



## Well History

Well Name: Brown 12-2

API 05123240850000	Surface Legal Location SWNW 2 6N 63W	Field Name Wattenberg	State CO	Well Configuration Type Vertical
Ground Elevation (ft) 4,710.00	Original KB Elevation (ft) 4,720.00	KB-Ground Distance (ft) 10.00	Spud Date 8/23/2006 00:00	Rig Release Date 8/27/2006 00:00
			On Production Date 11/1/2006	

**Job**  
**Drilling - original, 8/23/2006 00:00**

Job Category Drilling	Primary Job Type Drilling - original	Start Date 8/23/2006	End Date 8/27/2006	Objective Drill a new Codell well
--------------------------	---	-------------------------	-----------------------	--------------------------------------

**Daily Operations**

Start Date	Summary	End Date

**Initial Completion, 9/21/2006 00:00**

Job Category Completion/Workover	Primary Job Type Initial Completion	Start Date 9/21/2006	End Date 9/21/2006	Objective
-------------------------------------	--	-------------------------	-----------------------	-----------

**Daily Operations**

Start Date	Summary	End Date

**Recompletion, 8/23/2007 00:00**

Job Category Completion/Workover	Primary Job Type Recompletion	Start Date 8/23/2007	End Date	Objective
-------------------------------------	----------------------------------	-------------------------	----------	-----------

**Daily Operations**

Start Date	Summary	End Date

**Pump Repair, 2/7/2012 00:00**

Job Category Completion/Workover	Primary Job Type Pump Repair	Start Date 2/7/2012	End Date 2/9/2012	Objective Pull rods and run gyro for Brown 2F-202 Horizontal
-------------------------------------	---------------------------------	------------------------	----------------------	---

**Daily Operations**

Start Date	Summary	End Date																
2/7/2012	ITP-100 psi, ICP-125 psi, ISCP-0 psi, MI&RU Basic Rig #1557. blow tubing down to production tank, casing blew down at the same time. Unhang rods, pick up on rods to string weight, lay down polish rod and 1-8' & 4' 7/8" rod sub, never felt pump unseat or pull over sting weight. PU polish rod and SI well and secure, prepare for next day operations, SDFN.	2/8/2012																
2/8/2012	ITP-0 psi, ICP-0 psi, blow well down to production tank. MI&RU B&J Hot Oil w/40 bbls oil f/production tank, hot oil rods and tubing, lay down polish rod, finish TOO H to derrick w/ rods and pump, pulled 88-7/8", 174-3/4", 8-1 1/2" K Bars, 1-2' 3/4" rod sub and pump. MI&RU MS Energy, run survey to seat nipple (6,790'), pull tools, RD and release wire line. Drop 2 3/8" standing valve, B&J Hot Oil loaded 40 bbls oil f/production tank, pumped all 40 bbls and never caught pressure, RD and release hot oiler. RU swab w/fishing tool, fish standing valve. Change over to tubing equipment, ND flow T and unpack tubing head, release TAC and NU BOPE. TOO H to derrick tallying 2 3/8" 4.7 lb/ft J-55 EUE 8rd production tbg. Pulled 198 jts-6,427.01', TAC-3.0', 11 jts-356.75', seat nipple-1.10' and MA-25.10', tubing was landed @6,822.96' KB, SI well and secure, SDFN.	2/8/2012																
2/9/2012	<p>ICP-0 psi, MI&amp;RU Pick Testers, pick up MA, new seating nipple, TIH testing 2 3/8" production tubing to 6 K psi, tested 209 jts, found 1 jt with a hole, 1 crimped jt, 1 bent jt, and blew 9 jts. RD and release tester, ND BOPE, set anchor w/12 K lbs over string weight, tubing is landed w/</p> <table><tr><td>KB</td><td>10.0</td></tr><tr><td>198 jts</td><td>6427.86</td></tr><tr><td>TAC</td><td>3.0</td></tr><tr><td>11 jts</td><td>356.75</td></tr><tr><td>Seat nipple</td><td>1.10</td></tr><tr><td>MA</td><td>25.10</td></tr><tr><td></td><td>-----</td></tr><tr><td></td><td>6823.81</td></tr></table> <p>Pack off tubing head and NU flow T, change over to rod equipment. PU new 2 x 1 1/4 x 12 x 16 RHAC pump w/ 1-2' x 3/4" sub, prime pump, TIH w/ hook stool, 8- 1 1/2" K bars, 174 3/4", 88- 7/8", 1-8' 7/8" sub and 2-4' 7/8" subs, PU polish rod w/ 1 1/2" liner, space pump out 18" off bottom, hang rods off, SI well and secure, SDFN.</p>	KB	10.0	198 jts	6427.86	TAC	3.0	11 jts	356.75	Seat nipple	1.10	MA	25.10		-----		6823.81	2/9/2012
KB	10.0																	
198 jts	6427.86																	
TAC	3.0																	
11 jts	356.75																	
Seat nipple	1.10																	
MA	25.10																	
	-----																	
	6823.81																	
2/10/2012	0 pressures at WH, MI&RU B&J Hot Oil w/40 bbls oil from production tank, load tubing w/12 bbls and test to 500 psi, bleed pressure down to 250 psi, start pump jack, stroke pump and pressure tubing to 500 psi, release pressure. RD and release B&J, RD&MOL.	2/10/2012																

**Packer Install, 11/15/2012 06:00**

Job Category Completion/Workover	Primary Job Type Packer Install	Start Date 11/15/2012	End Date	Objective Pull rods and set RBP for Brown pad horizontal frac.
-------------------------------------	------------------------------------	--------------------------	----------	---



## Well History

Well Name: Brown 12-2

API 05123240850000	Surface Legal Location SWNW 2 6N 63W	Field Name Wattenberg	State CO	Well Configuration Type Vertical
Ground Elevation (ft) 4,710.00	Original KB Elevation (ft) 4,720.00	KB-Ground Distance (ft) 10.00	Spud Date 8/23/2006 00:00	Rig Release Date 8/27/2006 00:00
On Production Date 11/1/2006				

### Daily Operations

Start Date	Summary	End Date
11/15/2012	ITP-50 psi, ICP-50 psi, ISCP-0 psi, MI&RU Bayou Rig #14. Unhang rods and RD horses head. Unseated pump and LD polish rod. MI&RU B&J Hot Oil Service w/30 bbls claytreat from RT. RU and pump down tubing. Laid down 1-6' 7/8" sub, 1-8' 7/8" rod, and 1-4' 7/8" rod. TOOH with rod configuration: Rod detail: 22' x 1 1/4" polish rod w/1 1/2" liner 6' x 7/8" pony rod 8' x 7/8" pony rod 4' x 7/8" pony rod 88 x 7/8" rods 174 x 3/4" rods 8 x 1 1/2" K bars Hooks tool 2' x 3/4" pony rod 2' x 1 1/4" x 16' x 20' RHAC pump  RD rod equip. Unlanded tbq. and released tbq. anchor. NU BOP. Drain lines, shut in and secured the well for the night.	11/15/2012
11/19/2012	No press. @ WH. TOOH to derrick tallying 2 3/8" 4.7 lb/ft J-55 EUE 8rd production tbq. Pulled 198 jts-6,427.01', TAC-3.0', 11 jts-356.75', seat nipple-1.10' and MA-25.10'. PU WLTC RBP for 4 1/2" casing. TIH w/prod. tbq. and set RBP @ 6,400' w/197 jts., tools and KB. LD 1 jt. and RU circ. equip. Broke circ. and rolled hole clean. Pressured up to 2,000 psi. for 15 min. and RBP held. RD circ. equip. and POOH 10 jts. to the ground. Dropped 1 sack of sand and landed tbq w/186 jts. in the hole. ND BOP and NU well head and master valve. RDMO	11/16/2012
1/2/2013	> Move in and rig in Bayou Well Service rig # 4. Check wellhead pressures. Production casing - 0 psig. Production tubing - 0 psig. Surface casing - 0 psig. Trip tubing in the well and tag fill at +/- 6,355'. Rig in to circulate via the tubing and out the 4 1/2" casing. Move in RMOR toolhand. Latch on to retrievable bridge plug. Release plug. Wait 15 minutes for elements to relax. Trip plug out of the well. Tally and inspect tubing out of the well. Tripped out 186 joints. 1 bad joint replaced. Make up bottom hole assembly. { mud anchor, seat nipple, 11 joints of 2 3/8" tubing and tubing anchor }. followed with 198 joints of 2 3/8" tubing. All hydrotested to 6,000 psig. Pick up tag joints and did not tag fill end of tubing - 6,847.15'. Rig out rig floor. Nipple down the bope, rig in the wellhead. Secure well, shut down for the evening.	1/2/2013
1/2/2013	> Check wellhead pressures. Production casing - 0 psig. Production tubing - 0 psig. Surface casing - 0 psig. Measure and mark 6" below tubing collar. Needing to land tubing with stretch. Calculated stretch for 15,000 lbs of pull over string weight - 28" of stretch. Mark landing joint 28" above the 6" bottom mark. Run tubing down to the 28" mark. Rotate tubing to the right 7 full rotations and set the tubing anchor. Slack off and weight came down to zero weight. Tubing anchor is set. Pull up to the 6" mark with 14,000 lbs of pull. Set the slips and land the tubing at 6,816.36' kb. Rig out and move service rig.  > tubing details > kb - 10'. > 198 joints of 2 3/8" { 2.70lb/ft, j-55 } 6697.48'. total depth - 6,419.41'. > tubing anchor 4.0'. total depth - 6,454.51'. > 11 joints of 2 3/8" { 2.70lb/ft, j-55 } 356.75'. total depth - 6,458.51'. > Seat nipple 1.1'. total depth - 6,815.26' > Mud anchor 25.15'. total depth - 6,816.36' kb.  { NOTE } WELL WILL NEED 1 - 7/8" ROD TO COMPLETE ROD UP.	1/3/2013

### Tubing Repair, 11/15/2012 07:00

Job Category Completion/Workover	Primary Job Type Tubing Repair	Start Date 11/15/2012	End Date 1/3/2013	Objective Place tubing in the well and test.
-------------------------------------	-----------------------------------	--------------------------	----------------------	---

### Daily Operations

Start Date	Summary	End Date

### Wellbore Integrity, 1/3/2014 06:00

Job Category Completion/Workover	Primary Job Type Wellbore Integrity	Start Date 1/3/2014	End Date 1/6/2014	Objective 5K wellhead, pull tbq, set rbp
-------------------------------------	--	------------------------	----------------------	---

### Daily Operations

Start Date	Summary	End Date
1/3/2014	STP 500 psi, SCP 450 psi, not on blow down through production equipment, SSCP 0 psi, MIRU Bayou 022, blew well down to rig tank, control well w/40 bbls Claytreat/Biocide water, ND WH, NU BOP, PU tag jts, TIH w/ 4 jts, tagged @ 6,921.36' w/4, LD tag jts, POOH w/production tbq to derrick w/ 207 jts 2 3/8" J-55 EUE 8rd tbq. no subs, sn/nc, tbq was landed at 6,816.98' KB, RU Pick Testers, PU RMOR's 3 7/8" blade git - 4 1/2" csg scraper, TIH w/production tbq from derrick testing to 6000 psi, found one hole, one bad pin, all other jts tested good, RD tester, circulated down to 6,963.45' KB (PBTDI) and tools w/212 jts, rolled hole clean, LD tag jts, POOH w/207 jts of tbq to derrick, SI and isolate well, drained lines and pump, racked pump and tank, SDFN.	1/3/2014
1/6/2014	SCP 0 psi, SSCP 0 psi, blew well down to rig tank, PU RMOR's 4 1/2" WLTC RBP, TIH w/production tbq, set RBP at 6,449.28' KB and tools w/199 jts 10' out, LD 1 jt, circulated oil and gas out, pressure tested csg/RBP to 2000 psi, test good, POOH LD w/4 jts spotted 2 sks of sand, LD 5 more jts onto ground, LD a total of 18 jts onto ground, Landed well w/ 189 jts 2 3/8" tubing @ 6,125.19'. Installed 5K WH. SI and isolate well, drained lines and pump, racked pump and tank, RDMOL	1/6/2014



## Well History

Well Name: Brown 12-2

API 05123240850000	Surface Legal Location SWNNW 2 6N 63W	Field Name Wattenberg	State CO	Well Configuration Type Vertical
Ground Elevation (ft) 4,710.00	Original KB Elevation (ft) 4,720.00	KB-Ground Distance (ft) 10.00	Spud Date 8/23/2006 00:00	Rig Release Date 8/27/2006 00:00
			On Production Date 11/1/2006	

### Daily Operations

Start Date	Summary	End Date
4/30/2014	ITP 0 psi, ICP 0 psi, ISCP 0 psi, well was shut in, MIRU Ensign Rig 339, open the well, function tested BOP, ND top flange and master valve, NU BOP, pressure tested BOP and pump lines up to 2000 psi, no leaks, PU 10 jts of 2 3/8 J-55 4.7 8rd from the ground, tag sand at 6440 with 199 jts, RU circulating equipment and TIW valve, circulated sand down to the plug at 6449 with 199 jts, roll the hole clean, released the plug, SI and secure well, SD because of high winds.	4/30/2014
5/1/2014	ITP 0 psi, ICP 0 psi, ISCP 0 psi, TOOH with production pipe to the derrick, LD RBP, MIRU Pick testers, PU 2 3/8 seat nipple, RIH with production pipe from the derrick testing in, RD hydrotester, all pipe tested good, land the tubing at 6721.39 KB with 207 jts of 2 3/8 J-55 4.7 8rd and NC/SN (14.61' above perms), RU swab lubricator, made a broach run down to seat nipple (1.901"), LD broach, PU 2" swab cups, RIH with sand line, tag fluid at 2500 ft, made 5 swab runs, made 20 bbls of water back, final fluid level at 3600 ft, final pressures, tubing 0 psi, csg 0 psi, LD swab lubricator, close the well, rack pump and tank, RDMOL, SD.  Tubing details KB 8.00 207 jts 2 3/8 J-55 4.7 8rd 6711.79 NC/SN 1.60 Total 6721.39  IFL at 2500 ft FFL at 3600 ft Made 20 BBL of water final tbg psi- 0 psi final csg psi- 0 psi	5/1/2014

### Mechanical Integrity Test, 9/30/2015 12:00

Job Category Completion/Workover	Primary Job Type Mechanical Integrity Test	Start Date 9/30/2015	End Date	Objective ytyytt
-------------------------------------	---	-------------------------	----------	---------------------

### Daily Operations

Start Date	Summary	End Date
9/30/2015	STP 120 psi, SCP 400 psi, not on blow down through production equipment, SSCP 0 psi, MIRU Ensign 313, held safety meeting, RU rig and all equipment, pressure tested hard lines, blew well down to rig tank, control well w/60 bbls Claytreat/Biocide water, function tested BOP's, ND WH, NU BOP, unlanded tubing, PU tag jts, TIH w/ 4 jts, no tag @ 6,822.41', LD tag jts, POOH w/production tbg to derrick w/ 207 jts 2 3/8" J-55 EUE 8rd tbg, no subs, sn/nc, tbg was landed at 6,697.01' KB SI and isolate well, shut and locked blind rams on BOP's, drained lines and pump, prepared for next day operations, SDFN.	9/30/2015
10/1/2015	SCP 50 psi, SSCP 0 psi, held safety meeting, opened well to rig tank, blew well down, held safety meeting, RU Pick Testers, PU STS bit and scraper dressed for 4 1/2" 10.5# casing, TIH w/production tbg testing to 6000 psi, found 1 jt w/ holes, no splits, all jts tested good, RD tester, RD circulation equipment, rolled hole clean, no communication up surface casing, no signs of holes, LD 5 jts, TOOH standing back w/ tubing to derrick, LD bit and scraper, PU STS's 4 1/2" WLTC RBP, TIH w/production tbg, set RBP at 6,458.61' KB and tools w/200 jts plus 10' out (47.39' above top of Niobrara formation), LD 1 jt, RU circulation equipment, broke circulation, rolled hole for 1 hour rolling out all oil and gas, pressure tested casing to 500 psi w/ rig pump, held for 15 mins, good test, released pressure. SI and isolated well, shut and locked pipe rams on BOP's, drained lines and pump, prepared for next days operations. Will wait until next day to pressure test with hydro-test truck and chart test for 15 mins. State has been notified of scheduled test. SDFN.	10/1/2015
10/2/2015	SCP 0 psi, STP 0 psi, SSCP 0 psi, held safety meeting, open well to rig tank, MIRU Pick Testers, pressured casing to 511 psi, held and charted pressure for 15 mins, 0 psi pressure loss, good test, State Representative was not location to witness test, released pressure, PU 1 jts of tubing, latched onto RBP, released RBP, TOOH standing back to derrick, LD tools, PU NC/SN, TIH with production tubing, ND BOP, land tbg in WH 6,721.01' KB (14.99' above the Codell) w/207 jts plus 3-8' subs, NU WH, did not dropped new PCS full port standing valve and broached to seatnipple w/1.901" broach, RU swab equipment.  ITP-0 psi ICP-0 psi IFL-2400' FFL-5400' Swabed back 35 bbls water FTP-0 FCP-0  isolate well, drained lines and pump, racked pump and tank, RDMOL.  Tbg detail: 207 jts 2 3/8" 4.7# J-55 EUE 8rd 8.0' adj KB 8.0' 6687.41' 6695.41' 3-8' 2 3/8" 4.7# J-ss 8rd EUE sub 24.00' 6719.41' Seatnipple/notched collar 1.60' 6721.01'	10/2/2015



# State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303) 894-2100 Fax: (303) 894-2109



FOR OGCC USE ONLY

## MECHANICAL INTEGRITY TEST

Fill out Part II of this form if well tested is a permitted or pending injection well. Send one copy.

1. Duration of the pressure test must be a minimum of 15 minutes.
2. A pressure chart must accompany this report if this test was not witnessed by a OGCC representative.
3. For production wells, test pressures must be at a minimum of 300 psig.
4. For injection wells, test pressures must be at 300 psig or minimum injection pressure, whichever is greater.
5. A minimum 300 psi differential pressure must be maintained between the tubing and tubing/casing annulus pressure.
6. Do not use this form if submitting under provisions of Rule 320.a. (1) B. or C.
7. OGCC notification must be provided prior to the test.
8. Packers or bridge plugs, etc., must be set within 250 feet of the perforated interval to be considered a valid test.

OGCC Operator Number: 69175		Contact Name and Telephone	
Name of Operator: PDC Energy Inc.		Travis Yenne	
Address: 3801 Carson Ave.		No: 970-506-9272	
City: Evans	State: CO	Zip: 80620	Fax: 970-506-9276
API Number: 05-123-24085		Field Name: Watrenburg	
Well Name: Brown		Field Number: 90750	
Location (QtrQtr, Sec, Twp, Rng, Meridian): SWNW, Sec. 2 T6N R63W		Number: 12-2	
		6 PM	

### Complete the Attachment Checklist

	Operator	OGCC
Pressure Chart		
Cement Bond Log		
Tracer Survey		
Temperature Survey		

☒ SHUT-IN PRODUCTION WELL ☐ INJECTION WELL Facility No.: \_\_\_\_\_

### Part I Pressure Test

- ☐ 5-Year UIC Test ☒ Test to Maintain SI/TA Status ☐ Reset Packer  
☐ Verification of Repairs ☐ Tubing/Packer Leak ☐ Casing Leak ☐ Other (Describe) \_\_\_\_\_

Describe Repairs: \_\_\_\_\_

NA - Not Applicable		Wellbore Data at Time Test		Casing Test <input type="checkbox"/> NA	
Injection/Producing Zone(s) Niobrara Codell		Perforated Interval: 6506'-6572' 6736'-6744'		Use when perforations or open hole is isolated by bridge plug or cement plug Bridge Plug or Cement Plug Depth 6468.61' KR	
Tubing Casing/Annulus Test <input type="checkbox"/> NA					
Tubing Size: 2 3/8"	Tubing Depth: 6436.43'	Top Packer Depth: N/A	Multiple Packers? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
Test Data					
Test Date 10-2-15	Well Status During Test SI	Date of Last Approved MIT NOT Available	Casing Pressure Before Test 0	Initial Tubing Pressure 0	Final Tubing Pressure 0
Starting Casing Test Pressure 511	Casing Pressure - 5 Min. 511	Casing Pressure - 10 Min. 511	Final Casing Test Pressure 511	Pressure Loss or Gain During Test 0	
Test Witnessed by State Representative? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			OGCC Field Representative: _____		

### Part II Wellbore Channel Test

Complete only if well is or will be an injection well.

Indicate method used for cement integrity test, attach appropriate records, charts, or logs unless previously submitted.

- ☐ Tracer Survey Run Date: \_\_\_\_\_ ☐ CBL or Equivalent Run Date: \_\_\_\_\_ ☐ Temperature Survey Run Date: \_\_\_\_\_

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Bud Holman

Signed: [Signature] Title: \_\_\_\_\_

OGCC Approval: \_\_\_\_\_ Date: 10-2-15

Conditions of Approval, if any: \_\_\_\_\_ Date: \_\_\_\_\_

**Pick Testers**  
**Sterling, CO 80751**

**Aaron Pickering**  
**970-520-0279**

PDC Energy  
Brown 12-2  
MIT Test  
API 05-123-24085  
LOC SWNW-SEC 2-6N-63W

Interval: 60 Seconds

DataPoint	LogDate	LogTime	4-P PSI
0		7:59:40 AM	511
1		8:00:40 AM	510
2		8:01:40 AM	509
3		8:02:40 AM	510
4		8:03:40 AM	509
5		8:04:40 AM	511
6		8:05:40 AM	510
7		8:06:40 AM	511
8	10/2/2015	8:07:40 AM	511
9		8:08:40 AM	511
10		8:09:40 AM	511
11		8:10:40 AM	511
12		8:11:40 AM	511
13		8:12:40 AM	511
14		8:13:40 AM	511
15		8:14:40 AM	511

