



Well History

Well Name: M&M 4-10

API 05123132250000	Surface Legal Location NWNW 10 5N 65W	Field Name Wattenberg	State CO	Well Configuration Type Vertical
Ground Elevation (ft) 4,621.00	Original KB Elevation (ft) 4,630.00	KB Ground Distance (ft) 9.00	Spud Date 10/29/1986 00:00	Rig Release Date On Production Date

Job

Drilling - original, 10/29/1986 00:00

Job Category Drilling	Primary Job Type Drilling - original	Start Date 10/29/1986	End Date	Objective Drill a new Nio/Codell Well
--------------------------	---	--------------------------	----------	--

Daily Operations

Start Date	Summary	End Date

Initial Completion, 10/30/1986 00:00

Job Category Completion/Workover	Primary Job Type Initial Completion	Start Date 10/30/1986	End Date	Objective Complete a new Nio/Codell Well
-------------------------------------	--	--------------------------	----------	---

Daily Operations

Start Date	Summary	End Date

Workover, 2/19/1997 00:00

Job Category Completion/Workover	Primary Job Type Workover	Start Date 2/19/1997	End Date	Objective Squeeze cmt & Niobrara completion
-------------------------------------	------------------------------	-------------------------	----------	--

Daily Operations

Start Date	Summary	End Date

Recompletion, 10/1/2000 00:00

Job Category Completion/Workover	Primary Job Type Recompletion	Start Date 10/1/2000	End Date	Objective Refrac Codell
-------------------------------------	----------------------------------	-------------------------	----------	----------------------------

Daily Operations

Start Date	Summary	End Date

Workover, 4/1/2003 00:00

Job Category Wellwork	Primary Job Type Workover	Start Date 4/1/2003	End Date	Objective
--------------------------	------------------------------	------------------------	----------	-----------

Daily Operations

Start Date	Summary	End Date
3/31/2003	MIRU Action. IP 600/600, IFL - 3800'. Blew down to separator. Made 1 run. Plunger came up turned to gas, shut well in. FP - 300/400, FFL - 3800'. Left plunger out. RDMO (action)	4/1/2003

Maintenance, 2/10/2006 00:00

Job Category Wellwork	Primary Job Type Maintenance	Start Date 2/10/2006	End Date	Objective
--------------------------	---------------------------------	-------------------------	----------	-----------

Daily Operations

Start Date	Summary	End Date
2/9/2006	MIRU Key Energy. ITP 165 ICP 150. Blew dwn tbg. 1st swab run fl @ 4600' depth 6000' pulled 1600' water. 2nd run fl @ 5000' dpth s/n plld 1500' fld. 3rd rn fl @ 5200' d,s/n plld 1500' fld flowed bck 10 to 15 minutes after run. 4th run fl @ 5300 d s/n 7200' plld 800' of fld flow for 10 min went died. 5th run fl @ 6300' dpth s/n pulled 800' fld let flow bck for 20min, plngr up. SIMO	2/10/2006
2/12/2006	MIRU Key Energy. Get pressures open well unload to tank floating bumper spring came up pulled.TFP 120FCP 180 RDMO	2/13/2006

Recompletion, 5/29/2008 00:00

Job Category Wellwork	Primary Job Type Recompletion	Start Date 5/29/2008	End Date	Objective Niobrara re-frac
--------------------------	----------------------------------	-------------------------	----------	-------------------------------

Daily Operations

Start Date	Summary	End Date
5/28/2008	MI, spot PU & equip. SDON.	5/29/2008
5/29/2008	WTP=200#, WCP=200#, bled off press & kill well w/ 50 bbls 2% KCL. ND the WH, NU x-over flange & the BOPs. RIH w/ tbg, tag TOF w/ 221-jts @ 7018' MD & TOH w/ tbg tallying. Laid down prod equip, RU Anytime Testing & made up bit & scraper. TIH w/ tbg hydro testing to 7k, RD tester & NU the J-U head. Load the hole, washed to 7045' MD w/ 222-jts & rolled the hole clean, ND the J-U & TOH w/ tbg. Laid down the B&S, secured the well & SDOW.	5/30/2008
6/1/2008	SIP=0#. RU J-W Wireline, made up a Owen 4 1/2"x 10,000# CIBP & RIH. Ran a csg collar strip & correlated w/ a fax copy of a CCL / Gamma Ray log. Tied in to the csg collars & set the top of the CIBP @ 6948' WD. Dump bailed 1sx of cmt on top of the plug (est TOC @ 6938' WD). Made up a 3 1/8"x 22' slick gun, RIH & perforated @ 6862'-6866', 6868'-6874' & 6880'-6884'. Made up a 3 1/8"x 22' slick gun, RIH & perforated @ 6794'-6816'. Made up a 3 1/8"x 22' slick gun, RIH & perforated @ 6664'-6685'. All shots were 6-jspf, 60 deg phasing, 23 gram, 20.45" penetration, .42" entry (342-perfs), RD EWL. Make up PKR w/ RBP, TIH w/ tbg & set the RBP @ 6535' MD. Loaded the hole & tested the csg to 500# for 20-min (good test) bled off press. Released the RBP, RIH w/ tbg & set the RBP @ 6892' MD. PUH w/ tbg, secured the well & SDON.	6/2/2008



Well History

Well Name: M&M 4-10

API 05123132250000	Surface Legal Location NWNW 10 5N 65W	Field Name Wattenberg	State CO	Well Configuration Type Vertical
Ground Elevation (ft) 4,621.00	Original KB Elevation (ft) 4,630.00	KB Ground Distance (ft) 9.00	Spud Date 10/29/1986 00:00	Rig Release Date On Production Date

Daily Operations

Start Date	Summary	End Date
6/2/2008	SITP=#, SICP=# RU Halliburton, spotted 500 gals 15% HCL & PUH w/ tbg. Set the PKR @ 6855' MD & press up csg to 1000#. Broke down the Nio C bench @ 4505# pumping 1.4 bpm. Increase rate to 3.4 bpm @ 4422#, ISIP= 3697#, 5-min=1079#. Bled off the press, released the tools & PUH. Set the RBP @ 6824' MD, RU Halliburton & spotted 500 gals 15% HCL. PUH w/ the tbg, set the PKR @ 6763' MD & press up csg to 1000#. Broke down the Nio B bench @ 2929# pumping 2.1 bpm. Increase rate to 4.3 bpm @ 4663#, ISIP=3644#, 5-min =1629#. Bled off the press, released the tools & PUH. Set the RBP @ 6763' MD, RU Halliburton & spotted 500 gals 15% HCL. PUH w/ the tbg, set the PKR @ 6636' MD & press up csg to 1000#. Broke down the Nio A bench @ 3598# pumping 1.7 bpm. Increase rate to 3.9 bpm @ 4387#, ISIP=3523#, 5-min=523#, RD Halliburton. Bled off the press, released the tools & POH w/ tbg laying down. Secured the well & SDON.	6/3/2008
6/3/2008	SITP=0#, SICP=0#. ND the BOPs, x-over flange & NU the WH. RDPU & MO equip. Waiting on frac string.	6/4/2008
6/8/2008	MI, RUPU & equip. ND WH, NU the BOPs & SDON.	6/9/2008
6/9/2008	SIP=0#, open well & RU H-S Testing. Made up a 2 3/8"x 4 1/2" Arrowset 1 PKR, TIH w/ 8-jts 2 3/8" CS hydriil= 249' & 185-jts 2 7/8" buttress tbg= 6156' hydro testing to 8k, RD tester. ND the BOPs, set the PKR @ 6405' MD & loaded the hole. NU 5k WH w/ 10k frac valve, press test csg & PKR to 500# for 20-min (good test) bled off the press. Secured the well, RDPU & MO equip. Spot & fill frac tanks.	6/10/2008
6/10/2008	MI & RU Halliburton Services, SITP=135#, SICP=192#. Press csg up to 500#, load tbg w/ 16 bbl & rollover in to the Niobrara formation at 3455# pumping @ 4.2 bpm. Displace 500 gal 15% HCL to the perforations, ISIP=3356#, 5-min=2835# (.937 IFFG). Stimulate the Niobrara w/ 266 bbls of FDP pre-pad, 1429 bbls of FR pad & 2383 bbls of Silverstim fluids. 239,625# of Ottawa 30/50 sand & 14,808# of SB Excel 12/20 sand. Press: max/min/avg 6936/5896/6515, Rate: max/min/avg 26.1/24.1/24.9. Average temp=67.7 degs, Average viscosity=24.4 cp. ISIP=3743#, 5-min=3523# (.995 IFFG). Start well on flowback w/ a 18/64th choke @ 10:35 AM w/ 3350# SIP & 2450# FP, RDMO Halliburton.	6/11/2008
6/12/2008	Well flowed back 339 bbls of water & then died. MI, RUPU & equip. SDOW.	6/13/2008
6/15/2008	SIP=850#, bled bled off press & kill well w/ 35 bbls 2% KCL, ND frac valve & NU the BOPs. Unset the frac PKR & TOH w/ frac string laying down. Laid down frac PKR, made up prod equip & start in the hole w/ prod tbg. Well kicked several times while running tbg & had to NU the J-U head. Secured the well w/ 81-jts in the hole & SDON.	6/16/2008
6/16/2008	SITP=750#, SICP=500#, bled down press & kill tbg w/ 15 bbls 2% KCL. RIH w/ remaining tbg off the rack tallying & tagged TOF w/ 211-jts @ 6878' MD. Loaded the hole, washed to PBTD w/ 213-jts @ 6941' MD & rolled the hole clean. Laid down 5-jts & landed prod equip as follows= 2 3/8" SN w/ notched collar (SN @ 6637' MD) & 208-jts 2 3/8" 4.7# J-55 tbg to surface. ND the BOPs & NU WH. Broached tbg to the SN & the well kicked off. Let it unload to the rig tank, secured the well & recovered 35 bbls. RDPU, MO equip & return well to production. FINAL REPORT	6/17/2008

Mechanical Integrity Test, 4/10/2015 11:00

Job Category Completion/Workover	Primary Job Type Mechanical Integrity Test	Start Date 4/10/2015	End Date	Objective Mechanical Integrity test
-------------------------------------	---	-------------------------	----------	--

Daily Operations

Start Date	Summary	End Date
4/10/2015	ITP 1000 psi, ICP 1000 psi, ISCP 0 psi, well was shut in, MIRU Bayou Rig 03, blow down well to work tank, function test BOP, took a long time to blow well down, control well with 60 bbl. of Clay treat/Biocide water, ND master valve and production tree, NU BOP, PU tag jts, run 5 jts 158' and no tag, LD tag jts, POOH with production pipe to derrick, LD NC/SN, SI and secure well, drain pump and lines, SD.	4/10/2015
4/13/2015	ICP 0700 psi, ISCP 0psi, blow down well to rig tank, control well with 20 bbl of Claytreat biocide water, MIRU Pick testers, PU STS's 3 5/8 blade bit and 4 1/2 scraper, RIH with 2 3/8 production pipe from derrick, found 2 holes, the rest tested good, RD Hydro tester, ran scraper down to 6631 with 208 jts, POOH with production pipe to derrick, LD bit and scraper, PU STS's 4 1/2 RBP dressed for 15.10 casing, RIH with production pipe, set RBP at 6615.84 KB with 208 jts in the hole 15' out on jt 208 (48.16' above Niobrara perfs), LD 1 jt, RU circulating equipment, circulated oil and gas out, pressure test casing and plug up to 500 psi, held good for 15 min, bleed pressure off, pulled 30 jts to derrick, spotted 2 sacks of sand on top of plug, POOH to derrick, load the hole, MIRU Nabors wire line, PU logging tool, RIH with wire lone, log from 6600' up to surface, LD logging tool, RD wire line, SI and secure well, SD.	4/13/2015
4/14/2015	ICP 0 psi, ISCP 0 psi, open well, MIRU Pick testers, pressure tested casing up to 500 psi, recorded the test for 15 min, good test, bleed off pressure, RD Pick testers, PU STS's retrieving head, RIH with production pipe from derrick, tag sand at 6605 with 208 jts, RU circulating equipment, clean out sand down to the plug at 6615 with 208 jts, circulated the hole clean, released the plug, POOH with production pipe to the derrick, LD RBP, PU 2 3/8 seat nipple, RIH with production pipe from derrick, land the tubing at 6649.94 KB with 208 jts of 2 3/8 J-55 4.7 8rd and 1-10', 1-8' subs and NC/SN (14.06' above perfs), ND BOP, NU 5K top flange and master valve, RU swab lubricator, made a broach run down to seat nipple (1.901"), LD broach and swab lubricator, close the well, rack pump and tank, RDMOL, SD. Tubing details KB 7.00 Sub 2 3/8 J-55 8rd 10.00 Sub 2 3/8 J-55 8rd 8.00 208 jts 2 3/8 J-55 4.7 8rd 6623.34 NC/SN 1.60 Total 6649.94	4/14/2015



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 to 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.e. (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: 05-123-13225-0000		Field Name: _____ Field Number: _____	
Well Name: M & M		Number: 4-10	
Location (Qtr/Tr, Sec, Twp, Rng, Meridian): NWNW Sec 10, 5N, 65W			

Complete the Attachment Checklist

	Open	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	
		Open Hole Interval: <input type="checkbox"/> NA		Bridge Plug or Cement Plug Depth	
		6664-6884		RBP at 6615.84	
Tubing Casing/Annulus Test <input type="checkbox"/> NA					
Tubing Size: 2 3/8		Tubing Depth:		Top Packer Depth:	
				Multiple Packers? <input type="checkbox"/> YES <input type="checkbox"/> NO	
Test Data					
Test Date: 4-14-15	Well Status During Test	Date of Last Approved MIT	Casing Pressure Before Test	Initial Tubing Pressure	Final Tubing Pressure
Starting Casing Test Pressure: 501	Casing Pressure - 5 Min: 501	Casing Pressure - 10 Min: 506.5	Final Casing Test Pressure: 500	Pressure Loss or Gain During Test: -1.00 #	
Test Witnessed by State Representative? <input type="checkbox"/> YES <input 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: Eduardo Chavez

Signed: Eduardo Chavez

Title: Rig Supervisor

Date: 4-14-15

OGCC Approval: _____

Title: _____

Date: _____

Conditions of Approval, if any: _____

P.O. BOX 341
STERLING, CO 80751
970-522-8387

PICK TESTERS
HYDRO

TICKET
NO. DH - 6565

B I T L O L	Customer Name <u>PDC Energy</u>			On Location: <u>7am</u>
	Address			On Stand By:
	City	State	Zip	Off Stand By:
	Customer Order No. <u>Eduardo Chavez</u>			Off Location:

Purpose of Work MIT Test Pressure Used 500# / 15 min
Date 4/14/15 Lease M & M Well No 4-10
Field _____ County Weld State CO Location _____
Casing Size & Wt. 4 1/2 Tubing Size & Wt. 2 3/8
Contractor & # BWS#3 Round Trip Miles From N/A

Directions: 16th & CEDAR, E 1/2, N into Loc: NWNW-Sec 10-SN-6SW
API - 05-123-13225

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Joints		
	Mileage		
	Test Cups		
	Hours		
1	Methanol - <u>Net Com</u>	<u>FIR</u>	<u>25.00</u>
1	Casing Test - <u>MIT Test</u>	<u>FIR</u>	<u>360.00</u>
1	Computer Pressure Log	<u>FIR</u>	<u>175.00</u>
		Sub Total	<u>560.00</u>
		Sales Tax	<u>N/A</u>
		Labor	<u>84.00</u>
REPRESENTATIVE BY: <u>[Signature]</u>		TOTAL CHARGES <u>Less 15% discount</u> <u>476.00</u>	
		Subject to Correction in accordance with Latest Published Price Schedules	

Holes
Rod Cuts
Bad Pins
Collar Leaks
Split Joints

Remarks: Start + 0#
7:01 AM - 501# 7:11 AM - 500.50#
7:06 AM - 501# 7:16 AM - 500#

I certify that the above material and/or services has been delivered and/or used; that the basis for charges are correctly stated; and that I am authorized to sign this agreement as agent of customer.

Company _____ By [Signature] Date _____



Field Ticket #

Nº 14149

14149

Date

4/14/2015

Sater Tools and Services LLC, 19708 CR 50.5, LaSalle CO 80645

Office 970-301-2028 Fax 970-284-7808

Bill To Customer:		P D C		PO#		Lease Name:		M & M		Well #:		4-10	
Address:		3801 Carson Ave		Field:		County:		Weld St:		CO		Invoice Ref. #:	
City:		Evans		Legal Description:		Job Type:		4-1/2 15.1#		OCSG #:			
State:		CO		Zip:		80620		Casing Sz & Wt:		MERCED TERRAZAS			
Ordered By:		Eduardo Chavez											
NO.		RENTALS/SALES				QTY		PRICE		DSC		TOTAL	
1		Rental of 4-1/2 casing scraper				1		605.00		30%		\$423.50	
2		Rental of 2-3/8 reg box x 2-3/8 8rd box				1		125.00		30%		87.50	
3		Rental of 3-3/4 blade bit				1		125.00		30%		87.50	
4												0.00	
5		Rental of 4-1/2 WLTC retrievable bridge plug set with 208 jts @ 6615.84				1		1,670.00		30%		1,169.00	
6		Minimum 1st to 5 days rental on bridge plug				1		210.00		30%		147.00	
7												0.00	
8												0.00	
9												0.00	
10												0.00	
11												0.00	
12												0.00	
13												0.00	
14		Sale of 20/40 silica sand				2		19.50				39.00	
		Subtotal Taxable Charges										\$1,953.50	
		SERVICE MANS TIME											
		Service mans time				1		\$850.00				\$850.00	
		Service mans time				1		850.00				850.00	
												0.00	
												0.00	
		Subtotal Non-Taxable Charges										\$1,700.00	
		MILEAGE											
		Mileage				20		\$2.95				\$59.00	
		Mileage				20		2.95				59.00	
		Mileage				20		2.95				59.00	
												0.00	
		Subtotal Non-Taxable Charges										\$177.00	
		Terms: Net 30 Days											
		Total Service & Material:										\$3,830.50	
		Tax:										\$56.65	
		TOTAL CHARGES:										\$3,887.15	

Authorized Agent:

Eduardo Chavez

Date: 4-15-15

TOTAL CHARGES: \$3,887.15