

Industrial

Date Completed:

2014

Construction Cost:

\$65 Million

Client or Owner's Rep:

Mr. Bill Ocel, Tetra
Technologies, Inc.
Project Manager

Highlights:

- ✓ **Feasibility, FEED and Detailed Engineering**
- ✓ **All Disciplines Except Electrical**
- ✓ **HAZOP**
- ✓ **Reduced O&M Costs**

Refinery – Hazardous Waste Slurry Treatment for Amuay & Cardon Refineries

PDVSA | Venezuela

Project Description | The process includes handling oily liquid, semi-liquid, solid, and semi-solid wastes from the PDVSA Amuay and Cardon Refineries. The effluent streams from the process are water, oil, and solids slurry. The water is returned directly to the wastewater unit. The oil is returned to the slop oil system and fed back into the refining process. The solids are blended with water and prepared for pumping to the coker slurry tank for injection into the quench cycle of the CRAY at the Amuay Refinery.

Services Provided | The project included injection of Hazardous Waste Slurry in Coker Quenching Cycle for Amuay and Cardon Refineries, Venezuela. The process was developed by Tetra Technologies in Houston, Texas and is the most cost efficient method of disposing hazardous wastes in refineries with Coker Units. KGI was responsible for assisting Tetra in engineering including PFDs, P&IDs, Piping Studies, 3-D Modeling, Piping Isometrics and preparation of construction bid packages. The major equipment included: Feed Tanks with Mixers and Heaters, Centrifuge Feed Pumps, 3-Phase Centrifuges, Conveyors, Oil Storage and Transfer Tanks, Effluent Water Storage and Transfer Tanks, Shakers, Ball Mill Feed Pumps, Ball Mills, Slurry Tanks and associated pumps, Final Slurry Transfer Pumps to Coker Unit, Cooling Water Circulation Pumps, Chilled Water System and Vapor Recovery Unit.

Photos: *Ball Mill*

