

Standalone Early Production Facility Handles 6,000 BPD and 5 MMscfd Capacity for Petrofac's Santuario 400 Field

ENGINEERED SOLUTION DELIVERS QUICK IMPLEMENTATION OF MODULAR EPF LAYOUT, WITH RENTAL EQUIPMENT RUNNING RELIABLY FOR MORE THAN FOUR YEARS

SOUTHWEST MEXICO

CHALLENGES

- » Set up a standalone EPF to handle increased production, quickly and economically
- » Meet client KPI of continuous operation with zero downtime and no safety issues
- » Comply with local and international regulations

SOLUTION

Provide engineering expertise, project management, and implementation of EPF, including:

- » Fluid process design and plant layout
- » Equipment specification and installation
- » Plant operations and maintenance

RESULTS

- » Delivered customized EPF design with appropriate equipment fit for plant
- » Successfully handled oil and gas capacity of 6,000 BPD and 5 MMscfd, respectively
- » Optimized asset production, with continuous operation for four years
- » Achieved target of zero NPT and zero health/safety issues
- » Exceeded quality standard for product deliverables to pipeline system

OVERVIEW

Petrofac México, an oil and gas producer in southwest Mexico, needed to export the production from the new Santuario 400 field to a pipeline system. Gas and oil are separated and conditioned before they flow into pipelines. Faced with no existing infrastructure in the area to support this additional production, setting up a standalone early production facility (EPF) to temporarily handle the increased capacity was the quickest way to maximize asset value. A specialized Halliburton EPF engineering team was commissioned to understand the processing complexities, and then recommend the best EPF layout and supply the most appropriate equipment for this application. Petrofac also had a "Journey to Zero" objective, aiming to minimize both non-productive time (NPT) and safety incidents. An integral engineered solution was tailored to meet not only the client's requirements, but also local and international regulations. The project team kept a close eye on time and cost to implement, operate, and maintain the facility on a low budget.

A MODULAR, SCALABLE EPF LAYOUT

Halliburton EPF engineers provided a robust solution that addressed the client's need behind the need, i.e., from the concept of a modular design to specifying and renting the correct equipment, and enabling quick installation and scalability to accommodate production growth. With the help of engineering and project management teams, the facility design was planned and equipped to successfully handle a processing capacity of 6,000 BPD and 5 MMscfd with uninterrupted production. Putting in place a competent operational team and a maintenance program further ensured a smooth-running facility.



Photo of standalone EPF installation in Santuario 400 field



ACCELERATE OIL PRODUCTION

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This EPF in the Santuario 400 field enabled Petrofac to meet its KPI of no NPT, accidents, or incidents in over four years of operation.



Close-ups of EPF equipment components in the Santuario 400 field, showing gas separators (left) and a rectifier (right).

SUMMARY OF PROJECT ACCOMPLISHMENTS

The following statistics reflect what was accomplished by this EPF project in the Santuario 400 field over 1,425 days of operation:

- » Total barrels of oil – 4,101,897
- » Total gas processed – 2,000 MMscf
- » Total man-hours – 307,800 hours
- » Health and safety accidents and/or incidents – zero
- » NPT – zero

PERFORMANCE EXCELLENCE

This EPF achieved excellent performance due to the overall design, execution, and equipment selected specifically for the physical plant layout. The results exceeded Petrofac's expectations of optimizing production and delivering high-quality, marketable oil with low capital investment in a temporary, standalone EPF. This EPF in the Santuario 400 field enabled Petrofac to meet its KPI of no NPT, accidents, or incidents in over four years of operation.

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