



Etchegoin Waterflood Expansion Project

Bakersfield, California

Client: Occidental Oil and Gas Corporation

Occidental Oil and Gas Corporation retained DPSI to provide engineering and surveying services for the Etchegoin Waterflood Expansion project. Expansion included an 8-inch High Pressure Injection Pipeline and an 8-inch Low Pressure Production Pipeline.

DPSI's scope of work included:

Strip Topographic Survey

- Provide existing elevations of proposed pipeline route
- Create design purposes profile for alignment sheets

Stress Analysis for Potential Modifications

- Perform Caesar II Stress Analysis of HP Injection and LP Production Pipelines
- Identify anchor locations and expansion loops
- Design measures employed where possible to alleviate need for expansion loops

Piping Design

- Prepare pipeline alignment drawing and details per Oxy standards: Piping Index Drawing, Pipeline Alignment Drawings, Pipeline Connection and Detail Drawings, and Pipe support selection and locations (sleepers, T-Type, anchors)
- Develop tie-in details for both ends of both pipelines
- Road bore details incorporated into drawings
- Modify existing P&IDs and/or generate new P&IDs