



## Well History

Well Name: State Lease 81 31-16

API 05123139840000	Surface Legal Location NWNE 16 6N 64W	Field Name Wattenberg	State CO	Well Configuration Type Vertical
Ground Elevation (ft) 4,812.00	Original KB Elevation (ft) 4,825.00	KB-Ground Distance (ft) 13.00	Spud Date 10/9/1988 00:00	Rig Release Date 10/12/1988 00:00
			On Production Date 10/31/1988	

### Job

#### Drilling - original, 10/9/1988 00:00

Job Category Drilling	Primary Job Type Drilling - original	Start Date 10/9/1988	End Date 10/12/1988	Objective Drill a New Codell Well
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#### Daily Operations

Start Date	Summary	End Date

#### Initial Completion, 10/13/1988 00:00

Job Category Completion/Workover	Primary Job Type Initial Completion	Start Date 10/13/1988	End Date 11/10/1988	Objective Complete a New Codell Well
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#### Daily Operations

Start Date	Summary	End Date

#### Workover, 2/4/2003 00:00

Job Category Completion/Workover	Primary Job Type Workover	Start Date 2/4/2003	End Date 6/27/2003	Objective Workover Codell Well
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#### Daily Operations

Start Date	Summary	End Date
2/4/2003	MIRU swab rig. Gauged well pressures, 160/520. By-pass sep., blow down well. Unload 3 bbls. RIH w/plunger fishing tool. Fish & rec. bumper spring, pitted. Drop new bumper spring. RIH w/long broach. Work through tight spot @ 1900'. Drop plunger, chase to btm w/swab. Swab well. FL scat. Rec. 200' fluid. FP blow/120. SI well. Gauged well pressures, 180/420. Cycle well to tank, plunger surface in	
2/5/2003	57 minutes. Rec. 3 bbls. FP 220/220. Drop plunger. SI well. Dig up Braden head valve, no PSI or fluid @ surf. RDMO.	
5/7/2003	MIRU DJR Rig 3. Kill well. NU BOP. Lower tubing. Tag sand at 7055. Tally out. TIH with 3 7/8 bit & scraper. RU swivel. Drill frac baffle. Clean out to 7060. Tubing stuck. Can't rotate or circ. Work pipe for 90 minutes. Pull 75,000# on tubing. Set slips. SWIFN.	
5/8/2003	RU Nuex Wireline. Shoot circ hole at 7064. Couldn't break circ. Work pipe. Moved tubing 12'. Nuex chemical cut tubing at 7044. Chemical cutter stuck. Work Wireline. Pulled free. Slips in set position. Shoot circ hole at 7000'. Establish circulation. Work pipe, still stuck. SIWFN.	
5/9/2003	RU Nuex Wireline. Free pt tubing at 6990. Run chemical cutter. Chemical cut tubing at 6990. TOOHH with tubing. TIH with 100' of wash over pipe. Tag top of tubing 6990. RU power swivel. Mill & circ down to top of 4 1/2 scraper. (Returns - scale) TOOHH with 100 jts. SIWFN.	
5/10/2003	TOOHH with wash over pipe. SWIFWE. Shut down due to weather conditions.	
5/12/2003	TIH with 3 7/8 tubing overshot. Rotate over top of fish at 6990. Pull 2000# over string weight. TOOHH no fish. TIH stack out at 6990. Rotate down to 7000. Latch onto top fish. TOOHH with overshot. Recovered 57' of 2 3/8 tubing. TIH with overshot. Rotate over top of fish. Set jars off 3 times. Scraper pulled free. TOOHH with tubing, jar and overshot. Recovered bit & scraper. SWIFN. Note: Tight spot 5' long at 6990'.	
5/13/2003	Nuex perf Codell 7041 to 7049 with 3 1/8 slick gun 3 spf 60 deg phase 24 shots. TIH with Arrowset frac packer. Set packer at 6300'. Test backside to 1500#. Release packer. Set packer with 4 jts 2 3/8 N-80 211 jts of 2 7/8 N-80 at 6980 KB. Test packer. Flange up wellhead. Install frac valves.	
5/14/2003	MIRU Halliburton. ReFrac'd the Codell with 2636 bbl SilverStim 28# fluid system, 218260 # of 20/40 mesh white sand and 8000# of 20/40 mesh AcFrac Black resin coated sand. Perfs @ 7041'-49'. Breakdown @ 3252 psig; MTP - 5271 psig; ATP - 4441 psig; AIR - 14.5 bpm; 4 ppa sand; ISIP - 3367 psig; Flushed with 40.8 bbl down 2 7/8" tubing. Open well to tank on 20/64 choke.	
5/15/2003	Well on flowback after Re-frac. Recovered 620 bbls. Kill well. Release Arrowset packer. Lay down frac string. TIH with NCSN 226 jts, tag sand at 7016'. Circ sand out from 7016 to 7080. Circ clean. Land tubing NCSN 225 jts + (2) 8' subs at 7028 KB. Flanged up wellhead. SWIFN	
5/16/2003	IFL 1700'. Made 2 swab runs. Broach tubing to SN 7028 KB. Drop standing valve. Seat standing valve in SN. Swab test well. Recovered 130 bbls. Final tbg press blow. Csg press 200 psi. FFL 4300'. Rig down. SWIFN.	
5/23/2003	MIRU. ITP 0. ICP 250. TIH with swab. IFL 4500. Made 3 runs. FFL dry. FTP 50. FCP 180. SDFN.	
5/27/2003	Check well pressures, 550/650. Blow down well through separator. Did not bring fluid. By-pass separator. Flow 2 bbls. Swab well. SFL@ 2,2,40'+g.c. FFL scattered. Rec. 43 bbls. FP blow/200. SI well.	
5/28/2003	Check well pressures, 825/875. Blow down well to separator. Choke plugged off. By-pass separator. Flow well to tank. Flow 8 bbls, went to gas. SI well. FP 475/550. RDMO.	
6/9/2003	RU DJR Rig #4. Blow well down. Install fishing tool. Fish plunger. Fish standing valve. Hook up hot oil truck. Load and test (20 bbls). Tested to 1000 psi. Pressure dropped to "0". Pick up swab. Kick well off. SDFN.	
6/10/2003	Tbg 150 psi/csg 100 psi. Run in hole w/swab. FL @ 3800'. Swabbed down to 5200'. Lay down swab. Fish standing valve. Clean up flowline. RDMO.	
6/12/2003	MIRU DJR Rig #3. Bled well down & rig up hot oiler. Pump 120 bbls to tubing & circulate to the tank battery. Un-flange wellhead & install BOP. Pull 225 jts + 16' subs. RU hydro tester & started testing. Tested 165 jts and found 3 jts with leaks. Shut in well & SDFN.	



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			On Production Date 10/31/1988	

### Daily Operations

Start Date	Summary	End Date
6/13/2003	TP = 60 psi/CP = 15 psi. RU hydro tester & test the rest of the tubing. Replace 3 bad joints. Remove a 3' sub & replace with a 4' sub. Remove the BOP & land tubing. RU swab equipment. Broach the tubing & push down the standing valve with the broach. Rig down DJR Rig #3 & clean location.	
6/16/2003	MIRU DJR Rig #4. Check pressures: TP = 0/CP = 700 psi. Pick up swab & RIH. Hit FL @ 3600'. Made 2 runs & close well in. SDFN.	
6/17/2003	Check well. TP = 20/CP = 925 psi. Bleed down tubing & RIH with swab. IFL @ 3600'. Made 3 runs & well started flowing. Turn into the flow line & monitor flow. Ending pressures: TP = 540/CP = 810 psi. Recover 7 bbls fluid. RDMO & clean location	
6/26/2003	MIRU. Check well pressures, 425/550. Cycle plunger/blow down well. RIH w/plunger & fishing tool. Fish & rec. bumper spring. SN @ 7,045' MD. RIH w/sinker bar. Tagged sand fill @ 7,094' MD. Drop bumper spring. Seat bumper spring. Swab well. FL scattered. Rec. 750' fluid. Drop mini "L" plunger. FP 180/250. SI well.	
6/27/2003	RDMO.	

### Mechanical Integrity Test, 8/18/2015 06:00

Job Category Completion/Workover	Primary Job Type Mechanical Integrity Test	Start Date 8/18/2015	End Date	Objective Test tubing, set RBP, test and chart casing, install production tubing
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### Daily Operations

Start Date	Summary	End Date
8/18/2015	STP 700 psi, SCP 600 psi, not on blow down through production equipment, SSCP 0 psi, MIRU Ensugn 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/ 2 jts, tagged @ 7,098.55', LD tag jts, POOH w/production tbg to derrick w/ 225 jts 2 3/8" J-55 EUE 8rd tbg, 1-4' & 1-8' subs, sn/nc, tbg was landed at 7,053.55' KB, 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, all jts tested good, RD tester, RD circulation equipment, rolled hole clean, no communication up surface casing, no signs of holes, LD 5 jts, TOO H standing back w/ 30 jts tubing to derrick, leaving 192 jts in hole @ 5996.49', SI and isolate well, shut and locked pipe rams on BOP's, drained lines and pump, prepared for next day operations, SDFN	8/18/2015
8/19/2015	SCP 0 psi, STP 0 psi, SSCP 0 psi, held safety meeting, opened well to rig tank, control well w/20 bbls Claytreat/Biocide water, finished POOH w/192 jts of tbg to derrick, LD bit and scraper, PU STS's 4 1/2" WLTC RBP, TIH w/production tbg, set RBP at 6,707.33' KB and tools w/215 jts 15' out (34.67' 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.	8/19/2015
8/20/2015	SCP 0 psi, STP 0 psi, SSCP 0 psi, held safety meeting, open well to rig tank, MIRU Pick Testers, pressured casing to 500 psi, held and charted pressure for 15 mins, 1 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, TOO H standing back to derrick, LD tools, PU NC/SN, TIH with production tubing, ND BOP, land tbg in WH 7,025.36' KB (15.65' above the Codell) w/224 jts plus 2-8' 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-1200'                      FFL-4000' Swabed back 80 bbls water FTP-blow                      FCP-50 psi Made 18 swab runs  isolate well, drained lines and pump, racked pump and tank, RDMOL.  Tbg detail:                      10.0' adj KB                      10.0' 224 jts 2 3/8" 4.7# J-55 EUE 8rd                      6997.75'                      7007.75' 1-8' 2 3/8" J" 4.7# J-55 EUE 8rd sub                      8.0'                      7015.75' 1-8' 2 3/8" J" 4.7# J-55 EUE 8rd sub                      8.0'                      7023.75' Seatnipple/notched collar                      1.60'                      7025.35'	8/20/2015



# 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 original plus 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 326.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

Name of Operator: PDC Energy Inc.

Address: 3801 Carson Ave.

City: Evans

State: CO

Zip: 80620

Contact Name and Telephone

Travis Yenne

No: 970-506-9272

Fax: 970-506-9276

API Number: 05-123-13984

Field Name: Watenberg

Field Number:

Well Name: State Lease B1

Number: 31-16

Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNE 16 6N 64W

## Complete the Attachment Checklist

	Op	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)		Perforated Interval: <input type="checkbox"/> NA		Use when perforations or open hole is isolated by bridge plug or cement plug	
Codell / Niobrara		6742 - 7041 / 6927 - 7049		Bridge Plug or Cement Plug Depth	
				6707.33	
Tubing Casing/Annulus Test <input type="checkbox"/> NA					
Tubing Size: 2 3/8"		Tubing Depth: 6699.83		Top Packer Depth: 7/19	
				Multiple Packers? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Test Data					
Test Date	Well Status During Test	Date of Last Approved MIT	Casing Pressure Before Test	Initial Tubing Pressure	Final Tubing Pressure
8/20/15	Shut In		0 psi	0 psi	0 psi
Starting Casing Test Pressure	Casing Pressure - 5 Min.	Casing Pressure - 10 Min.	Final Casing Test Pressure	Pressure Loss or Gain During Test	
517 psi	516 psi	516 psi	516 psi	1 loss psi	
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

☐ CBL or Equivalent

☐ Temperature Survey

Run Date:

Run Date:

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: CHAD SAPIORS

Signed: [Signature]

Title: Workover Pkg Supervisor

Date: 8/20/15

OGCC Approval:

Title:

Date:

Conditions of Approval, if any:

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

**Guy Dove**  
**970-520-2769**

State Lease 81 31-16  
M.I.T. casing test

Chad Sailors  
PDCE

API# 05-123-13984  
NWNE 6N-64W-16

Interval: 60 Seconds

DataPoint	LogDate	LogTime	2-P PSI
0		8:07:08 AM	517
1		8:08:08 AM	517
2		8:09:08 AM	517
3		8:10:08 AM	516
4		8:11:08 AM	516
5		8:12:08 AM	516
6		8:13:08 AM	516
7		8:14:08 AM	516
8	8/20/2015	8:15:08 AM	516
9		8:16:08 AM	516
10		8:17:08 AM	516
11		8:18:08 AM	516
12		8:19:08 AM	516
13		8:20:08 AM	516
14		8:21:08 AM	516
15		8:22:08 AM	516

