our technology portfolio features biological, phys-chem and adsorptive systems that have been used to address a variety of groundwater contaminants, including chromium, nitrate, arsenic, perchlorate, radium, uranium and more. Our process engineering group can develop tailored solutions that can offer you guarantees for performance, costs and lifetime of the system. Envirogen also offers range of O&M programs that can lower your total costs and improve the reliability and operating life of your system investment.



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