

Industrial

Date Completed:

2000

Construction Cost:

N/A (Study)

Client or Owner's Rep:

Valero (formerly Clark/Premcor Refining)

Highlights:

- ✓ **Review of Existing Documentation**
- ✓ **Field Verification**
- ✓ **Computer Modeling**
- ✓ **Model Validation**

Photo: Port Arthur Refinery
Aerial

Hydraulic Evaluation of Oily Water System Valero (formerly Clark/Premcor Refining) | Port Arthur, Texas

Project Description | Hydraulic Evaluation of existing Oily (Dirty) Water System consisting of more 60 pump stations.

Services Provided | KGI had performed an hydraulic evaluation of the existing Oily (Dirty) Water System consisting of 60 pump stations interconnected by complicated piping. The project included preparing a computer model to simulate the operation of the existing pump stations. The model was used as a tool to determine the hydraulic capacity of the existing system, identify bottlenecks and propose improvements. The model incorporated wastewater characteristics, pump curves, NPSH requirements, pipe characteristics and operations data. Several improvements were proposed under this study. Some of the improvements included replacement of existing pumps with different type, installation of back pressure valves, air release valves with VOC control system and parallel discharge headers.

The model is still used by Premcor to study the effect of future expansions on the existing system, review set points on pressure regulators and relief valves.

