

El Paso / Elementis Subsurface Barrier Wall Corpus Christi, TX

El Paso Merchant Energy-Petroleum Company
Elementis Chromium Inc.
Corpus Christi, TX

November 2009



Groundwater Cut-Off / Chemical Containment

El Paso / Elementis Subsurface Barrier Wall

Project Name:

El Paso / Elementis Subsurface Barrier Wall

Location:

Corpus Christi, TX



Owner:

El Paso Merchant Energy-Petroleum Company

Contractor:

Entact

Engineer:

URS Corporation

Date:

November 2009

1. Background

A manufacturing plant owned by Elementis Chromium L.P. became contaminated due to operations at a property owned by El Paso Merchant Energy-Petroleum. Groundwater and subsurface soils are contaminated with high concentrations of benzene. The EPA is currently evaluating remedy selection and construction for chromium contaminated areas.

2. Project Scope

After investigating several options including slurry, the decision was made to utilize a vinyl sheet piling manufactured with XCR™ Technology to create a subsurface barrier wall. The solution limited the amount of excavation and ground disturbance at the jobsite, therefore limiting dangerous air emissions from the contaminated soils. In addition, the barrier wall provided a much higher level of chemical resistance than other options.

3. Performance

With the use of a chemically resistant sealant by Deneef in the sheet piling interlocks, the subsurface wall at El Paso Energy is expected to provide a virtually impermeable barrier. Numerous extraction wells are in place to confirm success. All groundwater in the contaminated area is sampled quarterly to confirm the stability and containment of the Hexavalent Chromium, NAPL, and dissolved Benzene.

4. Construction

Poor soil conditions at this El Paso Energy remediation site in Corpus Christi, TX made the design and installation of a subsurface barrier wall a great challenge. To ensure successful installation of 32' long SG625 sheets, ENTACT chose to utilize the CMI PileClaw™. The CMI PileClaw™ and the patented I-BEAM™ interlock system of the vinyl sheet piling maintained the integrity of the locks during installation. The Pile Claw worked especially well with the contractor's ABI machine.

5. Wall Specifications

SG-625

Depth	32 ft	10 m
Length	1,000 ft	305 m
Wall Area	32,000 ft ²	2973 m ²