

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

OCD Artesia

5. Lease Serial No.
NMNM0441951A

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.

WHITE CITY 31 FEDERAL 2

2. Name of Operator

CIMAREX ENERGY COMPANY OF CO

Contact: TERRI STATHEM

Mail: tstathem@cimarex.com

9. API Well No.

30-015-33394-00-S1

3a. Address

202 S CHEYENNE AVE SUITE 1000
TULSA, OK 74103.4346

3b. Phone No. (include area code)

Ph: 432-620-1936

10. Field and Pool or Exploratory Area

WHITE CITY

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 31 T24S R26E NESW 2150FSL 1700FWL

11. County or Parish, State

EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input checked="" type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Cimarex Energy Co. respectfully requests approval to add perfs in the White City Penn pool (Strawn) according to the attached procedure. If the Strawn is uneconomic Cimarex proposes to add perfs in the White City Penn pool (Cisco Canyon) and perf the Wolfcamp as indicated on the attached procedure.

Cimarex also requests approval to downhole commingle the Cisco and Wolfcamp pools. The 2016 White City Area Downhole Commingling Field Study included the referenced well for the commingling. Field Study approved 7/6/16.

NMOCD DHC permit is pending approval.

Attachments: C102, procedure, wellbore diagrams, oil, water & gas analysis, and DHC worksheet.

RECEIVED
ARTESIA DISTRICT
FEB 06 2017

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #365622 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY OF CO, sent to the Carlsbad
Committed to AFMSS for processing by CHARLES NIMMER on 02/01/2017 (17CN0099SE)**

Name (Printed/Typed) TERRI STATHEM

Title MANAGER REGULATORY COMPLIANCE

Signature (Electronic Submission)

Date 02/01/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHARLES NIMMER

Title PETROLEUM ENGINEER

Date 02/01/2017

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Carlsbad

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Accepted for record - NMOCD

RF-3-6-17

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
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 30-015-33394	² Pool Code 97693	³ Pool Name Black River; Wolfcamp, Southwest (Gas)
⁴ Property Code 303008	⁵ Property Name White City 31 Federal A	⁶ Well Number 2
⁷ OGRID No. 162683	⁸ Operator Name Cimarex Energy Co. of Colorado	⁹ Elevation 3493'

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
K	31	24S	26E		2150	South	1700	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
K	31	24S	26E		2591	South	1490	West	Eddy

¹² Dedicated Acres 640	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.

	<p>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.</p> <p>Signature: <i>Terri Stathem</i> Date: 2-1-17</p> <p>Printed Name: Terri Stathem</p> <p>E-mail Address: tstathem@cimarex.com</p>
	<p>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.</p> <p>Date of Survey:</p> <p>Signature and Seal of Professional Surveyor:</p>
	<p>Certificate Number</p>



White City 31 Fed 2

Well Data

KB	21'
TD	12,150'
PBTD	11,934'
Casing	13-3/8" 54.5# J-55 @ 200'. Cmt'd w/ 250 sx, cmt circ 9-5/8" 40# NS-110HC @ 1,685'. Cmt'd w/ 600 sx, cmt circ 5-1/2" 17# P-110 & N-80 @ 12,150'. Cmt'd w/ 1,160 sx. DV @ 7,133'. TOC @ 490' by TS
Tubing	2-7/8" 6.5# L-80 8rd, EOT @ 11,400'
Packer	5-1/2" x 2-7/8" Versaset packer @ 11,400'
Current White City Penn Perfs:	Morrow (11,447' – 11,936')
Proposed White City Penn Perfs:	Strawn (10,359' – 10,504')

White City; Penn (Strawn) Add Pay Procedure

Notify BLM 24 hours prior to starting operations.

1. Test anchors prior to moving in rig.
2. Move in rig up pulling unit.
3. Kill well as necessary with 7% KCl.
4. Nipple down wellhead, nipple up 5,000 psi blow out preventer stack.
5. Release Versaset pkr @ 11,400' & TOO H w/ 2-7/8" 6.5# L-80 tbg & packer. Stand back tbg. Scan tubing during TOO H.
6. TIH w/ CIBP on 2-7/8" 6.5# L-80 tbg to set CIBP at +/- 11,412'
7. Pump 25 sacks class H cement down tubing to pump balanced plug. Abandon Morrow.
8. TOO H 1000' and reverse circulate 2 tbg volumes
9. WOC 6-8 hours
10. Test casing to 5,000 psi on chart for 30 minutes with no more than 10% leakoff.
11. RIH w/ 4.6" gauge ring and junk basket on electric line to +/- 10,504'
12. RIH with 3-1/8" casing guns on electric line and perforate Strawn from 10,359' – 10,504'

13. RIH w/ BHA described below from downhole up:
 - a. 2-7/8" WEG
 - b. 2-7/8" pump out plug pinned for 1,500 – 2,000 psi differential pressure
 - c. 1.875" XN profile nipple
 - d. 10' 2-7/8" 6.5# L-80 tbg sub
 - e. 5-1/2" x 2-7/8" Arrowset 1X packer and on-off tool stinger w/ 1.875" X profile nipple
14. RD WL and lubricator
15. TIH w/ on/off tool overshot, GLVs, and 2-7/8" 6.5# L-80 tbg. Hydrotest in hole to 8500 psi.
16. Latch overshot onto on-off tool and space out tubing
17. ND BOP, NU WH
18. RDMO pulling unit
19. RU pump truck and pump out plug
20. MIRU Propetro acid
21. Pump 19,000 total gallons of 15% NEFE HCl with 225 ball sealers down 5-1/2" casing
22. Flush with 1 tubing volume 2% KCl
23. Put well on production. Swab well as necessary

If Strawn recompletion is unsuccessful, move forward with procedure to recomplate as Ciscamp

Cisco Canyon & Wolfcamp (Ciscamp) Recompletion Procedure

Proposed RC Perfs Wolfcamp (8,371' – 9,950') & Cisco Canyon (9,950' – 10,288')

Procedure

1. Test anchors prior to MIRU PU.
2. MIRU PU, rental flare, and choke manifold.
3. Kill well with produced water if available or FW as necessary.
4. ND WH, NU 5K BOP
5. Release packer and TOOH w/ 2-7/8" 6.5# L-80 tbg. Stand back Tubing.
6. RU Wireline and 5k lubricator
7. RIH w/ GR/JB to +/- 10,324'
8. RIH w/ CIBP and set at +/- 10,324'
9. RIH to bail 35' of cement on top of CIBP at +/- 10,324' – abandon Strawn
Note: Pumping 25 sacks of cement down tubing would place top of cement uphole of desired bottom Cisco Canyon perf
10. RU Pump truck and pressure test casing to 8,500 psi on a chart for 30 minutes with no more than 10% leak off.
Note: If casing does not test contact Midland office
11. ND 5k BOP, RDMO PU
12. RU two 10k frac valves and flow cross
13. MIRU water transfer with frac tanks to contain water to be pumped from frac pond

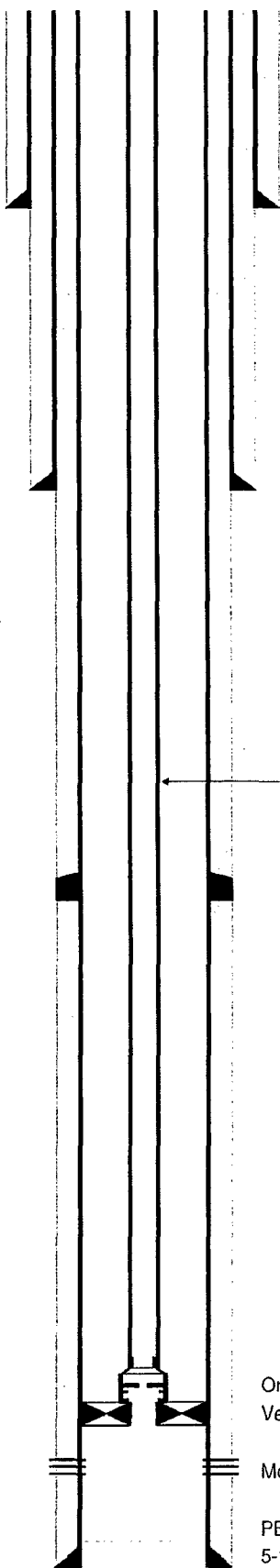
14. Test frac valves and flow cross prior to frac job. Arrange for these items, manlift, forklift, and Pace testers to be on location the day before the frac job to test so that we do not have the frac waiting on a successful test the following day.
15. RU frac valves, flow cross, and goat head
16. RIH w/ gauge ring/junk basket for 5-1/2" 17# P-110 csg to +/- 10,288'
17. Perforate Cisco Canyon from 9,950' – 10,288'.
18. RU frac and flowback equipment.
19. Acidize and frac Cisco Canyon perfs down casing.
20. Set 10k flow through composite plug 15' uphole of top perforation
21. Test to 8,500 psi
22. Perforate Wolfcamp from 8,371' – 9,950'.
23. Acidize and frac Wolfcamp perfs down casing.
24. Set 10k flow through composite plug 15' above top perforation
25. Test to 8,500 psi
26. RD frac
27. MIRU 2" coiled tbg unit.
28. RIH w/ blade mill & downhole motor on 2" CT and drill out sand and composite plugs using freshwater for circulation. Pump sweeps each time a plug is tagged, each time a plug is drilled out, and every 60 bbls pumped.
29. Clean out to PBTD 10,289'
30. POOH w/ blade mill, motor & CT
31. RDMO coiled tbg unit.
32. Flow back well for 24 hours, then SI well overnight.
33. RU wireline and lubricator.
34. RIH w/ GR/JB for 5-1/2" 17# P-110 to +/- 8,321'
35. RIH w/ 2-7/8" WEG, 2-7/8" pump out plug pinned for 1,500 – 2,000 psi differential pressure, 10' 2-7/8" 4.7# L-80 tbg sub w/ 1.875" XN profile nipple w/ blanking plug in place, 5-1/2" Arrowset 1X packer and on-off tool stinger w/ 1.875" X profile nipple. Set packer +/- 8,321'. From downhole up:
 - a. 2-7/8" WEG
 - b. 2-7/8" pump out plug pinned for 1,500 – 2,000 psi differential pressure
 - c. 1.875" XN profile nipple
 - d. 10' 2-7/8" 6.5# L-80 tbg sub
 - e. 5-1/2" x 2-7/8" Arrowset 1X packer and on-off tool stinger w/ 1.875" X profile nipple
36. RD WL and lubricator
37. ND goat head and frac valve, NU BOP, MIRU Pulling Unit
38. TIH w/ on/off tool overshot, GLVs, and 2-7/8" 6.5# L-80 tbg.
39. Latch overshot onto on-off tool and space out tubing
40. ND BOP, NU WH
41. RDMO pulling unit
42. RU pump truck and pump out plug. Put well on production.

43. **Run Production Log for allocation purposes after recovering load. Run additional production logs if actual production varies significantly from expected performance. Send copies of these logs to BLM and file for an adjustment of allocation factor if necessary.**



Current WBD
KB - 23' above GL

Cimarex Energy Co. of Colorado
White City 31 Federal #2
SHL - 2150' FSL & 1700' FWL
corr BHL - 1709' FSL & 1490' FWL
Sec. 31, T-24-S, R-26-E, Eddy Co., NM
S. Gengler 02/09/2012



13-3/8", 54.5# J-55 csg @ 200'
cmtd w/ 250 sx, cmt circ

TOC @ 490' by TS

9-5/8", 40# NS-110HC csg @ 1685'
cmtd w/ 600 sx, cmt circ

2-7/8" 6.5# L-80 Tbg

DV Tool @ 7133'
cmtd w/ 1410 sx

On-off Tool w/ 1.875" Profile nipple @ 11393'
Versaset pkr @ 11400'

Morrow perfs (11447' - 11936')

PBTD @ 11934 on 8/22/06.
5-1/2" 17# P-110 & N-80 @ 12150' cmtd w/ 1160 sx, cmt circ
TD @ 12150'



Proposed Strawn WBD
KB - 23' above GL

Cimarex Energy Co. of Colorado

White City 31 Federal #2

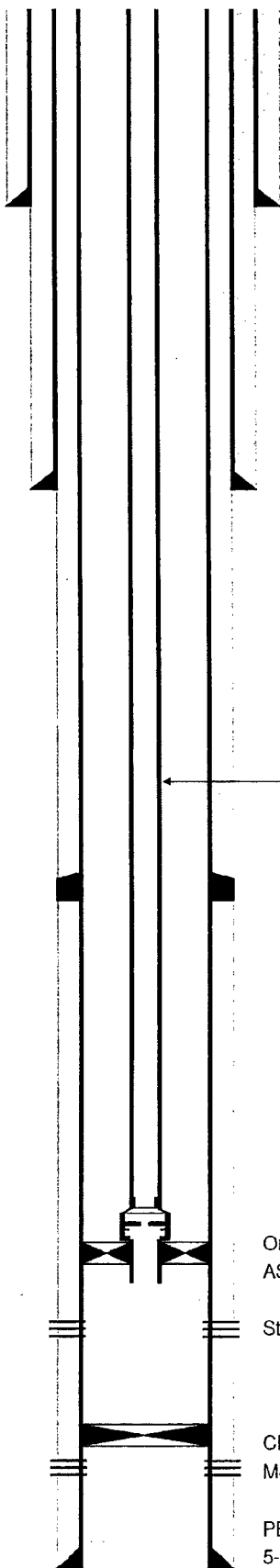
SHL - 2150' FSL & 1700' FWL

corr BHL - 1709' FSL & 1490' FWL

Sec. 31, T-24-S, R-26-E, Eddy Co., NM

M. Karner

11/21/2016



13-3/8", 54.5# J-55 csg @ 200'
cmtd w/ 250 sx, cmt circ

TOC @ 490' by TS

9-5/8", 40# NS-110HC csg @ 1685'
cmtd w/ 600 sx, cmt circ

2-7/8" 6.5# L-80 Tbg

DV Tool @ 7133'
cmtd w/ 1410 sx

On-off Tool w/ 1.875" Profile nipple @ 10,307'
AS-1X pkr @ +/- 10,314'

Strawn perfs 10,364' - 10,450'

CIBP set at +/- 11,397' w/ 35' of cmt bailed on top
Morrow perfs (11447' - 11936')

PBTD @ 11934 on 8/22/06.
5-1/2" 17# P-110 & N-80 @ 12150' cmtd w/ 1160 sx, cmt circ
TD @ 12150'

CIMAREX

Proposed Ciscamp WBD
KB - 23' above GL

Cimarex Energy Co. of Colorado

White City 31 Federal #2

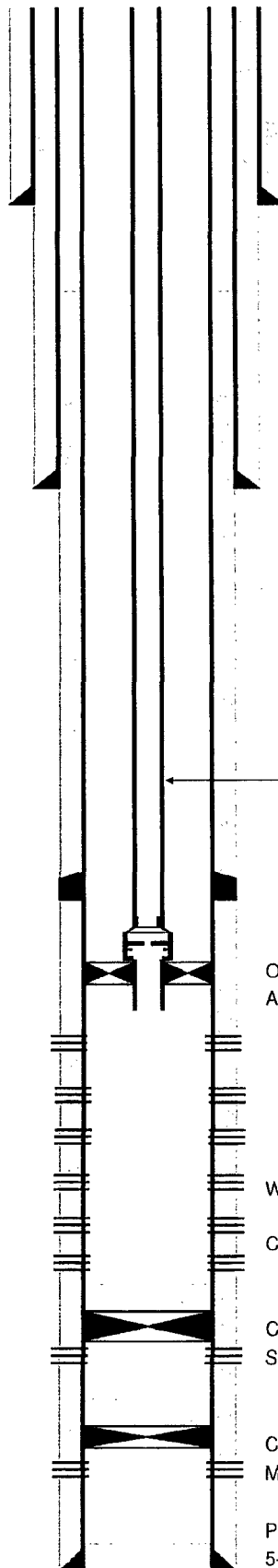
SHL - 2150' FSL & 1700' FWL

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Sec. 31, T-24-S, R-26-E, Eddy Co., NM

M. Karner

11/21/2016



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DV Tool @ 7133'
cmtd w/ 1410 sx

On-off Tool w/ 1.875" Profile nipple @ 8,314'
AS-1X pkr @ +/- 8,321'

Wolfcamp Perfs (8,371' - 9,950')

Cisco Canyon Perfs (9,950' - 10,288')

CIBP set at +/- 10,324' with 35' of cement pumped on top
Strawn perfs 10,374' - 10,450'

CIBP set at +/- 11,397' w/ 35' of cmt bailed on top
Morrow perfs (11,447' - 11,936')

PBSD @ 11934 on 8/22/06.

5-1/2" 17# P-110 & N-80 @ 12150' cmtd w/ 1160 sx, cmt circ
TD @ 12150'

Downhole Commingling Worksheet

Operator:

Cinmarex Energy

Lease/Well Name/API Number/Location:

White City 31 Fed 2/30-015-33394/Sec. 31, T24S, R26E

Date:

Data	Bottom Formation	Upper Formation	Estimated Combined Production Data
Pool name	White City Penn	Black River, Wolfcamp Southwest (Gas)	
Pool Code	87280	87280	
State Form C-102 with dedicated Acres Provided	320 acres	320 acres	320 acres
Formation Name	Cisco Canyon	Wolfcamp	
Top and Bottom of Pay Section (Perforated or open-hole interval)	9,950' - 10,359'	8,371' - 9,950'	8,371' - 10,359'
Method of production	Flowing	Flowing	Flowing
Bottom Hole Pressure	Within 150% of top perf	Within 150% of top perf	Within 150% of top perf
Reservoir Drive mechanism	Gas Drive	Gas Drive	Gas Drive
Oil gravity and/or BTU	Oil: 53.5° API Gas: 1142.4 BTU dry / 1122.6 BTU wet @ 14.73 psi	Oil: 51.8° API Gas: 1225.8 BTU dry / 1204.6 BTU wet @ 14.73 psi	Oil: 52.2° API Gas: 1208.3 BTU dry / 1187.4 BTU wet @ 14.7 psi
Average Sulfur Content (Wt %)	0	0	0
Oil sample Analysis provided	Yes	Yes	
Gas Analysis provided	Yes	Yes	
Produce Water Analysis provided	Yes	Yes	
H2S present	No	No	No
Producing, Shut-in or New Zone	New Zone	New Zone	
Date and Oil/Gas/Water rates of last Production (new zones or no production history Operator shall attached production estimated and supporting data)	Date: N/A Expected Rate: 21 BOPD, 526 MCFPD, 133 BWPD	Date: N/A Expected Rate: 79 BOPD, 1,981 MCFD, 500 BWPD	Date: N/A Expected Rate: 100 BOPD, 2507 MCFD, 633 BWPD
Average decline % (provide back up data)	7% (terminal)	7% (terminal)	7% (terminal)
Fixed Allocation Percentage	Oil: 21% Gas: 21%	Oil: 79% Gas: 79%	Oil: 100% Gas: 100%

Remarks:

Production history for analogs for both zones provided in field study appendix.

Operator Signature:

Wicko Carlson

Date:

2/1/17

Attached Supporting documents

State Form C-102 with dedicated Acres Provided

Oil sample Analysis provided (Must be current)

Gas Analysis provided (Must be current)

Produce Water Analysis provided (Must be current)

Any additional supporting data (i.e. offset well production and decline curves etc..)

*Utilize weighted average.

BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 East Greene Street
Carlsbad, New Mexico 88220
575-234-5972

Permanent Abandonment of Production Zone Conditions of Approval

Failure to comply with the following Conditions of Approval may result in a Notice of Incidents of Noncompliance (INC) in accordance with 43 CFR 3163.1.

1. Plugging operations shall commence within ninety (90) days from this approval.

If you are unable to plug back the well by the 90th day provide this office, prior to the 90th day, with the reason for not meeting the deadline and a date when we can expect the well to be plugged back. Failure to do so will result in enforcement action.

2. Notification: Contact the appropriate BLM office at least 24 hours prior to the commencing of any plug back operations. For wells in Eddy County, call 575-361-2822. For wells in Lea County, call 575-393-3612

3. Blowout Preventers: A blowout preventer (BOP), as appropriate, shall be installed before commencing any plugging operation. The BOP must be installed and maintained as per API and manufacturer recommendations. The minimum BOP requirement is a 2M system for a well not deeper than 9,090 feet; a 3M system for a well not deeper than 13,636 feet; and a 5M system for a well not deeper than 22,727 feet.

4. Mud Requirement: Mud shall be placed between all plugs. Minimum consistency of plugging mud shall be obtained by mixing at the rate of 25 sacks (50 pounds each) of gel per 100 barrels of brine water. Minimum nine (9) pounds per gallon.

5. Cement Requirement: Sufficient cement shall be used to bring any required plug to the specified depth and length. Any given cement volumes on the proposed plugging procedure are merely estimates and are not final. Unless specific approval is received, no plug except the surface plug shall be less than 25 sacks of cement. Any plug that requires a tag will have a minimum WOC time of 4 hours.

In lieu of a cement plug across perforations in a cased hole (not for any other plugs), a bridge plug set within 50 feet to 100 feet above the perforations shall be capped with 25 sacks of cement. If a bailer is used to cap this plug, 35 feet of cement shall be sufficient. **Before pumping or bailing cement on top of CIBP, tag will be required to verify depth.**

Unless otherwise specified in the approved procedure, the cement plug shall consist of either **Neat Class "C"**, for up to 7,500 feet of depth or **Neat Class "H"**, for deeper than 7,500 feet plugs.

6. Subsequent Plug back Reporting: Within 30 days after plug back work is completed, file one original and three copies of the Subsequent Report, Form 3160-5 to BLM. The report should give in detail the manner in which the plug back work was carried out, the extent (by depths) of cement plugs placed, and the size and location (by depths) of casing left in the well. **Show date work was completed.**

7. Trash: All trash, junk and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.