

Case Study for PDVSA FARR TEST RESULTS

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CLIENT PDVSA-WEST
FIELDS TIAJUANA - LAGUNILLAS - BACHAQUERO

| Field | Well | Installation | Start date for conv. data | Ending date for conv. & start date for Farr | Total run days for all Conv. pumps | # of times pulled for Conv. pumps | Average run time between pulling Conv. | Farr Current run time | Days more or less over Conv. | Final Test Date | Reason well was pulled | Improvement of Farr over Conventional |
|--------------|----------|--------------|---------------------------|---|------------------------------------|-----------------------------------|--|-----------------------|------------------------------|-----------------|------------------------|---------------------------------------|
| Tia Juana | LSE-4591 | 313-4 | 12/20/2000 | 1/24/2002 | 400 | 6 | 67 | 144 | 77 | 6/17/2002 | Note 3 | 2.16 |
| Bachaquero | LB-0486 | 313-5 | 2/15/2001 | 2/2/2002 | 352 | 6 | 59 | 190 | 131 | 7/28/2002 | Note 2 | 3.24 |
| Tia Juana | LSJ-3613 | 313-6 | 5/6/2001 | 2/7/2002 | 268 | 2.5 | 107 | 39 | -68 | 3/18/2002 | Note 1 | 0.36 |
| Tia Juana | LSJ-4963 | 313-7 | 6/19/2001 | 2/8/2002 | 234 | 3 | 78 | 33 | 33 | 3/13/2002 | Note 2 | 0.42 |
| Lagunillas | LS-4619 | 2374 | 7/1/2001 | 7/26/2002 | 390 | 6 | 65 | 101 | 36 | 11/4/2002 | Note 3 | 1.55 |
| Bachaquero | LB-1166 | 35-1-3/8 | 12/23/1995 | 5/8/2002 | 572 | 4 | 143 | 1146 | 1003 | 3/8/2003 | | 8.01 |
| Tia Juana | LSE-4164 | 35 1-1/4 | 8/13/2001 | 5/9/2002 | 265 | 5 | 53 | 1145 | 1092 | 3/9/2003 | | 21.60 |
| Lagunillas | LS-5078 | 1036 | 4/16/2001 | 10/27/2002 | 559 | 6 | 93 | 974 | 881 | 8/27/2003 | | 10.45 |
| Total | | | | | 3040 | 38.5 | 665 | 3772 | 3185 | | | 47.81 |
| | | | | | | | Average | 83 | 472 | | | 5.98 |
| | | | | | | | | | | | Yield | 82% |

Note 1 Traveling valves stuck open with sand (not pumping).

Note 2 Well filled with sand

Note 3 Friction ring destroyed, pump not seated.

Savings in this study due to the use of the Farr plunger

\$188,888.00

This case study indicates an increase in average run time of almost 6 times.