



## Well History

**Well Name: Wells Ranch 24-20**

API 05123256010000		Surface Legal Location SESW 20 6N 63W		Field Name Wattenberg		State CO		Well Configuration Type Vertical	
Ground Elevation (ft) 4,660.00	Original KB Elevation (ft) 4,670.00	KB-Ground Distance (ft) 10.00	Spud Date 1/8/2005 00:00	Rig Release Date 1/12/2005 00:00	On Production Date 4/11/2005	Abandon Date			

### Daily Operations

Start Date	Summary	End Date
5/10/2005	Service Rig # 099: W/H - 920/1020. Opened well to swab tank, well kicked off. Flow tested thru 24/64 choke for 3 hrs. Well died. Made 4 swab runs, well kicked off. Flow tested for 1 hr. Well cleaned up, went to gas. S/I well. RDMO. IP - 920/1020, IFL - 4500', EP - 200/300, EFL - Flow. Recovered: 41 bbls. Total: 158 bbls. 100 % oil cut.	

### Recompletion, 2/15/2011 00:00

Job Category Completion/Workover	Primary Job Type Recompletion	Start Date 2/15/2011	End Date 3/10/2011	Objective Bring cement to surface and refrac Codell and commingle with completion of Niobrara
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### Daily Operations

Start Date	Summary	End Date
2/15/2011	STP 150 psi, SCP 150 psi, both open flowing to sales, SSCP 0 psi, MIRU Bayou rig 001, blew well down to rig tank, control well w/40 bbls Claytreat/Biocide water, ND WH, NU BOP, RU Pick Testers, POOH w/production tbg to derrick testing to 6000 psi, all jts tested good, RD tester, (POOH 215 jts 2 3/8" 4.7# J-55 EUE 8rd tbg, sn/nc, tbg was landed at 6732.12' KB), PU RMOR's 3 7/8" blade git - 4 1/2" csg scraper, TIH w/220 jts to 6900' KB and tools (154' of known rat hole), POOH w/tbg to derrick, LD tools, PU RMOR's 4 1/2" WLTC RBP, TIH w/production tbg, set RBP at 6658.72' KB and tools w/213 jts, LD 1 jt, circulated oil and gas out, pressure tested csg/RBP to 2000 psi, test good, POOH w/20 jts to derrick isolate well, prepare for next days operations, SDFN.	2/15/2011
2/16/2011	0 psi at WH, open well, spotted 2 sks sand across RBP, POOH w/tbg to derrick keeping fluid level topped off, ND BOP, remove tbg head, install PDC's 4 1/2" 5K frac valve, pressure tested csg/RBP to 5000 psi using Pick Testers, held 20 minutes, test good, release tester, remove frac valve, un-pack csg head, un-land csg (65K), NU annular flanges, TIH picking up tallying WS311 1.660" 3.02# N-80 CSHD workstring, tagged original cmt top at 1126.78' w/36 jts, RU to circulate on jt 36, broke circulation, circulated and conditioned hole w/original well bore mud, conditioned hole 5 hours, stop circulation, LD 5 jts leaving EOT at 970.36' w/31 jts, isolate well, prepare for next days operations, SDFN. isolate well, prepare for next days operations, SDFN.	2/16/2011
2/17/2011	0 psi at WH, open well, TIH w/5 jts 1.660" workstring to 1127' w/36 jts total, MIRU BJS, held safety meeting, tested pump and lines to 4350 psi, pumped 10 bbls water ahead establishing circulation and rate, pumped 10 bbls Mud Clean II, pumped 10 bbl water spacer, mixed and pumped 65 sks (36 bbls) PLC and additives at 11.0 ppg, est cmt top of 517' (calculating off 9" hole), displace w/1 bbl water, break BJS off WH, POOH laying down 20 jts leaving EOT at 501' w/16 jts, RU BJS back to WH, mixed and pumped 105 sks (22.7 bbls) Type III Cement at 14.5 ppg, circulated 1/2 bbl cmt to cmt tank, RDMO BJS, POOH laying down remaining 16 jts, ND annular flanges, re-land csg in WH at 45K, pack off csg head, install original tbg head, NU BOP, isolate well, prepare for next days operations, clean up location, SDFD. Note COGCC was advised prior to operations.	2/17/2011
2/18/2011	0 psi at WH, open well, RU Superior Wireline, ran GR/CCL/CBL/VDL log from 1297' to surface, had acceptable bonding on 11.0 ppg PLC cmt from original cmt top to 504' and good bonding on 14.5 ppg Class III cmt from 504' to surface, RD e-line, PU RMOR's retrieving head, TIH w/production tbg, tagged sand across RBP at 6650' KB and tools w/213 jts, RU to circulate sand off RBP, broke circulation, circulated down latching onto RBP at 6658.72' KB and tools w/same jt, rolled hole clean, released RBP, POOH laying down production tbg and tools, RU e-line, RIH w/3 1/8" slickgun, correlated cased/open logs getting on correct depth, re-perforated Codell 6736-6744', 3 spf (24 new holes), 120 degree phasing, 19 gram charges, .41" entry holes w/21.12" penetration, all shots fired, RD e-line, isolate well, RDMO.	2/18/2011
2/26/2011	2 Stage Codell ReFrac / Niobrara ReComplete: MIRU HES. Well took 75 bbls to load. (Break 3012 psi @ 5.6 BPM) Pumped 120 bbls of Active pad, 600 bbls of 26# pHaser pad, 191 bbls of 1.0 ppg 20/40 slurry with 26# pHaser, 525 bbls of 2.0 ppg 20/40 slurry with 26# pHaser, 930 bbls of 3.0 ppg 20/40 slurry with 26# pHaser, 278 bbls of 4.0 ppg 20/40 slurry with 26# pHaser, 73 bbls of 4.0 ppg SB Excel slurry with 26# pHaser. Flushed well to top of the Codell perf (104.7 bbls) with a 3 bbl spacer followed by 24 bbls of 15% HCl followed by 78 bbls claytreated water (Spotting acid @ bottom of Niobrara B Bench). Shutdown (ISDP 3416 psi) (FG .94). Fluid contained the following chemicals: .6 gpt CL-23, .5 gpt BA-20, 1.5 gpt GasPerm 1100, 1.25 gpt Clayfix III, 3.0 - 5.0 gpt Vicon NF, 0.25 - .75 gpt CAT 3, 6.0 gpt LG-6 (217400 lbs 20/40) (8000 lbs 20/40 SB Excel), RD HES, MIRU PSI Wireline. MTP = 4273 psi, ATP = 3730 psi, AIR = 28.5 bpm. Pressure response was slightly positive for entire treatment. Treatment went good.	2/26/2011
2/26/2011	Niobrara Hybrid: RIH with PSI wireline using High pressure control unit and grease head. Set RMOR Cast Iron Flowthru 10k frac plug @ 6650' with a Baker #10. Duel fire 3 1/8" slick gun and EXT charges (22.7 gram, .42 entry hole, 35.1" penetration, 120 degree phasing). Niobrara "B" Bench @ 6564'-6572' (3 SPF) Niobrara A Bench @ 6456' - 6458' (2 SPF) (28 New holes). POOH and RDMO PSI Wireline.  MIRU HES. Well was loaded @ open. (Break 4681 psi @ 2.7 BPM) Pumped 120 bbls FE-1A Pad, 1550 bbls of Slickwater pad, 145 bbls of 20# pHaser pad, 167 bbls of 1.0 ppg 20/40 slurry with 20# pHaser, 788 bbls of 2.0 ppg 20/40 slurry with 20# pHaser, 838 bbls of 3.0 ppg 20/40 slurry with 20# pHaser, 344 bbls of 4.0 ppg 20/40 slurry with 20# pHaser, 61 bbls of 4.0 ppg SB Excel 20/40 slurry with 20# pHaser. Flushed well to top of the Niobrara B perf (104.8 bbls) Shutdown (ISDP 3223 psi) (FG .93). Fluid contained the following chemicals: .6 gpt CL-23, 1.0 gpt BA-20, 2.0 gpt GasPerm 1100, 1.25 gpt Clayfix III, 0.5 - 3.0 gpt Vicon NF, 0.15 - .75 gpt CAT 3, 2.0 gpt FR-66, 22 ppt WG-18 (238100 lbs 20/40) (12000 20/40 SB Excel). RD HES. MTP = 4858 psi, ATP = 4512 psi, AIR = 48.0 bpm. Pressure response was flat for entire treatment. Treatment went good.	2/26/2011
3/9/2011	MIRU Basic #1557. STC 500 psi, blow well down to rig tank, controlled well with 80 bbls, circulated gas out, PU power swivle, TIH picking up production tbg off of ground, tallying in, tagged sand fill at 6555.5' KB and tools w/211 jts, break circulation; washed down tagging frac plug at 6650' KB tools w/214 jts, drilled up plug, continue washing down tagging sand fill again at 6902' KB. POOH with 15 stands pulling out of the perf, SI and isolated well. SDFN  DC: \$4,050.00	3/9/2011