



Well History

Well Name: Wells Ranch 11-10

API 05123259080000	Surface Legal Location NWNW 10 5N 63W	Field Name Wattenberg	State CO	Well Configuration Type Vertical		
Ground Elevation (ft) 4,700.00	Original KB Elevation (ft) 4,711.00	KB-Ground Distance (ft) 11.00	Spud Date 9/20/2008 06:30	Rig Release Date 9/24/2008 00:45	On Production Date 12/3/2008	Abandon Date 1/7/2019

Job

Drilling - original, 9/20/2008 06:00

Job Category Drilling	Primary Job Type Drilling - original	Start Date 9/20/2008	End Date 9/24/2008	Objective DRILL NEW CODL/NIO WELL
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Daily Operations

Start Date	Summary	End Date
9/20/2008	Ensign Rig 31 spud at 06:30 hours 20-Sept-08. Drilled 12-1/4" surface hole to 466'. Ran 10 joints 8-5/8", 24#/ft casing (446') set at 457' KB. Cemented by Cementers Energy with 370 sacks Class "G" + 3% CaCl2 + 1/4# celloflake/sk (15.2 ppg, 1.18 ft3/sk). Plug down at 15:30 hours 20-Sept-08. Circulated cement. NU BOP. Tested BOP and casing to 500 psig. Currently drilling at 1766' (1755'). 7-7/8" Bit #1:HC405Z. Drilling with water. Defls: 0.78 at 256', 0.66 at 466', 0.30 at 1400'. BHA: Bit, motor, 10 - 6" DC's and 6 joints HWDP (518').	9/21/2008
9/21/2008	Drilling at 5863' (4097'). 7-7/8" Bit #1:HC405Z. Drilling with water. Defls: 1.11 at 2656', 1.80 at 3514', 2.00 at 3956', 1.90 at 5068', 0.30 at 5454'. BHA: Bit, motor, 10 - 6" DC's and 6 joints HWDP (518').	9/22/2008
9/22/2008	Drilled to 5915'. TOH for new motor. TIH. Drilled to 6850' TD (987'). 7-7/8" Bit #1:HC405Z. Mud wt. 9.5; visc. 43. Defls: 0.30 at 5800', 1.10 at 6116', 1.10 at 6850'. BHA: Bit, motor, 10 - 6" DC's and 6 joints HWDP (518'). Made short trip above Niobrara. Currently C&C mud for logs. Note: Reached TD at 04:00 hours 23-Sept-08.	9/23/2008
9/23/2008	C&C mud. LDDP. PSI ran DIL, CDL, CNL, GR from 6839'. Ran 4-1/2" casing and cemented. Rig released at 00:45 hours 24-Sept-08. Cement run: BJ Services pump 20 bbls of pre-flush and then pump 20 bbls mud clean, followed by 20 bbl. Claytreat water spacer. Then mix & pump lead cement, 500 sx [ordered] 505sx [calculated] Premium lite cement w/ 4% Bentonite, 0.6% Sodium Metasilicate, 8# lbs/sack CSE-2, xxx bbls slurry mixed @ 11.0 ppg for a yield of 3.22, average 11.0 ppg. Cement covers from surface to 5900' w/ 10% excess. Tail cement 175 sx [ordered] 175sx [calculated] 50/50 poz w/ 20% Silica Flour, 0.3% CD-32, and 0.4% FL-52A, 0.1% Sodium Metasilicate. xx bbls slurry mixed @ 14.6 ppg for a yield of 1.38, average 14.6 ppg. Cement covers from TD to 5900'. Displace w/ 108.3 bbls claytreat wtr. Bump plug w/ 2550 psi did hold. 30 bbls cement returned to surface.	9/24/2008

Initial Completion, 11/17/2008 06:00

Job Category Completion/Workover	Primary Job Type Initial Completion	Start Date 11/17/2008	End Date 12/9/2008	Objective COMPLETE NEW CODL/NIO WELL
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Daily Operations

Start Date	Summary	End Date
11/17/2008	MIRU Superior Well Services: Ran GR/VDL/CBL log finding PBDT @ 6780' and Cement Top @ Surface. Good cement bond. Perforated the Codell formation from 6688'-6694' (3 spf, 11 gram charges, 0.34" entry holes, and 13.59" penetration) 18 holes total. Prepared well for Codell stimulation.	11/17/2008
11/18/2008	2 Stage Codell / Niobrara: MIRU BJ Services. Well was loaded @ open. (Break 3438 psi @ 5.4 BPM) Pumped 150 bbls and shutdown (ISDP 3190 psi) (Five min 2971 psi) (FG 0.91). Continued with 492 bbls of Vistar 20# pad, 286 bbls of 1.0 ppg 20/40 slurry with 20# Vistar, 476 bbls of 2.0 ppg 20/40 slurry with 20# Vistar, 640 bbls of 3.0 ppg 20/40 slurry with 20# Vistar, 453 bbls of 4.0 ppg slurry with 20# Vistar, 64 bbls of 4.0 ppg SB Excel slurry with 20# Vistar. Flushed well to top of the Codell perf (106.7 bbls) with a 2.8 bbl spacer followed by 24 bbls of 15% HCl followed by 80 bbls claytreated water (Spotting acid @ bottom of Niobrara B Bench). Shutdown (ISDP 3128 psi) (Five min 2967 psi) (FG .90). Fluid contained the following chemicals: 5 gpt GBW -45LE, 1.0 gpt XLW-14, 1.0 gpt Inflo/NE 940, 1.0 gpt Claytreat-3C, 2.0 ppt GBW-21, 2.0 ppt GS-1A, 0.5 ppt - 2.0 ppt High Perm CRB-LT, 1.25 ppt GBW-5, (5 ppt GBW-5 ppt through flush) (217800 lbs 20/40) (8140 lbs 20/40 SB Excel). RD BJS MIRU NueX Wireline. MTP = 3661 psi, ATP = 3247 psi, AIR = 17.0 bpm. Pressure response was slightly positive for entire treatment. Treatment went good.	11/19/2008
11/18/2008	Niobrara Hybrid: RIH with Nuex wireline using High pressure control unit and grease head, set STS Cast iron flowthrou 10k frac plug @ 6600' with a baker #10. Duel fire 3 1/8" slick gun and Hero charges (21gram, .39 entry hole, 30.92 penetration, 120 degree phasing) Perforate Niobrara B bench @ 6513'-6515' (1 SPF) and 6520' - 6526' (18 New Holes). POOH and RDMO Nuex New Niobrara: BJ Services performed a Niobrara stimulation. Well was loaded (Break 5237 @ 5.0 BPM) Pumped 1524 bbls Slickwater pad, 192 bbls of Vistar 18# x-linked pad, 191 bbls of 0.5 ppg 30/50 slurry with 18# Vistar, 264 bbls of 1.0 ppg 30/50 slurry with 18# Vistar, 744 bbls of 2.0 ppg 30/50 slurry with 18# Vistar, 852 bbls of 3.0 ppg 30/50 slurry with 18# Vistar, 307 bbls of 4.0 ppg 30/50 slurry with 18# Vistar, 91 bbls of 4.0 ppg 20/40 SB Excel slurry with 18# Vistar. Flushed well to top Niobrara B perf (103.9 bbls) Shutdown (ISDP 3237 psi) (FG .93). 30/50 white sand (238120 lbs) 20/40 SB Excel proppant (12160 lbs) Fluid contained the following chemicals: 1.5 gpt - 2.0 gpt FRW-14, 1.0 gpt Claytreat-3C, 0.8 gpt XLW-14, 0.3 gpt XLW-22C, 0.75 gpt Inflo-150, 1.0 ppt GBW-21, 0.4 BF-9L, 0.25 gpt NE-940, 1.0 gpt BC-3, 4.5 gpt GW-45LE, 1.0 - 3.0 ppt High Perm CRB-LT, 1.0 ppt GBW-5, 4.0 ppt GBW-5 in Flush. MTP = 4466 psi, ATP = 4211 psi, AIR = 50.4 bpm. Pressure response was slightly positive the whole job. Pumped treatment through 4 1/2" casing. RD BJS, turned well on to flowback on a 14/64" choke. Treatment went good.	11/19/2008
12/5/2008	SCP 250#s, MIRU Ensign Rig #313 W/ pump & tank. Blow casing down to RT, controll well W/ 20 Bbls 2% KCL, casing pressured up, flow back casing to FBT making 60 bbls P/Hr, hook flow line back up & send well down line over the weekend. SDFN. Daily Cost\$ 7813.20	12/6/2008



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Daily Operations

Start Date	Summary	End Date
12/8/2008	<p>SCP 250#s, ND flow line & NU pump lines. Blow casing down to FBT & controll W/ 50 Bbls 2 % KCL. Frac valve threads started gaulding while breaking it loose F/the casing, stopped & tightened up valve back up. NU new 4 1/2" 10K mandrel style Well Head Inc. tubing head on top of frac valve W/ BOP. PUN STSD 4 1/2" 10.5# 10K WLTC RBP, TIH PU new 2 3/8" J-55 4.7# EUE 8rd tubing F/ Colorado Tubulars. Ran 115 Jts & set RBP @3504.98' W/ KB. Lay down 2 Jts & roll oil & gas out. Dump 50 Lbs of 20/40 mesh sand & displace W/ 10 Bbls. TOOH W/ 113 Jts & retrieving head. ND BOP & tubing head. MJ Welding cut off gaulded frac valve & welded on a new N-80 bell nipple, let weld cool down & install tubing head W/ BOP. PU retrieving head & TIH W/ 114 Jts, RU circulating equipment & break circulation W/ Jt 115. Wash sand off plug & release. TOOH W/ RBP & 114 Jts. PU 3 7/8" rock bit W/ 2 3/8" pump off bit sub & 2 3/8" SN. TIH W/ 115 Jts & SI well, SDFN.</p> <p>Daily Cost\$ 7484.97</p>	12/9/2008
12/9/2008	<p>STP 950#s, SCP 1100#s, Blow well down to FBT. Circulate oil & gas out to rig tank. Continue TIH tallying & PU 2 3/8" production string. tagged FTP W/ 216 jts @ 6601.28' KB, RU JU head & power swivle. Break circulation & drill out FTP, pushed FTP down to sand top W/218 Jts @ 6672.76' KB, drill & wash FTP down to PBTD W/5' in on Jt 223 @ GL @6800.01' KB. Circulate back side clean & lay down 1 Jt, RD power swivle & JU head. Drop steel ball & shear bit sub & bit off. Lay down 4 Jts & land tubing W/ 218 Jts-6657.78', 1-8.00' pup Jt & SN-Bit sub 2.10' @6677.88' KB. Pack tubing head off & drop 2 3/8" PCS standing valve. Chase standing valve to seat nipple W/1.910" broach, seat standing valve in seat nipple & pull broach. SI well & RDMO to Wells Ranch #21-10, FINAL REPORT.</p> <p>Daily Cost\$ 41,968.50</p>	12/10/2008

Wellbore Integrity, 4/10/2017 08:00

Job Category Completion/Workover	Primary Job Type Wellbore Integrity	Start Date 4/10/2017	End Date 4/11/2017	Objective INSTALL 5K WELLHEAD, TEST TBNG, SET RBP ABOVE PERFS AHEAD OF HORIZONTAL FRACS
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Daily Operations

Start Date	Summary	End Date
4/10/2017	<p>MIRU ENSIGN RIG 356. RIGGED UP PUMP AND TANK. HELD SAFETY MEETING. ITP: 180 PSI ICP: 180 PSI ISCP: 0 PSI BLEW WELL DOWN TO RIG TANK. KILLED WELL WITH 80 BBLS CLAYTREAT/BIOCIDE WATER. ND 3K WELLHEAD, INSTALLED 5K WELLHEAD. FUNCTION TESTED AND NU BOPS. PU 4 JNTS AND TAGGED WITH 105'. LD TAG JNTS. LAY DOWN 8' SUB. TOOH TO DERRICK WITH 218 JNTS OF 2-3/8" 4.7# J-55 8RD EUE TBNG, SN AND TOP HALF OF PUMP OFF BIT SUB. TBNG WAS LANDED AT 6683.66' KB AND TAG WAS AT 6782.66' KB. MIRU PICK TESTERS. PU RMOR 3-7/8" BLADE BIT, 4.5" CASING SCRAPER, SN AND TEST IN HOLE TO 6000 PSI WITH 218 JNTS TO 6695'. ALL TBNG TEST GOOD. RDMO HYDROTESTER. POOH TO DERRICK WITH 30 JNTS. SECURED WELL. SDFD</p>	4/10/2017
4/11/2017	<p>CREW TO LOCATION. HELD SAFETY MEETING. 0 PRESSURES ON WELL. LAY DOWN 7 JNTS. CONTINUE TO POOH TO DERRICK WITH REMAINING TBNG. LD SCRAPER. PU RMOR 10K RBP AND RIH WITH 211 JNTS. SET RBP AT 6463.01' KB. HAD TROUBLE SETTING RBP. HAD TO USE AN 8' SUB. LD SUB AND 1 JNT. ROLLED HOLE CLEAN. TEST RBP AND CASING TO 2000 PSI. HELD GOOD. BLED OFF PRESSURE. LAY DOWN 4 JNTS. RU LUBRICATOR AND BROACHED TBNG TO SN WITH 1.901" BROACH. POOH. SPOT 2 SKS OF SAND ON TOP OF PLUG. LAY DOWN 5 JNTS. LAND TBNG IN WELLHEAD WITH 201 JNTS AT 6159.32' KB. ND BOPS. NU 5K TOP FLANGE. INSTALLED NEW 5K VALVES ON WELLHEAD AND PLUMBED UP SURFACE CASING VALVE. SECURED WELL. RDMO</p> <p>10.00' kb 6145.22' w/201 jnts 1.10' seat nipple 3.00' retrieving head 6159.32' kb</p> <p>FMT'd 17 jnts of 2-3/8" 4.7# J-55 8rd eue tbng to inventory at ATP yard</p>	4/11/2017

Abandon Well LOE, 1/3/2019 06:00

Job Category Abandon	Primary Job Type Abandon Well LOE	Start Date 1/3/2019	End Date 1/4/2019	Objective PLUG AND ABANDON WELL.
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Daily Operations

Start Date	Summary	End Date
1/3/2019	<p>NO PRESSURES, WELL WAS SHUT IN, MIRU RANGER RIG 14, OPENED WELL, FUNCTION TEST BOP, CIRCULATED THE HOLE, ND PRODUCTION TREE, NU BOP, PRESSURE TESTED BOP AND LINES UP TO 2000 PSI, NO LEAKS, PICKED UP 10 JTS FROM THE TRAILER, TAGGED SAND AT 6451' WITH 211 JTS, RU TUBING SWIVEL, BROKE CIRCULATION WITH WATER, CLEAN OUT SAND DOWN TO THE PLUG AT 6463' WITH 211 JTS, CIRCULATED THE HOLE CLEAN, RELEASED THE PLUG, LD THE 10 TAG JTS, PULLED 58 JTS TO DERRICK AND LD 143 JTS ON ATP'S TRAILER, DRAIN PUMP AND LINES, SI AND SECURE WELL FOR THE NIGHT, SD.</p>	1/3/2019
1/4/2019	<p>NO PRESSURES, OPENED WELL, WAIT FOR WIRE LINE, MIRU C&J WIRE LINE, MADE A GAUGE RING RUN DOWN TO 6400', PICKED UP 4 1/2 10K CIBP, SET CIBP AT6361' CORRELATED WITH LOGS, SPOTTED 2 SACKS OF CEMENT ON TOP OF THE PLUG, RD WIRE LINE, PICKED UP 2 3/8 MULE SHOE, RIH WITH 2 3/8 PIPE DOWN TO 1807' WITH 59 JTS, RU CIRCULATING EQUIPMENT, CIRCULATED OIL AND GAS OUT, PRESSURE TESTED CASING AND PLUG UP TO 1000 PSI, HELD GOOD FOR 15 MINUTES, MIRU C&J CEMENT TRUCKS, HELD SAFETY MEETING, PRESSURE TESTED LINES UP TO 2000 PSI, NO LEAKS, ESTABLISHED CIRCULATION WITH WATER AND PUMP TRUCK BROKE DOWN, RD CEMENT TRUCKS, LD 3 JTS, DRAIN PUMP AND LINES, SI AND SECURE WELL FOR THE NIGHT, SD.</p>	1/4/2019



Well History

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Ground Elevation (ft) 4,700.00	Original KB Elevation (ft) 4,711.00	KB-Ground Distance (ft) 11.00	Spud Date 9/20/2008 06:30	Rig Release Date 9/24/2008 00:45	On Production Date 12/3/2008	Abandon Date 1/7/2019

Daily Operations

Start Date	Summary	End Date
1/7/2019	<p>NO PRESSURES, OPENED WELL, PICKED UP 3 JTS FROM THE TRAILER, EOT AT 1807' WITH 59 JTS, MIRU C&J CEMENT TRUCKS, HELD SAFETY MEETING, PRESSURE TESTED LINES UP TO 2500 PSI, NO LEAKS, PUMPED 50 SACKS (11.8 BBL) OF 14.8 TYPE III CEMENT, DISPLACED 4 BBL OF WATER, EST TOC AT 1044', LD 37 JTS ON ATP'S TRAILER, EOT AT 676' WITH 22 JTS, ESTABLISHED CIRCULATION WITH WATER, OPENED WELL FOR 5 MINUTES, NO FLOW OR GAS MIGRATION, PUMPED 55 SACKS (13 BBL) OF 14.8 TYPE III CEMENT AND GOT CEMENT UP TO SURFACE, LD THE PIPE, TOP OFF WITH 7 SACKS (1.5 BBL) OF CEMENT, CLEAN UP EQUIPMENT FROM CEMENT, ND BOP, RACK PUMP AND TANK, RDMOL.</p> <p>PUMPED TOTAL OF 112 SACKS OF 14.8 TYPE III CEMENT.</p> <p>MOVE IN ATP'S CUT AND CAP CREW, DUG DOWN 6' CUT OFF WELL HEAD, WELDED CAP ONTO SURFACE, INSTALLED MARKER PLATE ON CAP, BACKFILLED, SHUT DOWN.</p> <p>FINAL REPORT.</p> <p>201 JTS OF 2 3/8 J-55 4.7 SOLD TO KARST.</p>	1/7/2019