CASE STUDY

Reducing Corrosion & Chemical Costs at a Geothermal Energy Facility with GeoCorr™

Background

A geothermal facility in the Western United States required an effective corrosion control program capable of performing under extreme conditions in their injection and production wells and heat exchanger pipeline infrastructure.

The system operates in a highly saline environment with elevated temperatures and acidic gas levels, including carbon dioxide (CO_2) and hydrogen sulfide (H_2S).

Conventional corrosion inhibitor chemistries were unable to meet the facility's needs, and operations leadership was looking for a more robust solution that could improve treatment efficacy while reducing overall chemical usage and costs.

Solution

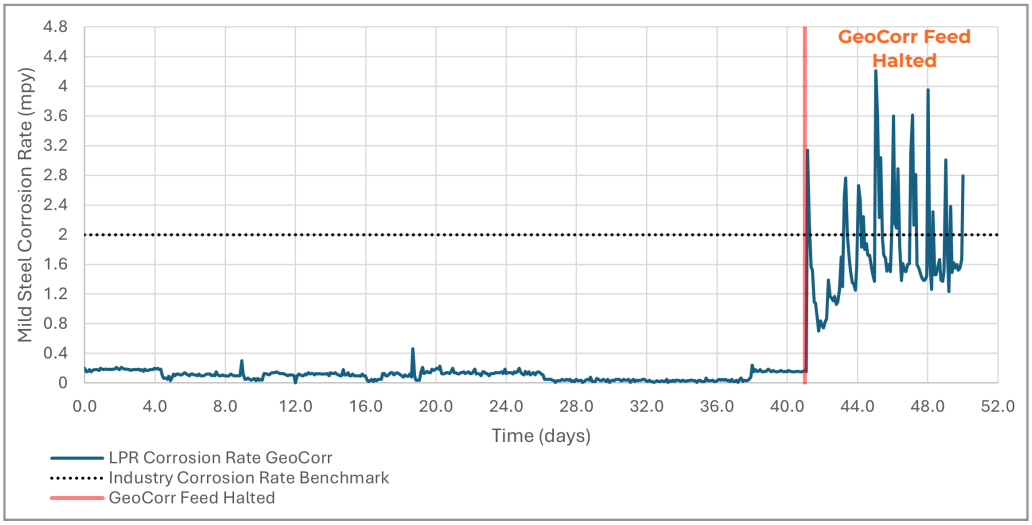
ChemTreat recommended GeoCorr™, a thermally stable corrosion inhibitor product line engineered specifically for harsh geothermal environments.

GeoCorr was selected for its ability to maintain efficacy in high salinity and temperature environments as well as variable flow conditions. The program was implemented with a focus on feed rate optimization while maintaining corrosion control targets verified through ongoing monitoring with linear polarization resistance (LPR) probes and corrosion coupons.

Results

GeoCorr helped the facility significantly improve their corrosion control program.

- **50% reduction in chemical feed rate.**
- **50% reduction in corrosion rates from a one-year average of 0.6 to 0.3 mpy.**
- **11.2% reduction in chemical costs, with additional savings realized through reduced shipping requirements.**



Graph shows corrosion rates well below the industry benchmark after GeoCorr was applied. Corrosion rates spiked when GeoCorr feed was paused due to operator error.

Pleased with the success of this program, the customer has expanded its use across the facility and plans to implement GeoCorr at other sites.

GeoCorr®

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Results are examples only. They are not guaranteed. Actual results may vary.

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