

District I
1625 N French Dr Hobbs, NM 88240
Phone (575) 393 6161 Fax (575) 393 0720
District II
811 S First St Artesia, NM 88210
Phone (575) 748 1283 Fax (575) 748 9720
District III
1000 Rio Brazos Road, Aztec NM 87410
Phone (505) 334 6178 Fax (505) 334 6170
District IV
1220 S St Francis Dr Santa Fe NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

State of New Mexico

Form C 101
Revised July 18 2013

Energy Minerals and Natural Resources

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

NM OIL CONSERVATION
ARTESIA DISTRICT

APR 16 2018

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, ~~PLUGBACK~~ ^{RECEIVED} OR ADD A ZONE

¹ Operator Name and Address Cumarex Energy Co of Colorado 202 S Cheyenne Ave , Suite 1000, Midland TX 79701		² OGRID Number 162683
³ Property Code		⁴ API Number 30-015-36139
⁵ Property Name Ringer Federal Com		⁶ Well No #7

⁷ Surface Location

UL Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
N	4	25S	26E		1120	South	1520	West	Eddy

⁸ Proposed Bottom Hole Location

UL Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

⁹ Pool Information

¹⁰ Pool Name Purple Sage Wolfcamp (Gas)	¹¹ Pool Code 98220
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Additional Well Information

¹² Work Type PB	¹³ Well Type G	¹⁴ Cable/Rotary	¹⁵ Lease Type S	¹⁶ Ground Level Elevation 3321
¹⁷ Multiple	¹⁸ Proposed Depth PBTD 10070	¹⁹ Formation Wolfcamp	²⁰ Contractor	²¹ Spud Date
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

* Casing Previously Set

²² Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17 1/2"	13 3/8"	48#	325'	540 sks	Surf
Inter	12 1/4"	9 5/8"	40#	2570'	1040 sks	Surf
Prod	7 7/8"	4 1/2"	11 6#	12185'	1485 sks	TOC 2158'

Casing/Cement Program Additional Comments

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²³ Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer

²⁴ I hereby certify that the information given above is true and complete to the best of my knowledge and belief I further certify that I have complied with 19 15 14 9 (A) NMAC <input checked="" type="checkbox"/> and/or 19 15 14 9 (B) NMAC <input checked="" type="checkbox"/> , if applicable Signature <i>Amithy Crawford</i>		OIL CONSERVATION DIVISION	
Printed name Amithy Crawford			
Title Regulatory Analyst		Approved By <i>Raymond M. Rodary</i>	
E-mail Address acrawford@cimarex.com		Title Geologist	
Date 4/5/2018	Phone 432-620-1909	Approved Date 4-19-18	Expiration Date 4-19-20
Conditions of Approval Attached			

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St Francis Dr
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30015-36139	² Pool Code 98220	³ Pool Name Purple Sage Wolfcamp Gas
⁴ Property Code	⁵ Property Name Ringer Federal Com	⁶ Well Number 7
⁷ OGRID No. 162683	⁸ Operator Name Cimarex Energy Co of Colorado	⁹ Elevation 3321

¹⁰ Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	4	25S	26E		1120	South	1520	West	Eddy

¹¹ Bottom Hole Location If Different From Surface

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division

¹⁶ 	¹⁷ OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> <u>Amithy Crawford</u> 4/5/2018 Signature Date <u>Amithy Crawford</u> Printed Name <u>acrawford@cimarex.com</u> E mail Address			
	¹⁸ SURVEYOR CERTIFICATION <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief</i>			
	Date of Survey Signature and Seal of Professional Surveyor			
	Certificate Number			



Cimarex Energy Co of Colorado

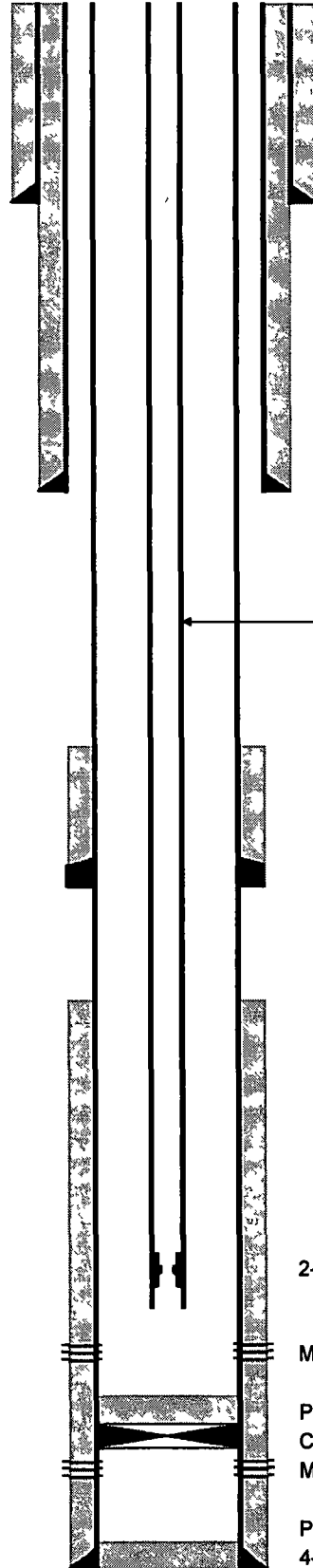
Ringer Federal Com #7

1120' FSL & 1520' FWL

Sec 4, T-25-S, R-26-E, Eddy Co, NM

S Gengler/Pearcy

01/07/2010



13 3/8", 48# H-40 csg @ 321'
cmtd w/ 540 sx, cmt circ

9 5/8", 40# J-55 csg @ 2570'
cmtd w/ 1040 sx, cmt circ

352 jts 2 3/8" 4 7# L-80 Tbg

TOC @ 5520' by CBL

DV Tool @ 7537'
cmtd w/ 700 sx

TOC est 8070 DP

2-3/8" SN @ 11372'

Morrow perfs (11316' - 11582')

PBTD @ 11605'

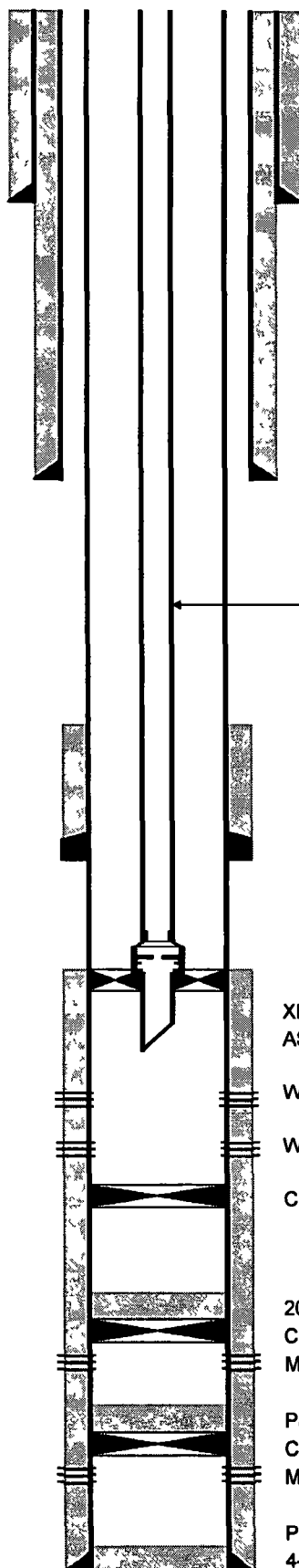
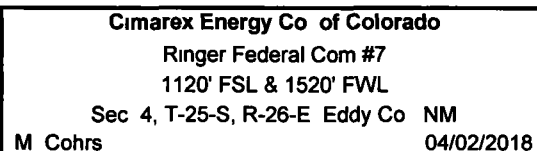
CIBP @ 11620'

Morrow perfs (11638' - 11748')

PBTD @ 12010'

4-1/2" 11 6# P-110 @ 12185' cmtd w/ 785 sx

TD @ 12185'

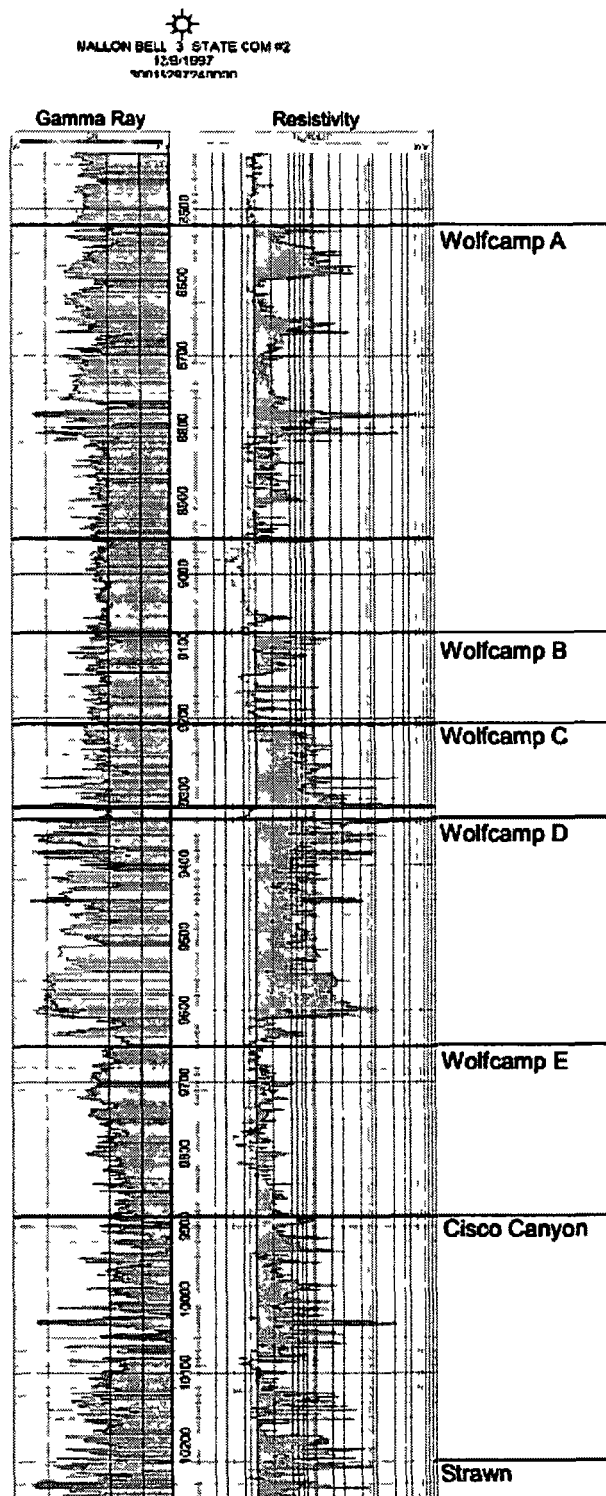


PBTD @ 12010'
4-1/2" 11 6# P-110 @ 12185' cmdt w/ 785 sx
TD @ 12185'



CONFIDENTIAL. March 15, 2018
Production Operations – Carlsbad Region, Permian Basin
Ringer Federal Com 7 - Wolfcamp E & D
Proposed Recompletion Eddy County, NM

Appendix B: Log section from top of Wolfcamp to top of Strawn – Ringer Federal Com 7



Appendix C: Recompletion Procedure – Ringer Federal Com 7

Well Data

KB 18'
TD 12,185'
PBTD 11,605'

Casing 13-3/8" 48# H-40 @ 321' Cmt'd w/ 540 sx, cmt to sfc
9-5/8" 40# J-55 @ 2,570' Cmt'd w/ 1,040 sx, cmt circ
4-1/2" 11 6# P-110 @ 12,185' Cmt'd w/ 785 sxs,
DV tool @ 7,537' cmt with 700 sxs

Tubing 2-3/8" 4 7# L-80 8rd, EOT @ 11,373'

Proposed RC Perfs Wolfcamp (9,472' – 10,030')

- 1 Pull test anchors, replace as necessary before rig arrival
- 2 MIRU pulling unit, rental flare, and choke manifold
- 3 Hold safety meeting and perform JSA, discuss risks
- 4 Kill well with FSW as needed Observe all pressures on well and note detail in report
 - a **NOTE Treat all water throughout job with biocide**
 - b Chad Collins 512-413-1606
- 5 MIRU WSU Ensure WSU is set and balanced on rig mats before proceeding
 - a Everyone on location has the ability to use STOP WORK AUTHORITY to shut down operations should a problem or concern arise
- 6 ND WH and flowline, NU 5,000 psi hydraulic BOPs
- 7 PU tubing, POOH w/2-3/8" tubing & packer Lay down packer and tubing
- 8 MIRU WL and 4-1/2" 11 6# CIBP
- 9 Set CIBP @ +/- 11,280'
- 10 Mix 25' class H cement
- 11 PU RIH with dump bailor on WL and dump bail cement on top of CIBP
- 12 PU 2nd CIBP and set @ +/- 10,070'
- 13 RDMO WL company
- 14 MIRU pump truck and pressure test CIBP, Cmt, and casing to 8,500 psi on a chart for thirty minutes observing leak-off
 - a Leak-off can be no more than 10%



- b Report pressure back to Midland office
 - c If pressure test is successful proceed with Ciscamp completion
- 15 ND 5k BOPs
- 16 NU two 10k frac valves and flow cross
- 17 MIRU water transfer with frac tanks to contain water pumped from frac ponds
- a Test frac valves and flow cross prior to fracing to 10,000 psi
- 18 MIRU WL with full lubricator for perforating the Ciscamp formation
- 19 RIH with 4-1/2" gauge ring/JB to +/- 10,060'
- 20 Perforate according to detailed perforation cluster sheet provided in separate document
- 21 Perforate and frac the Wolfcamp according to stimulation design in separate document
- a 10K CBP will be set in between each stage

POST FRAC

- 22 RDMO frac crew
- 23 MIRU 2" CTU with sufficient tubing to wash down to PBTD +/- 10,070' (CIBP)
- 24 MU 2 88" OD coil connector and perform pull test to 20k
- a Note Check weight indicator versus hydraulics and note any discrepancy
- 25 Fill coil and flush with 2% KCL to ensure tubing is clean
- 26 MU recommended BHA listed below
- a Coil Connector
 - b Dual BPV
 - c Dual Hydraulic Double Acting Jars
 - d Hydraulic Disconnect
 - e Dual Circulating Sub
 - f PD Motor
 - g 3 875" OD Blade Mill
- 27 Verify coil company has mechanical means on location to splice coil together if coil parts across gooseneck while TOH
- 28 Function test motor and mill on the surface
- 29 NU BOPs and MU Injector head Test BOPs and all lines to 4800 psi high and 500 psi low



- 30 Break circulation and RIH to first plug depth
- 31 D/O composite plugs one at a time
- 32 Pumping sweeps
 - a After each plug is tagged
 - b After each plug is drilled out
 - c After every 60 bbls of fluid is pumped
- 33 Note weights, trip speeds, pump rates, flowrates, pressures, and viscosities on Drill_IT reports while verifying return rates every 15 minutes
- 34 Continue washing/milling to +/- 10,070'
- 35 When clean out is complete and decision is made to POOH, pump a sweep and circulate double bottoms up
 - a Ensure clean returns before POOH
- 36 POOH with motor, mill, and CT
- 37 LD tools, close well BOP, and RD CTU
 - a DO NOT ND BOPs
- 38 MIRU pulling unit
- 39 MIRU WL unit with 5K lubricator
- 40 Call Globe for AS1X (resettable) packer, on/off tool, and BHA
 - a John Williams 432-553-0195
 - b Daniel Ruiz 432-528-3919
- 41 Pickup 4-1/2" 11 6# AS1X packer with 1 875" X-Nipple
 - a 2-3/8 L-80 10' PUP Joint
 - b 2-3/8" collar with WLEG and pump out plug pinned to 3,000 psi
 - c 2-3/8" 8rd EUE XN profile nipple w/1 791" No-Go
 - d Wireline set 4-1/2" 11 6# AS1X packer
 - e On/off tool with 2 00" X-Nipple
- 42 RIH and set packer @ +/- 9,410'
- 43 POOH with setting tools and RDMO Wireline
- 44 PU ON/OFF stinger and 2-3/8" tubing RIH w/tbg & gas lift valves (GLV design attached)
- 45 With tubing above packer pump 95 bbls of corrosion inhibited biocide treated packer fluid down the tubing and displace with 36 bbls fresh water (Annular capacity – 95 bbls & Tubing capacity – 34 bbls)



- 46 Engage on/off tool Set down 15 pts to ensure packer is set
- 47 Space out tubing, PU and land tubing in 10k lbs tension
- 48 ND BOP and NU wellhead
- 49 RU kill truck and pressure up to break pump-out plug
- 50 RD WSU
- 51 Open well to frac tanks and turn well over to flowback
- 52 When the well begins to make gas SWI Notify Midland and turn production into the facility
- 53 Report daily production and pressures to Midland office for 10 days
- 54 Run production log for allocation purposes after recovering load Run additional production logs if actual production varies significantly from expected performance