

**Burch 6-17 29-12
Completion History**

10-22-03

RU Century Geophysical. RIH and perforate using 3-3/8" HSC expendable csg guns, loaded 6 jspf, 60 deg.ph, 22.7 gm, Titan 301T charges:

Mineral 1654'-1657'
V-Coal 1602'-1606'
Bevier 1586'-1589'

Initial and final FL at 200' FS. RU C&G Rig No.2 with casing swab. Swab FL down to 1575'. Made two swab runs waiting 30 min. between runs. No recovery. SWI and SDFN.

10-23-03

SION 14 hrs. Slight blow on csg, no psi. Run casing swab to 1575'. No fluid entry overnight. No gas recovery. SWI. RD.

10-27-03

Move in 2 frac tanks f/Burch 10. Haul city FW and prep for frac.

10-28-03

RU Layne. Performed stimulation on Mineral (1654'-1657'), V (1602'-1606'), and Bevier (1586'-1589') as follows with 2%KCL:

- 33.1.bbls water
- 23.8 bbls 15% HCL (1000 gal)
- 49.8 bbls pad
- 60.0 bbls with 0.25 ppg 20/40 Ottawa
- 108.3 bbls with 0.75 ppg 20/40 Ottawa
- 81.6 bbls with 1.25 ppg 20/40 Ottawa
- 48.4 bbls with 0.75 ppg 12/20 Brady
- 36.0 bbls flush
- 441 bbl Load
 - 9,849 lbs sand
 - Avg Psi = 750-800
- Avg Rate = 13 bpm
- Excellent ball action on first (only) set of balls (10) dropped (450 psig increase)
- ISIP = 470, 15 min = 402

Bleed off pressure. RU wireline. RIH with wireline set RBP. Could not get past DV tool at 906'. POOH. Gauge ring on RBP of 4.75" would not go through (hole was previously drilled out with 4 3/4" bit and reamed). RIH with CIBP (4.24" OD) and set at 1560'. Test CIBP to 500 psig for 15 min. Perforate the following coals/shales using 3 3/8" HSC, 4 jspf, 60 deg.phasing, 22.7 gm Titan 301T shaped charge:

- Mulky 1531'-1534' (3') 13 holes
- Little Osage-Summit 1517'-1520' (3') 13 holes
- Unnamed -Base Pawnee 1471'-1474' (3') 13 holes

Performed stimulation on Mulky, Little Osage-Summit, Unnamed-Pawnee as follows with 2%KCL:

- 21.5 bbls 15% HCL (900 gal)
- 46.5 bbls pad
- 51.1 bbls with 0.25 ppg 20/40 Ottawa
- 95.4 bbls with 0.75 ppg 20/40 Ottawa
- 72.3 bbls with 1.25 ppg 20/40 Ottawa
- 41.0 bbls with 0.75 ppg 12/20 Brady
- 35.2 bbls flush
- 363 bbl Load
- 9,562 lbs sand

- Avg Psi = 1000-1200
- Avg Rate = 13 bpm
- No balls dropped
- ISIP = 506, 15 min = 416

Secure well. SDFN.

10-29-03

Well had 110 psi. Bleed off pressure. Well continued to flow water with 0 psig. RU wireline. RIH with wireline set with CIBP (4.24" OD) and set at 1390'. Perforate the following coals/shales using 3 3/8" HSC, 4 jspf, 60 deg.phasing, 22.7 gm Titan 301T shaped charge:

- Mound City 1270'-1274' (4') 17 holes
- Hushpuckney 1224'-1228' (4') 17 holes

Performed stimulation on Mound City and Hushpuckney as follows with

2%KCL:

- 21.7 bbls 15% HCL (900 gal)
- 50.5 bbls pad
- 46.6 bbls with 0.25 ppg 20/40 Ottawa
- 60.8 bbls with 0.75 ppg 20/40 Ottawa

Screened out. Appeared to be some leak-off early on.

Pressure broke down to 750 psig after acid hit formation, and continued to drop to 650 psig before pressure began to gain.

- § 180 bbl Load
- § 1,596 lbs sand (pumped)
- § Avg Psi = 900 psig
- § Avg Rate = 13 bpm
- § Max PSI = 2870 psig at screen out.
- § No balls dropped
- § ISIP = 604, 15 min = 330

Secure well. SDFN.

10-30-03

Build pad for pumping unit. Set unit base. (assembly needed on unit).

11-3-03

RU SN on 2-7/8" tbg and TIH to 1196'. RU to swab. FL at surface. Swab FL to SN @ 1196'. Made 5 runs, 1 run every 30 minutes. Recovered 125-130' of water on each run and 100-12' of slight gas. POOH w/tbg and SN. PU 4 3/4" rock bit on four 3-1/16" drill collars and TIH on 2-7/8" tbg. Tagged sand at 1305' (85' of sand). Wash out sand to CIBP at 1390'. Drill up CIBP at 1390' and clean out to 1420'. Circulate hole clean. Secure well, SDFN. Note: well flowing water at 0 psig when shut-in.

11-5-03

Well had 10 psi on tbg. Opened up and flowed water to pit. Picked up tbg and TIH. Tag sand at 1515'. RU swivel and wash sand to top of collars at 1420'. Made 1 swab run every 30 min. for 3-1/2 hrs. Recovering 400-500' of water per run and initially 150' of gas increasing to 250' of gas on each run. RU power swivel and drill out CIBP at 1560'. PU 2 jts of tbg and tag up on sand at 1711'. RU power swivel and wash sand to 1744'. Pull and LD 33 jts. RD PU. SWI.

11-6-03

PU 2-7/8 tbg and TIH. Tag sand at 1694'. Rigup power swivel and wash sand to 1873'. Circulate hole clean. Pick up to 1637'. RU to swab. Swab FL from surface to 1513' (top of drill collars). Recovered 450' of fluid on each run. No gas. SWI.

11-7-03

TP= 16 psi. CP= 0 psi. FL 375' FS. Swab FL to top of collars. Wait 30 min. Recovered 450' of fluid and 75' of gas. POOH LD DC's. PU one jt tbg, 2-7/8" SN, and TIH on 50 jts 2-7/8" tbg. Land tbg with EOT at 1694' and SN at 1661'. (Btm perf at 1657'). RD C&G No.2.

KB	8'
50 jts 2-7/8", EUE, 8rd, 6.5 ppf, J-55	1652.8'
2-7/8" SN and collar	0.85'
1 jt tbg	<u>33.05'</u>
total-eot	1694.7'

11-11-03

RU swab. IFL=350' FS. Swab down to SN (all zones). Avg 475-500' of fluid every 30 minutes (~ 93 bwpd rate) with ~ 100 ft of gas on top of fluid during swab runs.

RIH with 1.5" x 12' insert pump (top hold down) on 65-3/4" grade C Norris Rods with pony subs of 2-2', 1-8', 2-6'. Clamp off on polished rod. RD.

2-11-04

RU Hurricane Well Service. Pull rods and pump. Pump was clean – no evidence of sand, coal, scale. Pick up 1 jt, no fill. POOH and check for leaks in tubing. None found. Pick up 4-3/4" and RIH. Tight thru DV @ 906'. No other tight spots to PBTD at 1698'. TOOH with bit and LD. (FL noticed at 300' above SN on outside of tbg). Re-ran tbg:

KB	8'
50 jts 2-7/8", EUE, 8rd, 6.5 ppf, J-55	1655.57'
2-7/8" SN and collar	1.1'
1 jt tbg	<u>33.11'</u>
total-eot	1697.8'
SN at	1663.6'

Rods and pump:

- 1 – 1.25" x 16' polished rod
- subs – 3/4" x 6', 6', 6'
- 65 – 3/4" Grade C rods
- 1 – 3/4" x 2' sub
- 1 – 2.5" x 1.5" x 12' insert pump w/6" perf nipple.

Resume pumping.