

10/23 & 10/24 Drillers TD=5070, Electric TD = 5076. Volume of 7 7/8" x 5 1/2" Annular space from 5076 to 4200" from Caliper log = 250° ^ 3. Volume of cement for annulus space w/20% xs = 300° ^3, Volume of cement for shoe tract = 2'^3, Cement yield = 1.46' ^3/sack, required cmt = 206 sacks, use 225 sacks. Weld on feet of rotating scratchers across payzones. LKC J Zone 4712-4736, Csg joint #9 4782'-4737, #10 4737-4692', #11 4692'-4647' 30' of scratchers /jnt. Csg joint #3 5052'-5007', #4 5007' - 4962'. Install 8 5/8" x 5 1/2" Larkin 1500 WP slip type casing head. RIH w/ 1 x foot 5 1/2" 15.5 ppf, J-55, 8rnd LTC shoe joint and guide shoe, guide shoe tack welded. RIH w/ a total of 113 joints, Range 3, 5 1/2", 15.5 ppf, J-55 Grade, 8rnd LTC couplings Condition A. P/U 1 joint and TAG TD. 5 1/2" casing guide shoe landed at 5067', Insert auto fill float v/v installed at 5052'. Landing joint used. 1 x Centralizer installed 5' above shoe w/ ez-loc. 10 x Centralizers installed joint #3, #5, #7, #8, #9, #10, #11, #12, #13. Break circulation, circulate for 15 min. Start rotating 4 $\frac{1}{2}$ csg and continue circulating for further 45 mins. Condition mud from 56 FV in to 45 FV in w/ 75 lbs Desco deflocculant and water. R/U Swift services cementing contractors. Plug rat hole and mousehole w/ 25 sxs cmt. Plug 30 bbls wtr w/ clay fix. Pump 500 gals mud flush. Pump 5 bbls gelled water. Mix and pump 225 sxs std cmt @ 14.7 ppg. 58 bbls of slurry. Mix water 6.5 gps, Yield 1.46' 3/sack. Cement recipe T; Std cmt CMT w/ 5% calseal - 10% salt - 5 ppsax gilsonite, 1/2% CFR - 2, 1/4% Defoamer. Casing rotated while cementing. Good circulation through out job. Release plug and start displacement. Displace casing w/120 bbl water. Stop displacement @ 16:00 hrs 10/24/02. Bumped plug w/ 1500 psi. Max lift pressure reported = 800 psi. Release psi. Check for back flow, float holding. R/D cement head. Install slips and pack off in casing head. Note: 4 joints of $5\frac{1}{2}$ range 3 joint left on location after job.

10/31 Leveled location & backfilled cellar.

Proposed Perforations

Cherokee perfs: 5018-5020; 5022-5026 Pawnee perfs: 4965-4967 LKC perfs: 4713-4730

To perforate and evaluate for stimulation.

11/1 RU Log Tech & ran cmt bond log. Insert @ 5044' & TOC @ 3890' w/good bond. TO MI MDC #671 11/5/02.

11/5 MIRU MDC #671. Swabbed down csg to 4300'. MI 2 3/8" tbg & swab tank. SDON. Est Cost \$2050.00.

11/6 RU Log Tech. Perforated @ 5022-26', 5018-20' (Cherokee), 4965-67' (Pawnee) & 4713-30' (J) w/4 SPF (EHSC). FL @ 4300' on all 4 guns. TIH w/X-Pert 5 $\frac{1}{2}$ " RBP w/ball catcher pkr & new 2 3/8" tbg. Set RBP @ 5036' & pkr @ 4995', perfs @ 5018-20', 5022-26' (Cherokee). Ran swab. FL @ 4000' = 995' FIH w/300' fill up, trace of oil. 2nd run 300'. 3rd run 20'. 4th run dry. Let sit $\frac{1}{2}$ hr. Ran swab, dry. SDON. Est Cost \$13,900.00.

11/7 RBP @ 5036' & pkr @ 4995'. Perfs 5018-20 & 5022-26 (Cherokee). Ran swab. 150' FIH w/5-10' oil on top. Ran pkr to 5028'. Ran swab. FL 3600'. RU Swift. Spot 6 bbls 15% MCA & 1 BW. Reset pkr @ 4995'. Treated 5018-20 & 5022-26 w/remainder of 250 gals MCA acid. Hole loaded @ 300#. Staged for 5 hrs. Slowly increasing to 1200#. Started feeding w/3 $\frac{3}{4}$ bbls acid out @ 1100# @ $\frac{1}{4}$ BPM. ISIP 1100#, 5 mins 950#, 10 mins 875#, 15 mins 850#. Flowed back $\frac{1}{2}$ bbl. Ran swab. SD to SN. Next run 700', all wtr. Rec 23.78 bbls, TL 25 $\frac{1}{2}$. Rlsd pkr & flush annulus. Reset pkr & made 2 runs. Start test. 1st hr 4 pph, rec 3.77 bbls, 225' FIT, 100% wtr. SDON. Est Cost \$15,950.00.



11/8 RBP @ 5036, pkr @ 4995', perfs 5018-20 & 5022-26 (Cherokee). Ran swab. 400' FIH, 100% wtr. Reset RBP @ 5004' & pkr @ 4932'. Perfs 4965-67' (Pawnee). Ran swab. FL @ 3000', 1932' FIH w/trace of oil. SD to SN w/200' FIH, 100% wtr. Rec 9.57 bbls. Start test. 1st hr 4 pph, rec 3.46 bbls, 250' FIH, 100% wtr. 2nd hr 4 pph, rec 3.03 bbls, 225' FIT, 100% wtr. Reset RBP @ 4755' & pkr @ 4684'. Perfs @ 4713-30 (J). Ran swab. FL @ 3200', 1484 FIT. SD. Made 3 runs off of SN. Rec 25-50' wtr. Ran pkr to 4734'. Ran swab. FL @ 3450'. Spot 6 $\frac{3}{4}$ bbls acid. Reset pkr @ 4684'. Treated 4713-30 (J) w/remainder of 500 gals 15% MCA acid. Hole didn't load. Treated @ 2 BPM on vac. Let sit 15 mins. Ran swab. FL @ 4000', 685' FIT. SD to 400' FIT. Rec 6.96 bbls w/trace of oil. TL 32 bbls. Start test. 1st hr 4 pph, rec 5.22 bbls, 350' FIT, 1% fines, 10% oil, 90% wtr. Total swab 12.18 = 19.12 bbls short of TL. Rlsd pkr to flush annulus. Reset pkr. Made 3 runs. Rec 5.22 bbls. 450' FIT. SDOWE. Est Cost \$17,750.00.

11/11 RBP @ 4755', pkr @ 4684', perfs 4713-30 (J). Ran swab. FL @ 4180', 500' FIH w/10' oil on top. Rec 1.74. Start test. 1^{st} hr 4 pph, rec 6.38 bbls, 400' FIH, 1% fines, 99% wtr w/trace of oil. 2^{nd} hr 4 pph, rec 5.80 bbls, 400' FIH (same GO). 3^{rd} hr – 4 pph, rec 5.80 bbls, 375' FIT (same GO). Total swab 37.12 bbls = +7.12 bbls over load. 4^{th} hr 4 pph, rec 5.22 bbls, 350' FIT, GO 7/10% fines, 99% wtr, trace of oil. SD ½ hr. 5^{th} hr 4 pph, rec 5.51 bbls, 350' FIT (same GO). 6^{th} hr 4 pph, rec 5.22 bbls, 350' FIT, 5/10% fines, 99% wtr, trace of oil. 7^{th} hr 4 pph, rec 5.51 bbls, 350' FIT, (same GO). Total swab 64.09 bbls = +34.09 bls over total load. SDON. Est Cost \$18,900.00.

11/12 RBP @ 4755', pkr @ 4684', perfs @ 4713-30 (J). Ran swab. 500' FIT w/trace of oil. Retreated 4713-30 (J) w/750 gals 15% MCA & 75 rubber perf balls. 30 balls in first 100 gals & rest throughout job. Plug action w/6 bbl acid in @ 750# @ 4 BPM. Dropped to 300# @ 4 BPM w/7 in. W/10 bbls acid out 500# @ 4 BPM for rest of treatment. ISIP vac. TL 48 bbls. Let sit $\frac{1}{2}$ hr. Ran swab. 700' FIT. Start test. 1st hr 4 pph, rec 7.54 bbls, 500' FIT, 1/2 % fines, 1% oil, 98.5% wtr. 2nd hr 4 pph, rec 5.22 bbls, 400' FIT, 5% oil, 95% wtr. SD $\frac{1}{2}$ hr. 3rd hr 4 pph, rec 5.22 bbls, 400' FIT, 5% oil, 95% wtr. 5th hr 4 pph, rec 4.64 bbls, 325 FIT, 15% oil, 85% wtr. 6th hr 4 pph, rec 5.22 bbls, 350 FIH, 20% oil, 80% wtr. 7th hr 4 pph, rec 4.64 bbls, 325 FIT, 18% oil, 82% wtr. Total swab 41.18 bbls = -6.82 bbls short of load. SDON. Est Cost \$26,266.00.

11/13 RBP @ 4755', pkr @ 4684', perfs 4713-30 (J). Ran swab. 500' FIT w/175' oil on top = 35% oil. Rec 2.03 bbls. Start test. 1st hr 4 pph, rec 6.67 bbls, 425' FIT, 3% BS, 97% wtr, trace of oil. 2nd hr 4 pph, rec 5.80 bbls, 400' FIT, 1% BS, 99% wtr, trace of oil. 3rd hr 4 pph, rec 5.80 bbls, 375' FIT, 2% BS, 98% wtr, trace oil oil. 4th hr 4 pph, rec 5.22 bbls, 350' FIT, 2% BS, 1% oil, 97% wtr. 5th hr 4 pph, rec 4.64 bbls, 300' FIT, 2% BS, 1% oil, 97% wtr. 6th hr 4 pph, rec 4.64 bbls, 300' FIT, 1% BS, 8% oil, 91% wtr. 7th hr 4 pph, rec 5.22 bbls, 300' FIT, 2% BS, 6% oil, 92% wtr. 8th hr 4 pph, rec 4.64 bbls, 300' FIT, 1% BS, 5% oil, 94% wtr. SDON. Est Cost \$28,116.00.

11/14 RBP @ 4755', pkr @ 4684', perfs 4713-30' (J). Ran swab. 500' FIT w/100' oil on top = 20% oil. Rec 1.74 bbls. Start test. 1^{st} hr 4 pph, rec 6.38 bbls, 400' FIT, 1% BS, 99% wtr, trace of oil. 2^{nd} hr 4 pph, rec 5.22 bbls, 350' FIT, 1% BS, 99% wtr, trace oil. 3^{rd} hr 4 pph, rec 5.51 bbls, 350' FIT, 5/10% BS, 99% wtr, trace oil. 4^{th} hr 4 pph, rec 4.93 bbls, 300' FIT, 5/10% BS, 99% wtr, trace oil. SDON. To set CIBP in AM & RDMO. Est Cost \$29,041.00.

11/15 RBP @ 4755', pkr @ 4684', perfs @ 4713-30 (J). Ran swab. 500' FIT w/50' oil. TOH w/tbg & tools. Found ¼' build up inside SN & 8' tbg sub above pkr, calcium sulfate?. Took sample for Champion. Dropped 3 biocide sticks down csg. RU Log Tech. Set 5 ½' CIBP @ 4900'. FL @ 4100'. Dropped 3 biocide sticks down csg. Installed 5 ½'' x 2'' swage w/gate valve & SI csg. To convert to inj well @ later date. RDMO. Est Cost \$31,791.00.



3/3 MIRU MDC #544. MI 2 3/8" tbg & swab tank. SDON. Est Cost \$1200.00.

3/4 RU Perf Tech. Perforated squeeze hole @ 4750.52' w/4 SPF. FL @ 4150'. TIH w/X-Pert cmt retainer & tbg. Left retainer hanging @ 4025'. SD due to high winds & snow. Wind chill –30 degrees. SDON. Est Cost \$3200.00.

3/5 Squeeze Holes @ 4750-52. Perfs @ 4713-30 (J) Communicated. Set cmt retainer @ 4745'. Tested tbg & retainer to 1000# & held. FL @ 3940'. Took IR down tbg. Press to 1200#, 3 mins 1000#. Annulus dead. TOH w/tbg & stinger. To TIH w/pkr & squeeze (J) zones. Change orders. To run in production string & swab test. Wait 2 hrs on MA, SN, AC & tbg head. TIH w/new MA, SN, 1 jt tbg, new AC, 151 jts. SN @ 4710', MA @ 4726'. Ran swab, 425' FIT w/400' oil on top. Start test. 1st hr 5 pph, rec 8.12 bbls, 350' FIT, 2% BS & mud, 1% oil, 97% dirty SW. SDON. Est Cost \$8375.00.

3/6 Ran swab. 400° FIT w/trace of oil. Start test. 1st hr 5 pph, rec 8.12 bbls, 325' FIT, 1% BS w/trace oil. 2nd hr 5 pph, rec 5.80 bbls, 350' FIT, 1% BS, trace oil, 99% dirty SW. 3rd hr 5 pph, rec 5.80 bbls, 275' FIT, 1% BS, 1% oil, 98% dirty SW. 4th hr 5 pph, rec 5.80 bbls, 275' FIT, 1% BS, 1% oil, 98% dirty SW. 5th hr 4 pph, rec 3.48 bbls, 250' FIT, 1% BS, 1% oil, 98% dirty SW. 6th hr rec 3.59 bbls, 275' FIT, 1% BS, 1% oil, 98% dirty SW. Set AC w/15,000#. Rods on location @ 2:30 PM. TIH w/pump & 50 rods. SDON. Est Cost \$9825.00.

3/7 Finished running in rods & pump. Spaced out pump & clamped off. To set PU 3/11/03 & tank battery 3/17/03. Production String: New MA 2 3/8" x 15' set @ 4726.73', new SN 2" x 1.10 set @ 4710.63', 1 jt tbg, new AC 5 ¹/₂" x 2" x 2.85' set @ 4676.63' w/15,000#, 151 jts tbg. Total tbg 152 jts 2 3/8" OD 8rd (used & tested) = 4707.78'. Pump C-237 2" x 1 ¹/₂" x 14' RWTC, SMP, SPT, DV, MSL=101" w/12" strainer, 2' x ³/₄" sub, 10 x 7/8", 176 x ³/₄" all rodco rods, 8'-6'-4' x ³/₄" subs, 1 ¹/₄" x 22' PR w/10' liner. RDMO. Est Cost w/o tbg & rods \$10,875.00.

3/12 MDC ROs on location. Built pad f/ unit. Unloaded & set unit base on pad. Assembled 160 Lufkin pumping unit. Built well head & brought over propane tank f/ Marvin lse. Started ditching, cut & threaded 2" steel riser f/ leadline. Ditched, glued & put in 1180' 2" pvc line. Built pad f/ tank battery & back filled flow line ditch. Sanded in unit. Moved swab tank to battery pad. Back filled trash pit & put sand on battery pad. Built driveways f/ battery & SD.

<u>Inventory</u> - Lufkin 160 pumping unit, mod. # C-160D- 173- 74, gear ratio 28.67, ser # D47696L- 372047, 4- #6 RO wgts., factory base, stroke 54,64,(74), gearbox sheave 4c 29", Continental 101, E hub, 4c 13.5" sheave, 4- C240's

3/17 Hess Tank Service set new 12' x 10' FG SWT, 10' x 15' FG GB, (2) 12 x 10' WSST. Hooked up riser, siphon & all overhead connections. Put 20 BW in SWT & 60 BW in GB. POP #6-32 @ 4 PM. $1\frac{1}{2}$ x 74 x 8 & pumping ok.

3/18 22.42 BO, 89.90 BW, PF, 72% PE, GB filling.

3/19 30 BO, 62 BW, 60% PE, GB filling.

3/20 36.86 BO, 55.30 BW, PF. (pumpers test)

3/20 Checked out & canned GB. Top out valve was open so no free oil in GB. 4'- 2" in stock but wtr coming over into stock. Called wtr truck to pull bttm in AM. 27.22 BO, 50.54 BW, PF, 49% PE.

3/21 Canned GB, 2' free oil. Tested well. 27.36 BO, 44.64 BW, PF, 46% PE, 40 bbls in GB.

3/22 25.41 BO, 31.06 BW, PF, 42% PE, 30.06 BOIS.



3/23 25.6 BO, 38.4 BW, PF, 47% PE, 56.78 BOIS (pumper unsure of what happened, GB may have dumped).

3/24 28.5 BO, 34.8 BW, PF, 47% PE, 31.73 BOIS.

3/25 28.17 BO, 34.44 BW, PF, 47% PE, 30.06 BOIS.3/25 Shot FL. 152 JTF, 4705 FTF, 2 FAP. Worked on carb. Bad diaphragm & broken center post. Called for parts.

3/26 29.74 BO, 32.2 BW, PF, 46% PE, 33.40 BOIS.

3/26 MDC ROs on location. Balanced 160 Lufkin unit. Still rod heavy, need larger wts. Moved swab tank to be able to build dike @ battery. Found 2 cracks in new FB GB. Leaking slowly. Called Hess to have repaired in AM. Called Webbs to clean in AM. Opened top of valve to draw off free oil.

3/27 29.74 BO, 32.20 BW, PF, 46% PE, 31.73 BOIS.

3/27 Webb's on location to clean GB. Pulled 1.5' free oil off top. Emptied GB. Pulled plate & gunned out bttm. RD Webbs. KBK on location. Ground & patched 2 cracks on outside GB. Ground & patched 3 cracks on inside. Let sit f/30 mins & checked resin. Put on plate, ran chain & come along f/stock to wtr tank due to high winds. Let set f/6 hrs before start up due to cold weather. SD.

3/28 34.7 BO, 34.7 BW, PF, 51% PE, GB filling.

3/29 34.29 BO, 34.29 BW, PF, 51% PE, 31.73 BOIS.

3/30 28.80 BO, 28.80 BW, PF, 42% PE, 28.39 BOIS.

3/31 30.60 BO, 27.00 BW, PF, 42% PE, 28.39 BOIS.

LAST REPORT

4/1 33 BO, 27 BW, PF, 44% PE, 35 BOIS.