

## Deep Conversion Project

Port Arthur, Texas

As part of their Deep Conversion Project, Total Petroleum needed to construct multiple pipe racks in their Port Arthur Refinery in Texas.



### The project

The original foundation designs called for driven precast concrete piles with a concrete pile cap. Cyntech was engaged to provide a value-engineered alternative design utilizing helical piles.

# The challenge

The combination of overhead power lines, existing pipe racks, and environmental concerns complicated the construction of the foundations at this site. The project also had an aggressive schedule that needed to be maintained.

# The solution

Custom designed, large diameter helical piles that allowed for a reduced equipment and man-hour footprint, while expediting the installation schedule. Cyntech designed the pile caps to allow for the structural steel to bolt directly to the helical pile, eliminating field-welding altogether – this further reduced costs and helped improve the schedule. The piling contractor achieved an installation rate of 25-30 piles per day. The project was completed on time and within the budget.

# Project facts

**Owner(s)**

Total

**Keller business unit(s)**

Cyntech Group

**Main contractor(s)**

N/A

**Applications**

Helical pile foundations

**Markets**

Oil, gas and chemical

**Techniques**

Helical piles

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