



Well History

Well Name: State 5519 8-43

API 05123199240000	Surface Legal Location NESE 8 5N 63W	Field Name Wattenberg	State CO	Well Configuration Type Vertical
Ground Elevation (ft) 4,724.00	Original KB Elevation (ft) 4,736.00	KB Ground Distance (ft) 12.00	Spud Date 3/13/2000 00:00	Rig Release Date 3/16/2000 00:00
			On Production Date 4/10/2000	

Job

Drilling - original, 3/13/2000 00:00

Job Category Drilling	Primary Job Type Drilling - original	Start Date 3/13/2000	End Date 3/16/2000	Objective Drill a new Codell producer
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Daily Operations

Start Date	Summary	End Date

Initial Completion, 3/16/2000 00:00

Job Category Completion/Workover	Primary Job Type Initial Completion	Start Date 3/16/2000	End Date 4/30/2000	Objective Complete the Codell
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Daily Operations

Start Date	Summary	End Date

Fracture Treatment, 12/8/2010 06:00

Job Category Completion/Workover	Primary Job Type Fracture Treatment	Start Date 12/8/2010	End Date 1/25/2011	Objective Annular fill f/TOC-surface, re frac Codell and re complete Niobrara Niobrara "A" & "B"
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Daily Operations

Start Date	Summary	End Date
12/8/2010	ITP-400 psi, ICP-540 psi, ISCP-0 psi, MI&RU Ensign WS Rig #301. ND Production equipment and NU pump lines to WH, blow well down to RT. Controll well w/30 bbls down tubing and 30 bbls down casing w/ clay treat and biocide. Unpack tubing head and NU BOP. PU tag jts, ran in 129.88' and did not tag fill. Lay down tag jts, TOO H tallying 2 3/8" J-55 4.7# eue 8rd production tubing. Pulled 1-4', 1-6' sub & 218 jts=6,746.43', tubing was landed @6,766.03' sn & KB, SI well and secure, SDFN.	12/8/2010
12/9/2010	ICP-0 psi, MI&RU Pick Testers, PU RMOR 3 7/8" blade bit w/ 4 1/2" 10.5# casing scraper. TIH testing 218 jts 2 3/8" production tubing to 6 K psi, blew 2 jts, all other tubing tested. RD and release tester, PU tag jts, tagged PBTD @ 6,942.74' w/ tools and KB w/ 224 jts (no sand fill). Lay down 8 tag jts, TOO H to derrick w/ 216 jts, lay down tools. PU RMOR 4 1/2" 10.5# 10 K WLTC RBP, TIH out of derrick, set RBP @ 6,724.89' KB w/ 217 jts. Lay down 1 jt, load casing and test to 1,500 psi f/ 10 minutes, good test. Release pressure, pull 10 stands, dump 2 sks sand and displace w/ 20 bbls. TOO H to derrick, lay down tools. Drain pump and lines, SI well and secure, SDFN.	12/9/2010
12/10/2010	ICP-0 psi, ISCP-0 psi, ND BOP and tubing head, unpack casing head, pull casing slips out @86 K lbs, work casing-16" of stretch, free point estimated @1,193' . NU annular flanges, TIH PU 1 1/4" 3.02 lb CSHD, tag fill-TOC @ 1,970' KB w/63 jts (tagged multiple bridges below surface casing-circulated to get through), break circulation, circulate @1.5 bpm @ 1,500 psi. Condition hole f/3hrs, unable to make more hole, RD rig pump lines. MI&RU BJS, hold prejob safety and procedure meeting, pressure test lines to 4 K psi. 1st stage:EOT set @ 1,970' w/63 jts, batch and pump 141 sks of PLC + 4% +.6% Sodium Metasilicate + 8 lbs/sk CSE-2 11# 3.22 yield (81 bbls) displace 1 bbls Est. TOC @surface, returned 10 bbls to tank. Note: PLC-open hole calculations were figured @ 10" open hole w/ 4 1/2" casing f/1,970'-410' Surface casing-8 5/8" 24# x 4 1/2" 410'-surafce RD and release BJS, unflange annular flanges and reland casing in slips @ 86K lbs, pack casing head off, SI well and secure, SDFN	12/10/2010
12/13/2010	ICP-0 psi, ISCP-0 psi, MI&RU Superior Well Services, PU 1 11/16" logging tools. Logg annular fill F/3,500'- surface (Est.original TOC-above 3,300') , ran Gamma, V.D.L., C.B.L. and CCL, found good bond through out, RD loggers. PU RMOR 4 1/2" 11.6# WLTC retrieving head, TIH out of derrick, tag sand fill @6,709.23 RBP w/ 217 jts, RU circulating equipment and break circulation, wash sand off plug, circulate tubing clean. Release RBP, TOO H laying down 217 jts 2 3/8" production tubing on Jones Transportation tubing float, lay down tools. Change over to 2 7/8" equipment, prepare for next day operations, SI well and secure, SDFN.	12/13/2010
12/14/2010	0 psi @ WH, MI&RU Superior Well Services. PU 3 1/8" CCL and 3 1/8" select fire slick gun. Correlate open hole loggs and cased hole loggs to get on depth, perforate Codell f/6,768'-76' (8') 3spf, 120 degree phasing, 19 gram shots, .41" entry hole and 21.12" penetration, RD and release wireline. MI&RU Pick Testers, PU RMOR 4 1/2" 11.6# 10 K AS1 casing packer, test packer to 8 K psi, good test. TIH tallying and testing 2 7/8" N-80 6.5# eue work string (VVS 303).Tested 203 jts, found 6 collars leaks, replaced 2 collars, all other tubing tested good. RD tester and release, set packer @ 6,538.14' KB w/ 203 jts, load casing and test packer to 1,000 psi f/10 minutes, good test-no communication, release pressure, install 3" 15K Halliburton frac valve, drain pump and lines, SI well, RD&MO to J&L Farms #23-29.	12/14/2010
12/19/2010	ITP-0 psi, ICP-0 psi, MI&RU Lightning Wire Line, run in hole w/ 1.25" sinker bar, tagged sand fill @ 6,934' KB (156' of rat hole below Codell perfs), RD and release wire line. MI&RU Ensign Rig #301, RU pump lines to WH, load tubing w/11 bbls, casing was loaded. ND frac valve and NU BOP, release RMOR 4 1/2" AS1 casing packer. Circulate oil and gas out to RT. Lay down 9 jts 2 7/8", TOO H to derrick w/194 jts and lay down tools. MI&RU Superior Well Services, NU pack off, PU 3 1/8" CCL w/ Owens 4 1/2" 10K WLS CIBP, set CIBP @6,740' w/ 2 sks cement on top, pressure test CIBP to 1,700 psi, good test. PU 3 1/8" CCL w/ 3 1/8" select fire guns. Correlate open hole loggs w/ cased hole loggs, perforate Niobrara "B" f/6,602'-6,610' 3spf 24 shots, Niobrara "A" f/6,507'-6,509' 2 spf 120 degree phasing w/ 3 1/8" slick gun, "HERO" charges, 21 grams, .35" hole & 38.09" penetration, RD and release Superior, SI well and secure, SDFN.	12/19/2010



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			On Production Date 4/10/2000	

Daily Operations

Start Date	Summary	End Date
12/20/2010	ICP-0 psi, MI&RU Pick Testers, PU RMOR 4 1/2" 11.6# 10K AS1 casing packer, test packer to 8 K psi, good test. TIH out of derrick w/ 2 7/8" frac string, tested 194 jts, had 2 collar leaks, all other tubing tested good, test tubing hanger, good test. ND BOP, set packer @ 6,345.17' KB (161.83' above top Niobrara perf) W/ 193 jts, pack tubing head off, test packer to 1,500 psi, good test-no communication. Install Halliburton 3" 15K frac valve, SI well and secure, RD&MO to SLW Ranch #32-7.	12/20/2010
1/24/2011	STP 450 psi open flowing to sales, SCP 0 psi, SSCP 0 psi, MIRU Bayou rig 001, blew well down to FBT, control well w/30 bbls Claytreat/Biocide water, ND WH, NU BOP, release PKR, POOH laying down 2 7/8" workstring and tools, PU 3 7/8" cone bit/bit sub, TIH picking up tallying previously tested 2 3/8" production tbg, 183 jts in at 5669' KB, isolate well, SDFN.	1/24/2011
1/25/2011	STP 350 psi, SCP 210 psi, SSCP 0 psi, blew well down to rig tank, control well w/30 bbls treated fluid, continue TIH w/production tbg, tagged sand fill at 6620' KB and tools w/214 jts, RU to clean out and drill up cmt/CIBP, broke circulation and circulated down tagging cmt at 6730' KB and tools, drilled up cmt and CIBP and chased to 6940' KB and tools, rolled hole clean, POOH w/tbg to derrick, LD bit, PU new standard 2 3/8" sn/nc, TIH w/production tbg, ND BOP, land tbg at 6751.48' KB w/18' of tbg subs - 217 jts 2 3/8" 4.7# J-55 EUE 8rd tbg - sn/nc, NU WH, dropped new PCS full port standing valve and chased to seatnipple w/1.901" broach, isolate well, RDMO.	1/25/2011

Mechanical Integrity Test, 7/15/2014 06:00

Job Category Completion/Workover	Primary Job Type Mechanical Integrity Test	Start Date 7/15/2014	End Date 7/15/2014	Objective Run bit and scraper, set a RBP to test the casing
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Daily Operations

Start Date	Summary	End Date
7/15/2014	ITP 1200 psi, ICP 1200 psi, ISCP 0 psi, well was shut in, MIRU Ensign Rig 339, had trouble spotting in the equipment because of sand, blow down well to work tank, function test BOP, control well with 60 BBL, MIRU Pick testers, POOH 2 3/8" production pipe to derrick, testing out, RD the tester, come out with 217 total, 216 good jts and 1 hole, SI and secure well, SD.	7/15/2014
7/16/2014	ICP 100 psi, ISCP 0 psi, blow down well to work tank, PU STS's 3 7/8 blade bit and 4 1/2 scraper, tally in the hole with production pipe, ran 217 jts down to 6730, TOO H to derrick, LD bit and scraper, PU STS's 4 1/2 TC RBP, RIH with production pipe, set RBP at 6487.18 KB with 209 jts, LD 1 jt, circulated oil and gas out, MIRU pick testers, pressure tested csg and plug up to 500 psi, recorded the test for 15 min, had a 8 psi gain in 15 minutes, PU 1 jt, release the plug, POOH with production pipe to the derrick, LD RBP, PU NC/SN, RIH with production pipe from the derrick, ran 90 jts in the hole down to 2794, Si and secure well, SD.	7/16/2014
7/17/2014	ITP 50 psi, ICP 50 psi, ISCP 0 psi, blow down well to work tank, finish tripping in the hole with production pipe from the derrick, land the tubing at 6756.02 KB with 217 jts of 2 3/8 J-55 4.7 1-8', 1-6' and 1-4' subs and NC/SN, (11.98 above perms.) ND BOP, RU swab lubricator, made a broach run (1.901") down to seat nipple, LD broach, PU 2" swab cups, started swabbing, tag fluid at 2300 ft, made 11 swab runs, recovered 64 BBL, final fluid level at 2400 ft, final pressures, tubing small blow and casing 500 psi, RD swab lubricator, close the well, rack pump and tank, RDMOL. KB 10.00 Sub 2 3/8 J-55 8.00 Sub 2 3/8 J-55 6.00 Sub 2 3/8 J-55 4.00 217 jts 2 3/8 J-55 6726.42 NC/SN 1.60 Total 6756.02 IFL at 2300 ft FFL at 2400 ft Made 64 BBL of water final tbg psi- small blow final csg psi- 500 psi	7/17/2014

Mechanical Integrity Test, 7/31/2015 06:00

Job Category Completion/Workover	Primary Job Type Mechanical Integrity Test	Start Date 7/31/2015	End Date	Objective Test Tubing, Set RBP, chart and test casing, release RBP, install production tubing. MIT procedures
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Daily Operations

Start Date	Summary	End Date
7/31/2015	STP 1400 psi, SCP 1400 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 @ 6,877.91', LD tag jts, POOH w/production tbg to derrick w/ 217 jts 2 3/8" J-55 EUE 8rd tbg, 1-4', 1-6' and 1-8' subs, sn/nc, tbg was landed at 6,748.31' 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, TOO H standing back w/ 30 jts tubing to derrick, leaving 187 jts in hole @ 5799.77', SI and isolate well, shut and locked pipe rams on BOP's, drained lines and pump, prepared for next day operations, SDFN	7/31/2015



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On Production Date 4/10/2000				

Daily Operations

Start Date	Summary	End Date
8/3/2015	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/187 jts of tbg to derrick, LD bit and scraper, PU STS's 4 1/2" WLTC RBP, TIH w/production tbg, set RBP at 6,469.55' KB and tools w/209 jts 10' out (37.45' 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.	8/3/2015
8/4/2015	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, 3 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 6,749.31' KB (18.69' above the Codell) w/217 jts plus 1-4', 1-6' and 1-8' 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-4300' Swabed back 80 bbls water FTP-blow FCP-50 psi Made 19 swab runs isolate well, drained lines and pump, racked pump and tank, RDMOL. Tbg detail: 217 jts 2 3/8" 4.7# J-55 EUE 8rd 9.0' adj KB 9.0' 1-4' 2 3/8" J" 4.7# J-55 EUE 8rd sub 6720.71' 6729.71' 1-4' 2 3/8" J" 4.7# J-55 EUE 8rd sub 4.0' 6733.71' 1-6' 2 3/8" J" 4.7# J-55 EUE 8rd sub 6.0' 6739.71' 1-8' 2 3/8" J" 4.7# J-55 EUE 8rd sub 8.0' 6747.71' Seatnipple/notched collar 1.60' 6749.31'	8/4/2015



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: 05-123-19924

Field Name: Wattenberg

Field Number:

Well Name: State 5519

Number: 8-43

Location (QtrQtr, Sec, Twp, Rng, Meridian): NESE 5N-63W-8

Complete the Attachment Checklist

OGCC

	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 S/TA Status

☐ Reset Packer

☐ Verification of Repairs

☐ Tubing/Packer Leak

☐ Casing Leak

☐ Other (Describe):

Describe Repairs:

NA - Not Applicable

Wellbore Data at Time Test

Injection/Producing Zone(s)

Codell/Niobrara

Perforated Interval:

☐ NA

Open Hole Interval:

☐ NA

6507'-6610' / 6768'-6778'

Casing Test

☐ NA

Use when perforations or open hole is isolated by bridge plug or cement plug
Bridge Plug or Cement Plug Depth

6469.55'

Tubing Casing/Annulus Test

☐ NA

Tubing Size:

2 3/8"

Tubing Depth:

6461.78'

Top Packer Depth:

N/A

Multiple Packers?

☐ YES

☒ NO

Test Data

Test Date

8/4/15

Well Status During Test

Shut In

Date of Last Approved MIT

Casing Pressure Before Test

0.25i

Initial Tubing Pressure

0.25i

Final Tubing Pressure

0.25i

Starting Casing Test Pressure

537 psi

Casing Pressure - 5 Min.

534 psi

Casing Pressure - 10 Min.

534 psi

Final Casing Test Pressure

534.25i

Pressure Loss or Gain During Test

3.25i loss

Test Witnessed by State Representative?

☐ YES

☒ 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 Sailors

Signed: [Signature]

Title: Workover Rig Supervisor

Date: 8/4/15

OGCC Approval:

Title:

Date:

Conditions of Approval, if any:

Pick Testers
Sterling,CO 80751

Guy Dove
970-520-2769

State Lease 5519 # 43-8

Chad Sailors

M.I.T.

NESE 5N-63W-8

API # 05-123-19924

Interval: 60 Seconds

DataPoint	LogDate	LogTime	2-P PSI
0		8:18:52 AM	537
1		8:19:52 AM	536
2		8:20:52 AM	536
3		8:21:52 AM	534
4		8:22:52 AM	534
5		8:23:52 AM	534
6		8:24:52 AM	534
7		8:25:52 AM	534
8	8/4/2015	8:26:52 AM	534
9		8:27:52 AM	534
10		8:28:52 AM	534
11		8:29:52 AM	534
12		8:30:52 AM	534
13		8:31:52 AM	534
14		8:32:52 AM	534
15		8:33:52 AM	534

