

CHEMICAL INJECTION TREATMENT TO TINTAL WELL

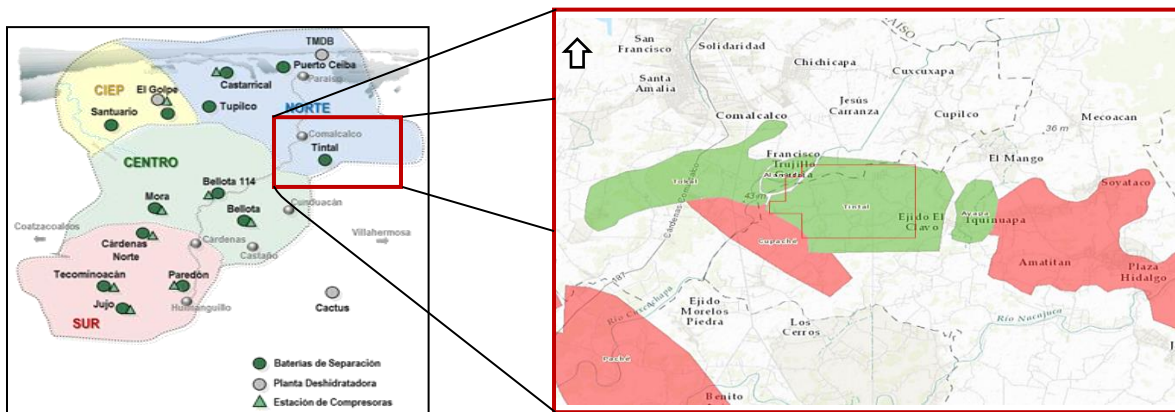
ASSET BELLOTA-JUJO

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#2

BACKGROUND

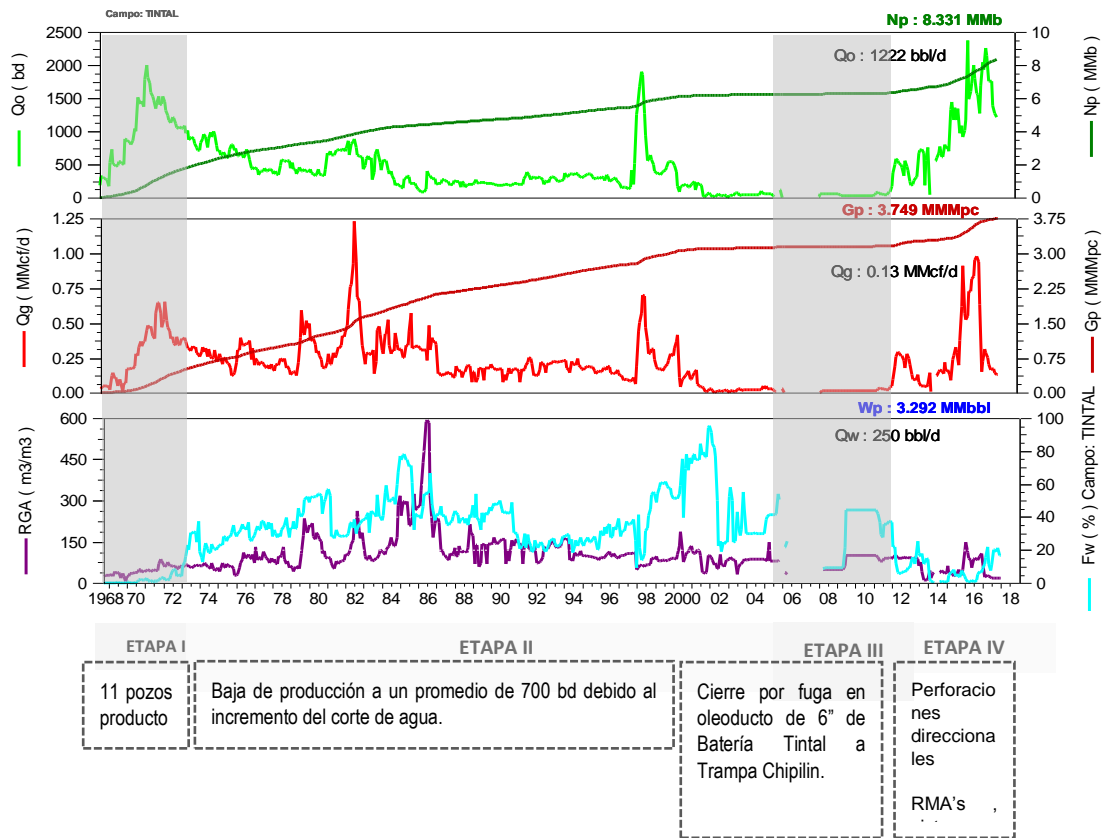
- According to the information provided by the asset's personnel, there is an issue to recover production at the Tintal Active well
- The Tintal well fields are located in the vicinity of Jalapa de Mendez about 11 km southeast from Comalcalco, Tabasco. Geologically, it is located in the sub-province of Comalcalco inside Cuencas Terciarias.
- This field corresponds to the assigned A-0338-M – Tintal field which is to the south part of what covers the El Golpe-Puerto Ceiba project bordering to the northeast with assigned A-0342-M - Tokal field and east to the assigned A-0404-M – Ayapa field.



#3

HISTORY

- According to the given information, the wells have reduced their production 70% or more.



Stage 1

11 producing wells

Stage 2

Declining production to an avg of 700 bbls/day due to increasing water cuts

Stage 3

Closing due to 6" pipeline leak from Tintal Battery to Trampa Chipilin

Stage 4

Directional drilling RMA's artificial systems

#4

PROPOSAL

- According to the crude type 15 API, we suggest the injection of two products
 - EXCO FLOW X: cleaner and nano surfactant to increase fluidity in hydrocarbons with high molecular density
 - EXCO FLOW XII: super cleaner for asphaltene and paraffinic hydrocarbons
- Maximum evaluation of 72 hrs injecting 10 – 30 liters/hr through capillary injection system at 80 meters deep
- Will keep analysis records every hour
- At the end, we will submit a complete analysis report on each chemical and mixtures
- Our products do not contain or generate halogens, will attach safety sheet, technical sheet, and lab analysis

#5

LABORATORY TESTS

- Clogging test of the OTATES field



CLOGGING PRODUCT SAMPLE FROM WELL

#6

LABORATORY TESTS

- We added EXCO FLOW X and EXCO FLOW XII 50% - 50% at 10% with 20 °C water



30 minutes



2 hours



6 hours

#7

LABORATORY TESTS



12 hours



24 hours

#8

LABORATORY TESTS

- We took a 500 grs product sample from the well containing:
 - 43% sediment
 - 12.5% paraffin
 - 23.5% asphaltene
 - 21% different hydrocarbons
- After 24 hours, product fluidity increased 90% and the sediments and asphaltene scattered in the liquid
- The success probability at the TINTAL Activo is extremely high