

## Reficar Refinery

Cartagena, Colombia

Helical piles were initially a small scope of the project's overall piling program. As the client became more informed of the schedule and cost savings that helical piles presented over CIP/CFA piles, they engaged Cyntech Group to value-engineer the foundations for helical piles.



## El proyecto

Design, fabricate, and ship 3,101 large diameter helical piles with all supporting parts to Colombia.

# El reto

Logistics, schedule, high loads, and varying soils across the site.

# La solución

Large diameter helical piles.

- 3,101 large diameter helical piles manufactured in USA and shipped to Cartagena
- Total individual fabricated parts = 10,941 (not including fasteners)
- Total duration = 34 months
- Load tests successfully performed = 15
- 792-kip ultimate capacity of the largest helical pile designed for
- Over 6.9 million pounds of finished product were shipped to Cartagena
- Coal Tar Epoxy coating was utilized

# Datos del proyecto

**Propietario(s)**

Reficar

**Unidad(es) de negocio Keller**

Cyntech Group

**Contratista(s) principal(es)**

CB&I

**Applications**

Helical pile foundations

**Markets**

Oil, gas and chemical

**Techniques**

Helical piles

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