

Geogard CA in action

Geogard CA eliminates mechanical cleanings of scaling in geothermal wells and reduces costs by more than 90%.

Reduced costs
by > 90%

Eliminated
safety risks

Eliminated calcium
carbonate scale

Increased steam
production

Challenge

Steam from a field of Central American geothermal wells is used to generate 150 MW of electricity. The wells are plagued with calcium carbonate scaling. Typically, the wells are shut down for annual mechanical cleanings which results in reduced profitability from days of lost power generation as well as the cost and safety risks involved in mechanical cleaning. To clean just 5 of the wells costs nearly \$3,250,000.

Results

Utilizing the Geogard CA scale inhibition system, the geothermal site is able to keep the wells free of calcium carbonate, enabling 24 x 7 / 365 day operations and eliminating the downtime for mechanical cleaning. For the same 5 wells, using Geogard CA provides savings of more than 16X and eliminates safety risk involved in mechanical cleanings.

Cost without CaCO ₃ Inhibition System		16X savings	Cost with CaCO ₃ Inhibition System	
Annual Expenses	Cost (USD)		Annual Expenses	Cost (USD)
Mechanical cleanout	\$ 150,000 (x5)		Total (per 5 production well site)	\$ 200,000
Lost power generation	\$ 500,000 (x5)			
Total (per 5 production well site)	\$ 3,250,000			

Geogard™

Geogard is the premier line of scale inhibitors for high temperature applications such as geothermal wells, steam assisted gravity drainage and cyclic steam stimulation operations. Silica and calcium carbonate, the most common forms of scale, can form at critical juncture points on valuable equipment. Geogard provides a thermodynamically stable product, effective at low dosages to inhibit many forms of scale. Geogard products eliminate dangerous and expensive manual clean outs in a cost effective and safe manner.

	Geogard SX	Geogard CA
Application	Silica	Calcium
Thermal Stability	> 250°C	> 200°C
Typical Dosage	2–8 ppm	5–10 ppm



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