



614 PATTON ROAD P.O. DRAWER 1367
GREAT BEND, KANSAS 67530
PHONE (316)793-5610

FRAZIER #2
50'N of C NW SE, Sec 22-28s-15w
Pratt County, Kansas

COMPLETION REPORT:

Commenced: 1/3/86

Completed: 1/16/86

RTD: 4970'

Surface Casing: 8 5/8" set at 462' with 300 sacks of cement

Production Casing: 5 1/2" set at 4877' with 225 sacks of cement

DRILLING INFORMATION:

- 1/3/86 Moved in and rigged up Mohawk Rig #8. Ran 13 jts of 8 5/8" surface casing and set at 462'. Cemented with 300 sacks of Regular Pozmix, 3% CC. Plug down at 4:25 PM
- 1/4/86 Drilling ahead at 2144'.
- 1/6/86 Drilling ahead at 3526'.
- 1/7/86 Drilling ahead at 3948'.
- 1/8/86 Drilled to 4150'. Preparing to run DST #1.
- 1/9/86 Ran DST #1 (4079-4150) LKC "A"-"D", 45'45'45'45", REC: 155' GIP, 124' OSpkM, 186' WM, SIP: 1435/1435, FP: 73-236/254-345, HP: 2185/2166, BHT: 111°F.
- 1/10/86 Drilled to 4420'.
- 1/11/86 Ran DST #2 (4360-4420) LKC "L"-"M", 45'45'60'45", REC: GTS in 20" (Stabilized at 12.75 MCFG), 4300' GIP, 120 GCM, SIP: 1363/1308, FP: 55-73/73-73, HP: 2350/2331, BHT: 102°F
Drilled to 4475'.
- 1/12/86 Ran DST #3 (4438-4475) Marmaton, 45'45'45'45", REC: 15' DM, SIP: 73/36, FP: 36-36/36-36, HP: 2423/2350, BHT: 103°F.
- 1/13/86 Drilled to 4725'. Ran DST #4 (4626-4725), 90'45'90'45", REC: 120' GIP, 60' SO&GCM, SIP: 127/127, FP: 73-73/ 73-91, HP: 2588/2515, BHT: 108°F.
- 1/14/86 Drilled to 4870'. Logged the hole.
- 1/15/86 Drilling ahead at 4927'.
- 1/16/86 Drilled to 4970' (RTD).

REMARKS: Even though the DST's were not as good as we would have liked, after viewing the log, and due to the good structural position of all zones, it was decided to set 5 1/2" casing at 4877, and attempt to complete the well in 10 days to 2 weeks in either the Viola, Cherokee Sands, or four Kansas City Zones that appeared good on the log. Released Mohawk Drilling, Inc.

COMPLETION INFORMATION:

- 2/3/86 Moved in Mohawk Rig #5. Got bottom hole flagged. Total Depth 4832'. Swabbed the well down and left 500' of fluid to perforate in. Welex perforated the VIOLA from 4677-4684'. Swabbed the well dry. Checked natural fill up, 50' of water.
- 2/4/86 Opened the 5½" orbit valve, well was still on a vacuum. Ran in casing swab to check the fluid level, no fluid. Treated the VIOLA with 750 gls of 28% Double Strength FE acid. Treated at 9 bbls per min, instant shut in 250# of pressure. Zone went on a vacuum in 15". Tagged fluid 300' from top. Swabbed back 115 bbls of fluid. Short 25 bbls of having load back. Made a 30" pull and zone made 3.75 bbls of fluid with a trace of oil. Ran 2nd 30" pull and zone had 10' of fluid with a trace of oil.
- 2/5/86 Checked overnight fill up, 400' of fluid with 50' of oil. Short 11 bbls of having the load back. Welex perforated the KINDERHOOK from 4606-4610, 4595-4599, and 4582-4586, LKC 'M' ZONE from 4414-4418, LKC 'L' ZONE from 4382-4386, LKC 'E' ZONE from 4177-4180, and the LKC 'B' ZONE from 4108-4113', all at 3SPF. Ran in tubing and packer. Set the packer at 4565' and the bridge plug at 4618'. Treated the KINDERHOOK perforations from 4606-4610, 4595-4599, and from 4583-4586 with 1000 gls of Double Strength FE acid. Did not spot acid on the perforations. Pump truck hit perforations with acid and 12 balls in the tubing at 2000# of pressure. Killed the pump truck engine. Started truck and killed the engine again at 2000# of pressure. Put the truck in a lower gear and pumped in at 2000# and falling. Pumped at 4 bbls per minute at 1500# of pressure. Zone went on a vacuum.
- 2/6/86 Checked fluid level, 1800' frm top. Swabbed back 11.7 bbls and started testing, no oil. Need approximately 55 bbls to have the load back. Swabbed the zone for 4 hours and it fell down to ½ bbls per hour at 2% Oil. Moved the packer up to the 'M' Zone from 4414-4418. Took 4 hours to get the bridge plug loose. Set tools over the perforations.
- 2/7/86 Ran in 1-10' & 1-6' tubing subs to spot acid on formation. Pulled the subs out and set the packer. Treated the zone with 500 gls of 15% Ne acid. Found the zones from the LKC 'M' (4414-4418) and the LKC 'L' (4382-4386) were possibly communicated. The water was coming out of the casing side while treating with acid. Ran in Halliburton wire line to check the bridge plug. Found the bridge plug at 4461' which put the packer approximately at 4429', 10' below the perforations. We were in the blank casing. Pulled 1 jt of tubing which should put the packer at 4398'. Reset the packer and pumped down the tubing. Still had some fluid coming out of the casing side. Closed both valves on the casing head so acid could be put away into the formation. Zone broke down at 1500# of pressure. Treated the 'M' ZONE at 3 bbls per minute at 500#. Zone went on a vacuum. Tubing swabbed and hit fluid 400' from the top. Made the 4th pull and the zone started flowing. Flowed for 30" and made 6.5 bbls of fluid at 100% Oil with lots of gas. Zone flowed for 2 more hours. The last test showed 1.5 bbls fluid at 100% Oil in 30".
- 2/8/86 Opened the 2 7/8" orbit valve and had 500# of pressure. Started bleeding off the gas. The well started flowing oil in 5" at 45# of pressure and falling. After 60" the zone was still flowing gas but the oil had all but stopped. In 2 hours made 13 bbls of oil in the swab tank. Closed the 2 7/8" orbit valve and shut down for the day. The fluid had all but stopped. Still had gas blowing out of the tubing before the orbit valve was closed.
- 2/10/86 Rigged up to treat the zone with 2500 gls of acid with Nitrogen. Opened the valve with 1500# pressure. Zone flowed back for 2 hours and then died out. Shut the well in overnight. Still have 900# of pressure on the casing.

- 2/11/86 Checked the pressure on the tubing, 300# and the casing had 875#. Opened the valve on the tubing and blew the tubing down. Had no fluid coming out of the tubing. Blowed down the pressure on the casing and left it venting. Ran in tubing swab and tagged fluid 1400' from top. The 1st pull had a trace of oil. The well kicked off flowing on the 2nd pull. The well flowed for 30" and made 6.6 bbls of fluid at 80% oil. Tested the zone for 5 hours. The zone fell from 12 bbls per hour at 80% Oil to 6 bbls per hour at 50% Oil. Shut the well in overnight.
- 2/12/86 Checked the gas pressure on the casing and had 150#. The pressure on the tubing was 180#. Ran in tubing swab to check fluid level, well had 1600' of fluid in it. Made 1 pull of 1000' at 100% Oil. Unjarred the packer and ran in 2 jts of tubing to set the bridge plug. Took 2 hours to get the bridge plug loose. Pulled and tallied out 114 jts of tubing and the packer. Found the packer had the rubbers ripped off and that the bridge plug was broke. Put on different bridge plug and packer. Ran in the packer and tubing. Set tools to test the 'L' ZONE from 4382-4386'. Ran in tubing swab and made 1 pull. Zone had 2000' of fluid in it.
- 2/13/86 Checked natural fill up, zone made 1700' of fluid at 50% Oil. Treated the zone with 500 gls of 15% NE acid at a rate of 4 bbls per minute at 1200# in the LKC 'L' ZONE. Zone broke down at 250# of pressure. Went on instant vacuum. Tagged fluid 1500' from the top and swabbed back the load. Tested zone for 3 hours and made 10 bbls fluid per hour at 70% Oil with some gas.
- 2/14/86 Had a slight gas blow on the casing and had approximately 200# of pressure on the tubing. Opened the orbit valve on the tubing to bleed off the pressure. Zone flowed for 45" and died. Moved the packer up to test the 'E' Zone from 4177-4180'. Treated zone with 500 gls of 15% Ne acid at a rate of 9 bbls per min, no pressure. Instant vacuum. Swabbed all of the load back and the acid came back very hot. Tested the zone for 2 hours and made 5 bbls fluid per hour with a trace of oil.
- 2/17/86 Checked fluid level of the zones from 4177-4180' and had 2500' of fluid. Swabbed the well down, still just a trace of oil. Moved the packer up to the 'B' Zones from 4108-4113'. Spotted acid on the perforations. Treated the last zone down the casing with 500 gls of 15% NE acid. Treated zone at 5 bbls per minute at 1000# of pressure. Set the packer and swabbed the load back. Tested the zone for 60" and made 7 bbls fluid per hour at 5% Oil, no gas.
- 2/18/86 Checked fluid level on the 'B' Zone from 4108-4113' and had 2500' of fluid in well. Swabbed the zone down and tested for 60". Zone made 9 bbls fluid per hour with a trace of oil. Unjarred the packer and retrieved the bridge plug. Pulled the tubing out and found a split in the tubing 122 jts down. Ran packers back in to test the 'B' AND 'E' ZONES over. Set the packers over the 'E' ZONE from 4177-4180'. Swabbed the zone down and tested for 2 hours. Zone made 5 bbls fluid per hour with a trace of oil and a slight show of gas. Retreated zone with 500 gls of 28% NE acid. Zone broke down and treated at 4 bbls per minute at 500# of pressure. Swabbed the zone dry and got back all but 10 bbls of the load.
- 2/19/86 Checked fluid level on the 'E' ZONE from 4177-4180' and had 2400' of fluid in the well. The 1st pull had no oil, just load of water. Swabbed the well down and tested fro 30". Zone made 4½ bbls fluid per hour with a trace of oil. Moved the packer up to the 'B' Zone from 4108-4113'. Swabbed the well down and tested for 3 hours. Zone made 7 bbls fluid per hour at 3% Oil. Pulled out the packer and ran the tubing back in to put well into production. Ran in tubing subs, tubing, seating nipple, mud anchor. Spaced the tubing 6' off bottom.

- 2/20/86 Opened the orbit valve on the tubing and had a slight gas blow. Checked the casing and it had approximately 50# of gas pressure. Ran in pump and rods. Clamped off the polish rod and rigged down. Moved off of location. Ran into well: polish rod, rod subs, rods, and pump (2½x2x12'BHD), gas anchor.
- 3/5/86 MOved in Mohawk Rig #5. Pulled rods and tubing. Hydro-tested tubing and found 2 holes and 3 collar leaks. Put R-4 packer 18 jts off bottom to shut off top 2 sets of perforations. Ran in 3 jts tubing and set the packer. Ran in pump and rods. Rigged down.
- 3/17/86 Moved in Mohawk Rig #5. Pulled and replaced the pump. Ran everything back in and rigged down. Got stuck on location and took 3 hours to get out. Moved off of location.
- 3/21/86 Moved in Mohawk Rig #5. Pulled and replaced the pump. Checked to make sure the packer was still set, it was. Ran everything back in. Hung the well back on the pumping unit. Rigged down and moved off of location.
- 3/27/86 Moved in Mohawk Rig #5. Pulled rods and tubing, and packer out. Found packer rubber torn off. Had packer and pump repaired. Ran everything back in and hung well on the pumping unit. Rigged down and moved off location. 139 jts tubing to packer and 17 jts below packer.
- 4/2/86 Moved in Mohawk Rig #5. Fished 3/4" pony rod. Replaced a 2'x3/4" pony rod, body break. Ran everything back in and hung the well back on the pumping unit. Rigged down and moved off of location.