



**MANAGEMENT OF CHANGES IN BIG
DIAMETER PIPELINE CONSTRUCTION**

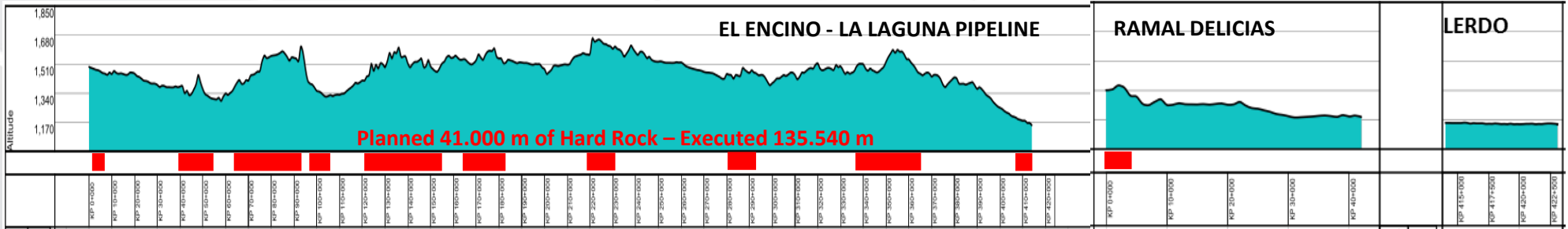
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WORLDWIDE EPC SOLUTIONS FOR OIL & GAS SINCE 1962

***EPC PIPELINE
EL ENCINO – LA LAGUNA
PROJECT***





THE PROJECT



A big diameter installation project, over 450 km in remote areas:

- *Trunk line 43” - 424 km;*
- *Lateral lines 16/20” – 50 km;*
- *Facilities: 3 metering units, 8 pig traps, BVS;*
- *A total of 470 km pipeline engineered and constructed, with a commitment to achieve 85% local content.*



THE CHALLENGE

The process known as Land Easement and Acquisition (LEA) affects landowners across the whole pipeline route. It is a process well known for its potential to introduce delays and extra costs in the pipeline construction schedule and, to an extent, it is an endemic condition in the industry to tackle limited slippage in the schedule caused by negotiations with recalcitrant owners asserting their rights.

In the case of the El Encino - La Laguna pipeline this has outgrown the worse expectations and delays associated with LEA have reached up to over two years. The situation has been aggravated by a piecemeal clearance process of the right of way easement, with the pipeline route divided into 7 segments, liberated over a period of two years, with 90% of permits issued with a delay greater than 12 months.

To this difficulty, unpredictable in such a scale of magnitude, there has been an outstanding response provided by Sicim.

The catastrophic impact of this delay on all the stages of the project, engineering, procurement and construction, has been mitigated to a minimum possible delay in the completion date. This has allowed the client to put as soon as possible the pipeline in operation, in order to start the sales and recover the investment.

The overall delay with respect of the mechanical completion date has been reduced to 8 month.

This has been achieved by Sicim thanks to:

- A flexible approach to operations;*
- Reliance on self-performance with owned equipment and a nucleus of pipeline construction experts form our permanent organization;*
- Uncompromising focus on safety, even more when under the pressure due to the acceleration procedure.*



How Sicim has tackled the unforeseen and delivered the project in the shortest possible time:

- *Engineering and design carried out by an in-house team of engineers based in Mexico City;*
- *Productivity and quality are harmonized through the automatic welding system, property of the Company, resulting in a mainline welding repair rate of 0,86 % (42" line);*
- *Ability to multiply the construction spreads: from one main spread to two main spreads plus poor boy spread for special sections and crossing crews.*

This is made possible by:

- *A genuine safety culture;*
- *A flexible approach to the works;*
- *Reliance on self-performance of key mechanical works;*
- *A global footprint and strong historic presence in the Country;*
- *Experienced pipeline construction from our permanent organization;*
- *Ability to draw from our fleet of equipment (200 side booms).*