

Razorback Production - Case History No. 32

Fine Lease - Fine # 1

Oil Field Name: Rantoul

Location: Lawrence, Kansas

The Fine # 1 was going to be plugged. This well had been perforated and was completed without a frac job. A plug of heavy oil had risen to within 30 feet of the top of the hole, but treatment with various chemicals and condensates could not produce oil or gas.

Fine # 1 Completion History:

Drilled in	1987
Completion Depth	1,530 ft.
Casing Depth	1,520 ft.
Avg. oil production at completion	0 BOPD
Oil production 1987 (Before WP-5 ⁺ Treatment)	0 BOPD
Oil/Water ratio at completion	No Water
Oil/Water ratio 1987 (Before Treatment)	No Water
Type of Formation	McClouth Sand
Down Hole Temperature	80° F
Thickness of Oil Bearing Formation	26 ft.
Permeability (k)	31 md
Porosity	14.6%
API Gravity (Before Treatment)	18.3°
Gas Pressure @ Completion	0 PSI
Water Saturation:	0%

TREATMENT: One (1) - 15 gallon injection of Wel-Prep 5 in March, 1988.

Immediate Pre-Treatment

Oil: 0 bbl/day

API Gravity - 18.3°

Gas: 0 PSI

Post-Treatment

Day 1 - 1 bbl/hr

Day 2 - 1.5 bbl/hr

Day 3 - 1.0 bbl/hr

API Gravity - 26.5°

65 PSI

According to the producer, gas pressure began to build on the Fine #1 within 12 hours following treatment going from 0 to 60 PSI and then slowly tailing off to 50 PSI where it remained for several weeks before slowing tailing off again. The well was shut in for 48 hours before being turned into production. It was then pumped continuously for 72 hours before a 30 minute per 3 hour pump cycle was set. 70 barrels of 26° gravity oil were produced in the first 3 days of production. The well continued to produce 2 BOPD for the next 30 days+ following initial treatment. Razorback Production plans to retreat the Fine #1 by mid April, 1988.

SECOND TREATMENT - 15 OCTOBER 1988

Razorback Production treated the Fien #1 for a second time on 15 October 1988 following the same treatment regimen as the first treatment. Re-treatment did not produce the same response as the original treatment. Only a slight increase in gas pressure was noted. No increase oil production or change in oil gravity was observed or noted by the producer.

THIRD TREATMENT W/NEW WEL-PREP 5 - 15 FEBRUARY 1989

The Fien #1 was treated for a third time in February, 1989 using product manufactured in Manhattan, Kansas. The treatment was made as follows:

- 1) Pre-treatment with 15 gallons diesel
- 2) Injection of 30 gallons of WP-5 and 10 gallons of BAF
- 3) Post-treatment with 20 gallons of diesel
- 4) Flush with 3 bbls of KCL water (lease water)
- 5) Well was shut-in for 48 hours without circulation.

Pre-Treatment Production

Oil: 3 bbl/day
API Gravity - 18°
Gas: 0 PSI

Post-Treatment Production

5 bbl/day
API Gravity - 22°
160 PSI

During the shut-in phase, gas pressure went from 0 to 160 PSI. The gas was used to run an on site heater-treater for 4 days until the pressure dropped below 30 PSI. Oil production increased approximately 2 bbls/day and there was a change in API gravity from approximately 18° to 22°. Production remains at 5 bbls/day as of this printing (21 March 1989).

NOTE: In spite of reporting these impressive results, the producer did not initiate a cyclic treatment or field flood program. As far as can be determined, Razorback Production went out of business on 15 January 1989

19 May 1989

RE: RAM MEOR field trials

cc. C. Hooks