

**CHALLENGE**

A GeoThermal company in Japan was experiencing reduced rates in their injection wells due to silicon dioxide scale. They were looking for an alternative to the traditional treatment of rig operated mechanical dredging, hoping for better results with a lower cost and better efficiency.

**HIGHLIGHTS**

Geothermal  
Vertically drilled  
Open Hole Completion

**LOCATION**

Japan

**CONDITIONS**

Depth: 800 m (2,600 ft)  
Temperature: 120 °C (248 °F)



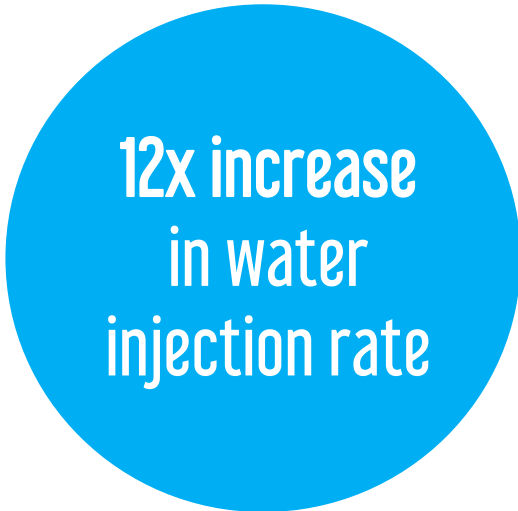
Open Hole



Injecting Well

**OUTCOME**

- The well was completed with zero safety incidents, zero non-conformances, and 100% operational efficiency
- The operation was completed with a much-reduced carbon footprint as only a crane was required instead of a rig when compared to the traditional treatment method of mechanical dredging
- The operation was also much faster than dredging, taking 1.5 days instead of 7 days (on the average)
- The injection rate increased to as much as 12x the rate before treatment
- The final stable rate was only slightly less than the original rate after completion 6 years earlier



**12x increase  
in water  
injection rate**

**SOLUTION**

Improve connectivity to the reservoir by clearing out blockages using electro-hydraulic pulsing technology

- A crane was used instead of the usual oilfield rig, reducing the carbon footprint
- The BLUESPARK® 275 tool was run on third-party E-Line to the treatment interval
- 40 m (131 ft) of interval was treated in an operating time of 13 hours
- The well was put back on injection and monitored