

7 SPRING SANDSTONE

Reference 2(e):

Producing Zone: Bone Spring Sandstone
Productive Test: 6 BOPD, 17 mcf/gpd, 25 BWPD
Perforations: 7345' - 7374'
Coring & Testing: DST: Interval 7330' - 7374'

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|--------------------------|----------|--------|-----|
| <u>Sampler Recovery:</u> | IHP | 3613 | psi |
| 100 cc. 36.5° API oil | 1st IF | 54.6 | psi |
| 2300 cc. water | 1st F.F. | 127.3 | psi |
| 140 psi (.15 cu.ft.gas) | ISIP | 2261.8 | psi |

| | | | |
|--------------------------|--------|--------|-----|
| <u>Pipe Recovery:</u> | 2nd IF | 202.3 | psi |
| 6238' gas in drlg. pipe | F.F. | 247.8 | psi |
| 90' of 36.5° OIL | FSIP | 2716.2 | psi |
| 177' O&GC mud | FHP | 3606.2 | psi |
| 320' mud & gas cut water | | | |

Btm. Hole Temp. 114° F

Completion History:

5-12-86 perforate and acidize w/2000 gals. 15% MCA
Average rate: 4 BPM Average Pressure: 3000 psi
Maximum rate: 4.5 BPM Maximum Pressure: 3800 psi

5-14-86 frac w/20,000 gals. 30# cross-link gel
2000# 100 mesh sand, 36,000# 20/40 mesh sand
Average rate: 8 BPM Average Pressure: 3300 psi
Maximum rate: 8.2 BPM Maximum Pressure: 4400 psi

Put on pump to evaluate.

6-17-86 reperforate and acidize w/2000 gals. 15% NEFE

6-19-86 refrac w/45,000 gals 30# cross link gel
80,000# 20/40 mesh sand
Average rate: 30 BPM Average Pressure: 6000 psi
Maximum rate: 31 BPM Maximum Pressure: 9000 psi

6-28-86 reacidize w/3000 gals. 7.5% MSR 100
Average rate: 2.4 BPM Average Pressure: 1200 psi
Maximum rate: 3 BPM Maximum Pressure: 1500 psi

2-10-87 reperforate and reacidize w/1000 gals. 7.5% MSR 100
and 250 gals. Xylene.
Average rate: 3 BPM Average Pressure: 3000 psi
Maximum rate: 3 BPM Maximum Pressure: 4950 psi

Put on pump, well stabilized @ 6 BOPD
17 mcf/gpd
25 BWPD

Prognostification: As noted above, MOC has made numerous completion attempts in this zone. This zone has stabilized production as noted above, in MOC's opinion, there is little chance of improving said production rate.

Reference 2(f):

Estimated Bottom Hole Pressure: 73 psi