



# Well History

**Well Name: Wells Ranch 14-27**

|                                   |  |  |                             |                                     |                                  |              |  |                                     |  |
|-----------------------------------|--|--|-----------------------------|-------------------------------------|----------------------------------|--------------|--|-------------------------------------|--|
| API<br>05123223180000             |  | Surface Legal Location<br>SWSW 27 6N 63W |                             | Field Name<br>Wattenberg            |                                  | State<br>CO  |  | Well Configuration Type<br>Vertical |  |
| Ground Elevation (ft)<br>4,790.00 | Original KB Elevation (ft)<br>4,800.00 | KB-Ground Distance (ft)<br>10.00         | Spud Date<br>8/9/2004 00:00 | Rig Release Date<br>8/14/2004 00:00 | On Production Date<br>11/29/2004 | Abandon Date |  |                                     |  |

**Job**

**Drilling - original, 8/9/2004 00:00**

|                          |   |                        |                       |  |
|--------------------------|---|------------------------|-----------------------|--|
| Job Category<br>Drilling | Primary Job Type<br>Drilling - original | Start Date<br>8/9/2004 | End Date<br>8/14/2004 | Objective<br>Explore Codell and Nio for Production |
|--------------------------|---|------------------------|-----------------------|--|

**Daily Operations**

| Start Date | Summary   | End Date  |
|------------|---|-----------|
| 8/9/2004   | Caza Rig #1: MIRU. Drill rat and mouse holes and spud 12 1/4" hole at 5 PM. TD 12 1/4" hole at 420' at 9:30 PM. Condition mud and circulate the hole and wait on surface slips and elevators. Survey (1/4 degree at 420') and trip out.   | 8/10/2004 |
| 8/10/2004  | Caza Rig #1: Ran 9 joints of new, 24#, J-55, 8 5/8" casing to 401'. Set at 411' at 7 AM. Rig up Cementer's Well Service cemented with 230 sacks of Class G cement + 2% CaCl2 + 1/4# flake per sack. Plug down at 2:15 AM. Wait on cement until noon and nipple up BOP. Trip in hole with 7 7/8" bit and test BOP. Began drilling cement, plug, and shoe at 1:15 PM with 7 7/8" bit.   | 8/11/2004 |
| 8/11/2004  | Caza Rig #1: At 3070' and drilling 7 7/8" hole. Last survey: 1.25 degree at 2667'.  | 8/12/2004 |
| 8/12/2004  | Caza Rig #1: At 4723' and drilling 7 7/8" hole. Last survey: 1.25 degree at 4158'.  | 8/13/2004 |
| 8/13/2004  | Caza Rig #1: At 6595' and drilling 7 7/8" hole. Last survey: .75 degree at 5938'.   | 8/14/2004 |
| 8/14/2004  | Caza Rig #1: TD hole @ 7004'. Last survey: .25 degree at 7004'. Short trip LDDP, MIRU Phoenix Surveys Inc. Ran Comp Density/Comp Neutron/Dual Induction log finding a LTD of 6993' KB. RU Kimzey Casing crew and ran Topco Auto Fill Guide Shoe, 14.49' shoe joint, 163 joints of 10.5 #/ft, 8RD, M-65, 4 1/2" casing and 1 joint of 11.6 #/ft, M-80 on top of casing string. Casing set @ 6980.56'. PBTD @ 6966.07'. Circulated hole once casing was set for 45 minutes while Halliburton rigged up to cement. RU Halliburton and pumped 20 bbls of ClayFix water, 24 bbls of MudFlush, 20 bbls of ClayFix water, 9.0 bbls (30 sacks) of 50/50 POZ:G Cement as a marker slurry @ 14.6 ppg, 175.0 bbls (300 sacks) of HLC cement @ 11.0 ppg, & 44 bbls (150 sacks) of 50:50 POZ:G as a tail slurry @ 14.6 ppg. Shut down, wash up cement pump & lines to the pit through HES iron, released wiper plug and displaced with 111 bbls ClayTreat treated water. Plug down OK @ 2:00 PM on 8/14/04. Bumped plug with 2500 psi @ 3.0 bpm, shut down - watched psi stabilize at 2500 psi, released psi to HES inventory tanks and tested plug & lowered casing & slips. Released rig @ 3:00 PM. Calculated top of cement approximately 3000' (600' above Parkman). | 8/15/2004 |

**Initial Completion, 8/18/2004 00:00**

|                                     |  |                         |                       |                                     |
|-------------------------------------|--|-------------------------|-----------------------|-------------------------------------|
| Job Category<br>Completion/Workover | Primary Job Type<br>Initial Completion | Start Date<br>8/18/2004 | End Date<br>8/24/2004 | Objective<br>Produce Codell and Nio |
|-------------------------------------|--|-------------------------|-----------------------|-------------------------------------|

**Daily Operations**

| Start Date | Summary  | End Date  |
|------------|--|-----------|
| 8/18/2004  | MIRU Nuex Wireline. Ran GR/CCL/VDL log finding a PBTD of 6920'KB and a CT at 3014'KB. Perforated the Codell from 6798'KB to 6804'KB with 24 - .34" diameter holes at 4 SPF with 120 degrees phasing (11 gram shot with 13.59" penetration). RDMO Nuex. Install 4 1/2" Gate Valve and prepare for a Codell frac on Thursday, 08/19/04. NOTE: this will be the first stage of a total 2 stage job - the second stage will be next Tuesday (08/24) in the Niobrara.   | 8/19/2004 |
| 8/19/2004  | MIRU BJ Services. Performed a New Codell stimulation using 2565.0 bbls of Vistar 20# fluid system, 217440 lbs of 20/40 white sand and 8000 lbs of Super LC 20/40 resin coated proppant. Codell perfs @ 6798-6804' (24 Shots). Breakdown at 3421 psi @ 4.9 bpm. Pumped 1 - 4 ppg stages of 20/40 white sand, 4 ppg Super LC proppant, flush well to 2.0 bbls short of top Codell perforation (106.3 bbls), shut down, record ISDP = 3293 psi RD BJ Services, turn well on to flowback. MTP = 3482 psi, ATP = 3100 psi, AIR = 16.2 bpm. Pressure response was flat during pad & flat to slightly positive for remainder of treatment. Operationally treatment went well. Total Fluid to Recover = 2701 bbls. Turn well on to flowback on a 20/64" choke until bottoms up and then to a 12/64" choke. Allow well to flowback/cleanup over weekend and prepare well for stage 2 (Niobrara) frac on 8/23/04.  | 8/20/2004 |
| 8/23/2004  | RU ASAP Enterprises. Set a HES 8K flow thru plug @ 6678'. Come up hole & perforate the Niobrara "B" bench @ 6628-6634' & the upper "B" bench from 6584-6586' (1 spf, 23 gram charges). Perforated the Niobrara "A" bench from 6538-6544' (1 spf, 23 gram charges), 0.42" hole diameter, 3 3/8" slick gun. Come out of hole, RD ASAP Enterprises. SWI for frac on Tuesday August 24th, 2004. Codell flowed back a total of 1275 bbls since frac on 8/19/04. Prepare well for stage 2 Niobrara frac.   | 8/24/2004 |
| 8/24/2004  | MIRU BJ Services. Performed a new Niobrara stimulation. Pumped 15 bbls of Claytreat water breakdown fluid, open wellhead valve to drop frac ball, start 12.0 bbls of 7 1/2% HCl acid + additives, flush acid to half in half out of Niobrara, shut down for 5 minutes for acid soak (psi increase was seen when frac ball hit plug), Pump acid into formation and overflush with claytreat water by approx. 20 bbls. Shut down pump main treatment using 1531.0 bbls of Vistar 20# fluid system, 142768 lbs of 20/40 white sand and 8000 lbs of Super LC 20/40 resin coated proppant. Niobrara perfs @ 6538-6544, 6584-6586, & 6628-6634' (1 spf). Breakdown at 4632 psi @ 15.7 bpm. Pumped 1 - 4 ppg stages of 20/40 white sand, 4 ppg Super LC proppant, flush well to 0.2 bbls short of top Niobrara perforation (104.1 bbls), shut down, record ISDP = 3318 psi RD BJ Services, turn well on to flowback. MTP = 3822 psi, ATP = 3508 psi, AIR = 27.5 bpm. Pressure response was slightly positive during pad & flat to slightly positive for remainder of treatment. Operationally treatment went well. Total Fluid to Recover = 1820 bbls. Turn well on to flowback on a 20/64" choke until bottoms up and then to a 12/64" choke. THERE IS A HES 8K FLOW THRU FRAC PLUG IN THIS WELL SET AT 6678'. | 8/25/2004 |

**Workover, 7/25/2005 00:00**

|                                     |                              |                         |                      |           |
|-------------------------------------|------------------------------|-------------------------|----------------------|-----------|
| Job Category<br>Completion/Workover | Primary Job Type<br>Workover | Start Date<br>7/25/2005 | End Date<br>8/4/2005 | Objective |
|-------------------------------------|------------------------------|-------------------------|----------------------|-----------|

**Daily Operations**

| Start Date | Summary  | End Date  |
|------------|--|-----------|
| 7/25/2005  | DJR Well Service Rig # 3: MIRU. W/H - 550#. Hooked up hard line to flow back tank. Opened well to tank. Blew well down. Killed well - 50 bbls. Flanged up well head. NUBOP. TIH, tallied, drifted with mini "L", 120 jts. 2 3/8" J - 55 tbg & blade bit. Well kicked off. Killed well - 30 bbls. TIH with 20 jts. S/I well. SDFN. 140 jts. + bit sub+blade bit in hole. HES 8K flow thru plug @ 6678'. | 7/26/2005 |