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

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ARTESIA DISTRICT
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**State of New Mexico**
**Energy Minerals and Natural Resources**
**Oil Conservation Division**
**1220 South St. Francis Dr.**
**Santa Fe, NM 87505**

Form C-101
Revised July 18, 2013

☒ AMENDED REPORT

# APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

| 1. Operator Name and Address | 2. OGRID Number |
|---|---|
| Cimarex Energy Co. of Colorado<br>202 S. Cheyenne Ave<br>Tulsa, OK 74103 | 162683 |
| | 3. API Number 30-015-32286 |

| 4. Property Code | 5. Property Name | 6. Well No. |
|---|---|---|
| 29000 | Echols Com | 2 |

## 7. Surface Location

| UL - Lot | Section | Township | Range | Lot Idn | Feet from | N/S Line | Feet From | E/W Line | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 12 | 23S | 26E | | 1110 | South | 990 | 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

| Pool Name | Pool Code |
|---|---|
| Atoka Carlsbad; Atoka, South (Gas) 320 Ac S/2 | 73800 |

## Additional Well Information

| 11. Work Type | 12. Well Type | 13. Cable/Rotary | 14. Lease Type | 15. Ground Level Elevation |
|---|---|---|---|---|
| P | Gas | | Fee | 3258 |
| **16. Multiple** | **17. Proposed Depth** | **18. Formation** | **19. Contractor** | **20. Spud Date** |
| | 12050 | Atoka | | |

| 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

## 21. Proposed Casing and Cement Program

| Type | Hole Size | Casing Size | Casing Weight/ft | Setting Depth | Sacks of Cement | Estimated TOC |
|---|---|---|---|---|---|---|
| Surf | 17.5 | 13-3/8" | 48# | 487 | 490 | surf |
| Int | 12.25 | 9-5/8" | 40 | 3188 | 1300 | surf |
| Prod | 8.75 | 5-1/2" | 17 | 12045 | 1800 | 202 |

**Casing/Cement Program: Additional Comments**

## 22. Proposed Blowout Prevention Program

| Type | Working Pressure | Test Pressure | Manufacturer |
|---|---|---|---|
| | | | |

23. 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 ☑ and/or 19.15.14.9 (B) NMAC ☐ if applicable.
Signature:

Printed name: Terri Stathem
Title: Manager Regulatory Compliance
E-mail Address: tstathem@cimarex.com
Date: 11-2-15 Phone: 432-620-1936

**OIL CONSERVATION DIVISION**

Approved By:
Title:
Approved Date: 11-16-15 Expiration Date: 11-16-17
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 | 2 Pool Code | 3 Pool Name |
|---|---|---|
| 30015-32286 | 73800 | Carlsbad; Atoka, South (Gas) |

| 4 Property Code | 5 Property Name | 6 Well Number |
|---|---|---|
| 29000 | Echols Com | 2 |

| 7 OGRID No. | 8 Operator Name | 9 Elevation |
|---|---|---|
| 162683 | Cimarex Energy of Colorado | 3258' |

## 10 Surface Location

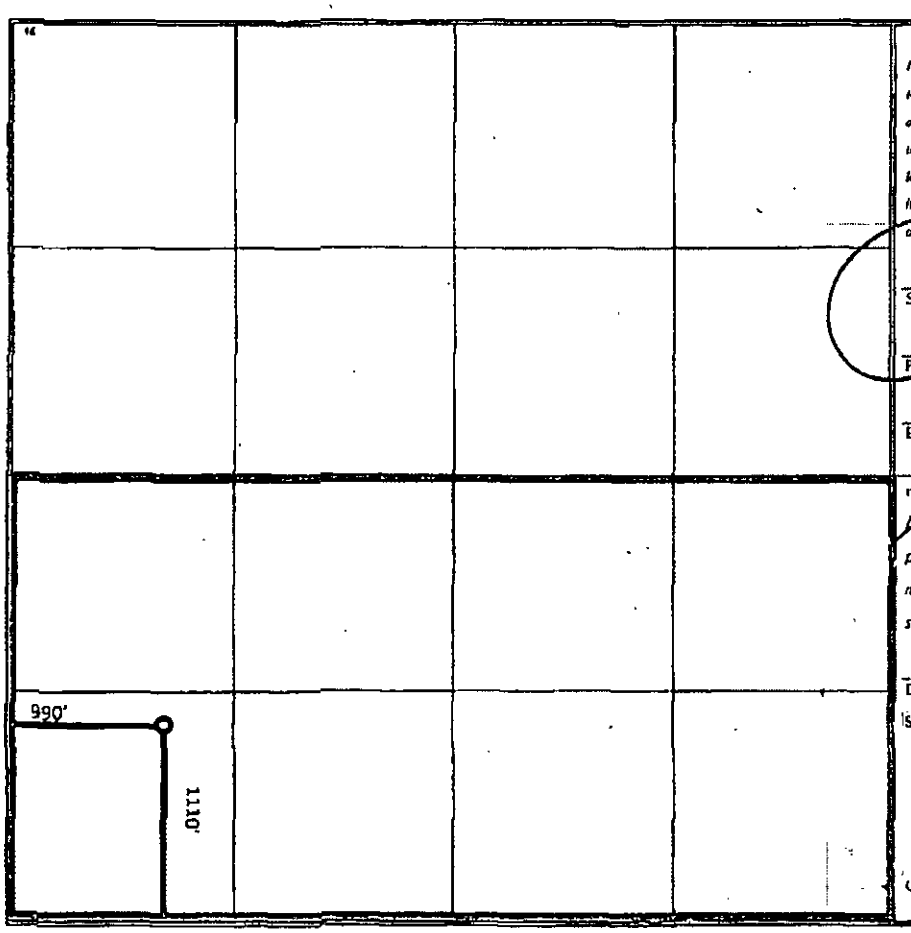
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| M | 12 | 23S | 26E | | 1110 | South | 990 | West | Eddy |

## 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 | 13 Joint or Infill | 14 Consolidation Code | 15 Order No. |
|---|---|---|---|
| 320 | | | |

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.




## 17 OPERATOR CERTIFICATION

*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.*

Signature — Date: 11-2-2015

Terri Stathem
Printed Name

tstathem@cimarex.com
E-mail Address

## 18 SURVEYOR CERTIFICATION

*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.*

On file
Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number

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CIMAREX

**Echols Com 2**
**Atoka Recompletion Procedure**
**Michael Karner 9/10/15**

**Well Data**

| | |
|---|---|
| KB | 16' |
| TD | 12,050' |
| PBTD | 11,023' |
| Casing | 13-3/8" 48# H-40 @ 487'. Cmt'd w/ 490 sx, cmt circ<br>9-5/8" 40# J-55 @ 3,188'. Cmt'd w/ 1,300 sx, cmt circ<br>5-1/2" 17# N-80 & P-110 @ 12,045'. Cmtd w/ 1,800 sx. DV @ 7,011'. TOC @ 2,020' by TS |
| Tubing | 2-3/8" 4.7# L-80 8rd, EOT @ 11,393' (345 joints) |
| Packer | 5-1/2" x 2-3/8" Arrowset 1X packer @ 11,409' |
| Current Prod. Perfs | Morrow (11,474' – 11,909') |
| Proposed RC Perfs | Atoka (11,026' – 11,038'), (11,080' – 11,127'), (11,155' – 11,166'), (11,172' – 11,182'), (11,206' – 11,217'), and (11,231' – 11,238') |

**Contacts**

| Name | Company or Position if XEC | Email or Alternate Phone | Phone |
|---|---|---|---|
| Shane Hines | Flowco Production Solutions | shane.hines@flowcosolutions.com | 830-832-8910 |
| Aldo Mendoza | Basic Energy Services | 432-557-2370 | 432-687-1994 |
| Kim Barton | Production Superintendent | kbarton@cimarex.com | 432-620-1952 |
| Paul Stock | Workover Superintendent | pstock@cimarex.com | 432-620-1955 |
| Mike Karner | Production Engineer | mkarner@cimarex.com | 432-571-7895 |
| Matt | Apollo Wireline | | 432-563-0891 |
| | Basin Testers LP | | 432-362-5072 |
| | BLM | 575-361-2822 | 575-234-5972 |
| Mark Dennis | Cameron | 575-441-7709 | 575-397-1325 |

**Procedure**

Notify NMOCD 24 – 48 hours prior to starting operations. Contact Cameron company representative 1-2 days prior to starting operations to set up having the wellhead and tubing hanger picked up so that they can be inspected and returned within a few days.

1. Test anchors prior to moving in rig.
2. Move in rig up pulling unit.
3. Kill well as necessary with 4% KCl.
4. Nipple down wellhead, nipple up 5,000 psi blow out preventer stack. Send wellhead with Cameron company representative for inspection and to replace seals in tubing hanger. Call Cameron company representative 1-2 days prior to starting operations to arrange having equipment picked up so that it can be returned within a few days.
5. Release AS-1X pkr @ 11,409' & TOOH w/ 2-3/8" 4.7# L-80 tbg & packer. Stand back tbg. Note: If unable to release packer, plan to set a blanking plug in packer, release from on/off tool, and leave packer in the well rather than fish for the packer. Packer is 65' from top of Morrow perfs so it should be left behind, and the CIBP should be set as close to this as possible (CIBP must be set within 100' of top Morrow perforations at 11,474', so must be set below 11,374' but above the packer left in the hole if we are unable to release packer).
6. MIRU wireline and 5k short lubricator
7. RIH with 4.6" gauge ring and junk basket down to +/- 11,500' (OD of CIBP = 4.24").
8. RIH w/ CIBP and set @ +/- 11,424'
9. RIH w/ bailer and bail 35' of cement on top of CIBP – abandoning Morrow perfs.
10. WOC 6-8 hours
11. RU pump truck and test casing to 500 psi for 30 minutes with no more than 10% leakoff. Record this test on a circular test chart.
12. TIH w/ 2-3/8" 4.7# L-80 tbg to tag TOC @ +/- 11,389'
13. Circulate one bottoms up of 4%
14. TOOH w/ 2-3/8" 4.7# L-80 tbg to surface and stand back tubing.
15. RIH w/ 4.6" gauge ring and junk basket to tag TOC at +/- 11,389'
    Note: Expected reservoir pressure is 4,124 psi. 4% KCl is 8.56 ppg, so a hydrostatic column of 7% KCl will be 9,265', or 1,973' from surface. Make sure that top of fluid tagged is at least this depth so that guns are not shot to surface causing a fishing job.
16. RIH w/ 3-1/8" casing guns and perforate Atoka with 1 SPF and 0° phasing at the following depths: 11,026' – 11,238'
17. Pin 2-3/8" pump out plug for 1,500 – 2,000 psi differential pressure
18. RIH w/ AS-1X packer w/ 1.81" X nipple, 1 10' pup joint 2-3/8" 4.7# L-80 tubing, 1.81" XN nipple and pump, out plug set at +/- 10,976' From downhole up:
    a. 2-3/8" Pump out plug
    b. 1.81" XN nipple
    c. 10' 2-3/8" 4.7# L-80 pup joint
    d. AS-1X packer w/ 1.81" X nipple
19. RDMO wireline and 5k short lubricator
20. TIH w/ T-2 on-off tool on 2-3/8" 4.7 L-80 tbg and latch into Arrowset packer hydrotest while TIH.
21. Set tubing into tubing hanger and RU tree. Space out tubing with 2-3/8" 4.7# tubing subs to hang tubing with 10klbs compression on packer.
22. MIRU Guardian Tree Saver and Stroke to isolate tree.
23. MIRU Baker Hughes acid

24. Pump out plug
25. Pump staged acid job including 10,000 total gallons of 15% HCl with gel retarder and ball sealers followed by 2121 gallon (50.5 bbl) overflush down 2-3/8" tubing as per design below:

**PROCEDURE**

| Stage | Fluid | | Diverting Agents | | | | |
|---|---|---|---|---|---|---|---|
| | Type | Volume (gal) | Conc. (pda) | Type | Stage (volume) | Cum (lbs) | Cum (b.s.) |
| 1 | 2% KCl Water | 500 | | | | | |
| 2 | 15% Gelled HCl Acid | 10000 | | BS, 7/8 in, 1.3 sg, | 150 | | 150 |
| 3 | 2% KCl Water | 2121 | | | | | 150 |
| Total | | 12621 | | | | | 150 |

**TREATMENT SCHEDULE**

| Stage | Surface Treating Pressure (psi) | Rates | | | Volume | | | | Stage Pump Time hh:mm:ss |
|---|---|---|---|---|---|---|---|---|---|
| | | Slurry (bpm) | Clean Fluid (bpm) | Divertor Rate (lb/min) | Slurry | | Fluid | | |
| | | | | | Stage (bbls) | Cum. (bbls) | Stage (bbls) | Cum. (bbls) | |
| 1 | 6069 | 5.0 | 5.0 | | 11.9 | 11.9 | 11.9 | 11.9 | 00:02:22 |
| 2 | 5832 | 5.0 | 5.0 | | 238.1 | 250.0 | 238.1 | 250.0 | 00:47:37 |
| 3 | 6069 | 5.0 | 5.0 | | 50.5 | 300.5 | 50.5 | 300.5 | 00:10:06 |
| | | | | | | | Total Pump Time: | | 01:00:05 |

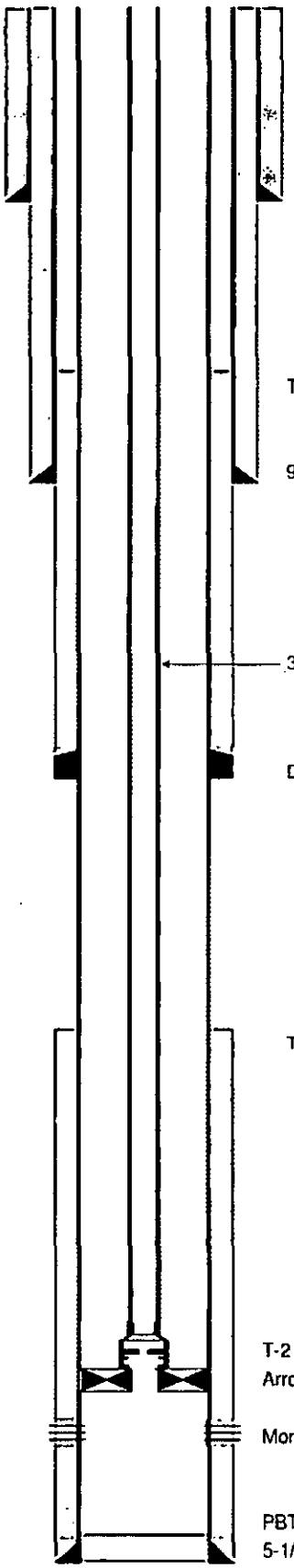
26. RU well to production

CIMAREX

**Current WBD**

KB - 18' above GL

**Cimarex Energy Co. of Colorado**
Echols #2
1110' FSL & 990' FWL
Sec. 12, T-23-S, R-26-E, Eddy Co., NM
S. Gengler 05/11/2009



13-3/8", 48# H-40 csg @ 487'
cmtd w/ 490 sx, cmt circ

TOC @ 2020' by TS

9-5/8", 40# J-55 csg @ 3188'
cmtd w/ 1300 sx, cmt circ

345 jts 2 3/8" 4.7# L-80 Tbg

DV Tool @ 7011'
cmtd w/ 800 sx

TOC @ 9200' by CBL

T-2 On-off Tool w/ 1.81" F Profile nipple @ 11402'
Arrowset 1X pkr @ 11409'

Morrow perfs (11474' - 11909')

PBTD @ 12023'
5-1/2" 17# N-80 & P-110 @ 12045' cmtd w/ 1000 sx
TD @ 12050'

Printed 10/22/2012

CIMAREX

**Proposed WBD**

KB - 18' above GL

**Cimarex Energy Co. of Colorado**
Echols #2
1110' FSL & 990' FWL
Sec. 12, T-23-S, R-26-E, Eddy Co., NM
M. Kamer 09/9/2015

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ARTESIA DISTRICT
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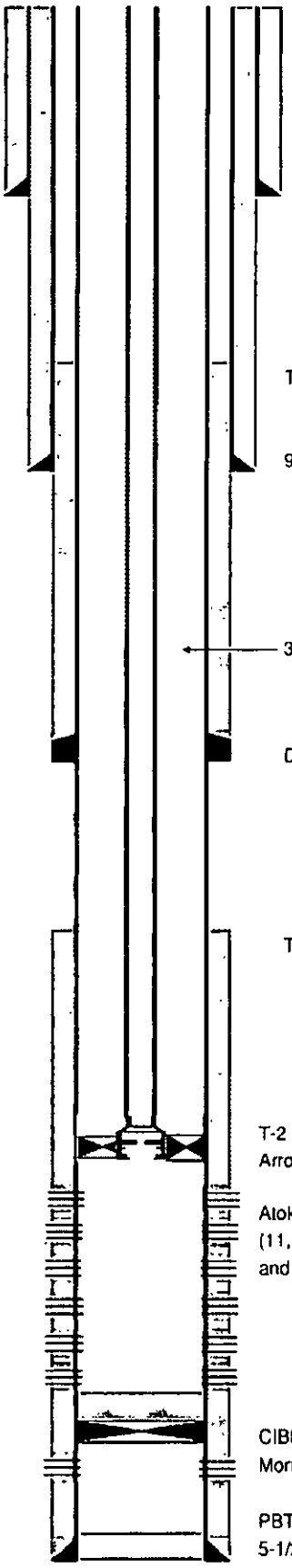

13-3/8", 48# H-40 csg @ 487'
cmtd w/ 490 sx, cmt circ

TOC @ 2020' by TS

9-5/8", 40# J-55 csg @ 3188'
cmtd w/ 1300 sx, cmt circ

345 jts 2 3/8" 4.7# L-80 Tbg

DV Tool @ 7011'
cmtd w/ 800 sx

TOC @ 9200' by CBL

T-2 On-off Tool w/ 1.81" F Profile nipple @ 10919'
Arrowset 1X pkr @ 10926'

Atoka Perfs (11,026' - 11,038'), (11,080' - 11,127'), (11,155' - 11,166'), (11,172' - 11,182'), (11,206' - 11,217'), and (11,231' - 11,238')

CIBP at 11,424' w/ 35' cmt bailed on top
Morrow perfs (11474' - 11909')

PBTD @ 12023'
5-1/2" 17# N-80 & P-110 @ 12045' cmtd w/ 1000 sx
TD @ 12050'