

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
May 27, 2004

RECEIVED

JUN 29 2009

HOBBSOCD

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

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

¹ Operator Name and Address Cimarex Energy Co. of Colorado 5215 N. O'Connor Blvd., Ste. 1500 Irving, TX 75039		² OGRID Number 162683
		³ API Number 30-025-36255
⁴ Property Code 300523	⁵ Property Name Laguna Deep Unit	⁶ Well No 007
⁹ Proposed Pool 1 Apache Ridge; Bone Spring (2260)		¹⁰ Proposed Pool 2

⁷ Surface Location

UL or lot no. E	Section 36	Township 19S	Range 33E	Lot Idn	Feet from the 1980	North/South line North	Feet from the 950	East/West line West	County Lea
--------------------	---------------	-----------------	--------------	---------	-----------------------	---------------------------	----------------------	------------------------	---------------

⁸ Proposed 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
---------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

Additional Well Information

¹¹ Work Type Code P	¹² Well Type Code O	¹³ Cable/Rotary	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3599' GR
¹⁶ Multiple N	¹⁷ Proposed Depth 12540'	¹⁸ Formation Bone Spring	¹⁹ Contractor N/A	²⁰ Spud Date When Approved
Depth to Groundwater		Distance from nearest fresh water well		Distance from nearest surface water
Pit: Liner: Synthetic <input type="checkbox"/> mils thick Clay <input type="checkbox"/> Pit Volume: bbls Drilling Method:				
Closed-Loop System <input checked="" type="checkbox"/> Flowback Tanks Fresh Water <input type="checkbox"/> Brine <input type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17½"	13¾"	68 & 61#	3140'	1570	Surface (in place)
11"	8¾"	32#	4873'	920	Csg parted
11"	8¾"	32#	Patched over csg @ 1141'	490	Surface (in place)
7¾"	5½"	20#	13617'	1625	4450' (in place)

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Well currently producing uneconomically from Atoka perms @ 12602-620.' CIBP @ 13125' w/ 35' cmt. Morrow perms @ 13168-178' w/ CIBP @ 13310' w/ 12' cmt. Morrow perms @ 13376-382.'

Cimarex proposes to NU 5K BOP, TOOH w/ tbg assembly, and set CIBP @ 12575' w/ 35' cmt. Perf multiple Bone Spring zones: 9360'-64', 9390'-410', 9412'-56', 9604'-09', 10355'-62', 10536'-44' 3 spf, 270 holes.

Acid frac 10355-544.' Acidize w/ ball sealers 9604-09' and 9360-456.' Frac 9360-456.' Install pumping unit and turn to sales as Apache Ridge; Bone Spring oil well. See attached procedure.

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 the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature: *Natalie Krueger*
Printed name: Natalie Krueger

Title: Regulatory

E-mail Address: nkrueger@cimarex.com

Date: June 26, 2009

Phone: 469-420-2723

OIL CONSERVATION DIVISION

Approved by:

Title:

PETROLEUM ENGINEER

Approval Date:

AUG 24 2009

Expiration Date:

Conditions of Approval Attached ☐

Permit Expires 2 Years From Approval
Date Unless Drilling Underway
Plugback

16	1980'				<p>17 OPERATOR CERTIFICATION</p> <p><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></p> <p><u>Zeno Farris</u> 6/26/2009</p> <p>Signature Date</p> <hr/> <p style="text-align: center;">Zeno Farris</p> <p>Printed Name</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content;">950'</div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-top: 10px;">LG-2485-0000</div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px;">1980 FNL & 950 FWL</div>				<p>18 SURVEYOR CERTIFICATION</p> <p><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></p> <hr/> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p> <hr/> <p>Certificate Number</p>

LAGUNA DEEP UNIT FEDERAL #7 BONE SPRING RECOMPLETION

API # 30-025-36255
1980' FNL & 950' FWL
Section 39, T19S, R33E
Lea County, New Mexico

GL : 3599'
KB : 3618'
TD DRILLER : 13617'
SURF CSG : 20" 94# X-56 @ 511', Cmtd W/ 910 SX, CIRC 320 SX
13-3/8" 61/68# J55 STC @ 3145' Cmtd W/ 1570 SX. CIRC 205 SX
INTER CSG : 8-5/8" 32# J55 STC @ 4873' Cmtd W/ 920 SX. TOC
PROD CSG : 5-1/2" 20# P110 LTC @ 13617' Cmtd W/ 1625 SX, TOC ABOVE 4450'
DV TOOL : 8789'
CSG PATCH : Patch over Csg @ 1141' 8-5/8" 32# J55 StC. Cmmt W/ 490 SX, CIRC 61 SX
CSG SQUEEZE : Csg leak squeezed from 4029'-4062'. Held 1500#.
CIBP : 13125' W/ 35' cmt
TUBING: 2-7/8" L80 EUE 8rd (405 JOINTS), 2-7/8" SN, AS1x Pkr @ 12582.3'
PERFS: Atoka perfs from 12,602'-12,620'.

BONE SPRING

1. MIRU PULLING UNIT. DISCONNECT GAS LIFT PIPING FROM WELLHEAD. ND WELLHEAD NU BOPS.
2. RELEASE 5-1/2" AS 1x PKR @ 12582.3'. TOOH W/ 2-7/8" TUBING, GL VALVES, AND 5-1/2" PKR.
3. RU WIRLEINE. RIH W/ 5-1/2" CIBP AND SET AT 12575'. DUMP BAIL 35' OF CMNT.
4. RIH W/ 4" PERFORATING GUNS. PERFORATE BONE SPRING INTERVALS FROM 9360'-64', 9390'-410', 9412'-56', 9604'-09', 10355'-62', 10536'-44' USING 3 SPF W/ 120 DEG. PHASING 270 HOLES. CORRELATE TO OPEN HOLE HALLIBURTON NEUTRON SPECTRAL DENSITY LOG DATED 7/27/2003. MONITOR FLUID LEVEL IN AND OUT OF HOLE.

TOP PERF	BOTTOM PERF	FEET	# PERFS - 3 SPF	PLUS 0 HOLE	# BALL SEALERS	ACID JOB
9360	9364	4	12	13	20	7000 gals BALL JOB
9390	9410	20	60	61	92	
9412	9456	44	132	133	200	
9604	9609	5	15	16	24	500 gals BALL JOB
10355	10362	7	21	22	NA-divert w/ rate	ACID FRAC
10536	10544	8	24	25	NA-divert w/ rate	

5. RIH W/ 5-1/2" TREATING PACKER W/ BALL CATCHER AND 5-1/2" RBP ON 2-7/8" TUBING TESTING TUBING INTO HOLE TO 8500 PSI. SET 5-1/2" RBP W/ BALL CATCHER AT 10,600'. PU AND SET 5-1/2" TREATING PACKER AT 10,300'.

6. RU BJ STIMULATION. ACID FRAC 3RD BONE SPRING CARBONATE 10355'-62' & 10536'-44' USING 5320 GALS DEEPSHOT DELAYED 15% HCL AND 2500 GALS GELLED 15% HCL. MAX PRESSURE = 8000 PSI MAX RATE = 15 BPM. **RECORD 1 SECOND FALLOFF DATA FOR 1 HOUR.** SWAB DOWN PERFS ON DAY OF ACID JOB. SHUT WELL IN AND RECORD CUT AND FLUID ENTRY THE FOLLOWING MORNING. REPORT RESULTS TO MIDLAND ENGINEERING.
7. RELEASE 5-1/2" TREATING PACKER AT 10,300' AND PICK UP 5-1/2" RBP W/ BALL CATCHER AT 10,600'. PU AND SET 5-1/2" RBP W/ BALL CATCHER AT 9630'. SET 5-1/2" TREATING PACKER AT 9580'.
8. BREAKDOWN PERFORATIONS FROM (9604'-9609') USING **500** GALLONS 7.5% NEFE ACID BLEND AND 24 BALL SEALERS MAX RATE = 7 BPM MAX PRESSURE = 5400 PSI. **RECORD 1 SECOND FALLOFF DATA FOR 1 HOUR.**
9. RELEASE 5-1/2" TREATING PACKER AT 9580' AND PICK UP 5-1/2" RBP W/ BALL CATCHER AT 9630'. PU AND SET 5-1/2" RBP W/ BALL CATCHER AT 9500'. SET 5-1/2" TREATING PACKER AT 9300'.
10. BREAKDOWN PERFORATIONS FROM (9360'-64') (9390'- 410') (9360'-64') USING **7000** GALLONS 7.5% NEFE ACID BLEND AND 312 BALL SEALERS MAX RATE = 7 BPM MAX PRESSURE = 5300 PSI. **RECORD 1 SECOND FALLOFF DATA FOR 1 HOUR.** SWAB DOWN PERFS ON DAY OF ACID JOB. SHUT WELL IN AND RECORD CUT AND FLUID ENTRY THE FOLLOWING MORNING. REPORT RESULTS TO MIDLAND ENGINEERING.
11. RELEASE 5-1/2" TREATING PACKER AT 9300' AND PICK UP 5-1/2" RBP W/ BALL CATCHER AT 9500'. TOOH W/ 5-1/2" RBP W/ BALL CATCHER AND 5-1/2" TREATING PACKER ON 2-7/8" TUBING.
12. RIH W/ 5-1/2" TREATING PACKER AND 5-1/2" RBP ON 3-1/2" FRAC STRING. TESTING TUBING INTO HOLE TO 8500#.
13. SET 5-1/2" RBP AT 9520'. SET 5-1/2" TREATING PACKER AT 9500'. PRESSURE TEST TO 5000 PSI. RELEASE 5-1/2" TREATING PACKER AT 9500'. PU AND SET 5-1/2" TREATING PACKER AT 9300'.
14. FRAC PROCEDURE - RU BJ STIMULATION. ND BOP NU FRAC VALVE. RIG UP FLOWBACK MANIFOLD. FRACTURE STIMULATE PERFORATIONS (9360'-64') (9390'- 410') (9412'-56') W/ 170K# ECONOPROP 20/40. MAX RATE = 45 BPM MAX PRESSURE = 7700 PSI. INCLUDE SCALE INHIBITOR IN FRAC FLUIDS. FLOWBACK IMMEDIATELY BEGINNING AT 1.5 BPM UNTIL WELL DIES. REPORT FLOW RESULTS OF BONE SPRING ZONE AND REPORT TO ENGINEERING. OBTAIN SUFFICIENT BONE SPRING TEST BEFORE PROCEEDING.
15. RELEASE 5-1/2" TREATING PACKER AT 9300'. TOOH W/ 5-1/2" TREATING PACKER AND 3-1/2" FRAC STRING LAYING DOWN.
16. RIH WITH RETRIEVING HEAD ON 2-7/8" TUBING. TAG SAND. WASH SAND OFF OF RBP. RETRIEVE RBP AT 9520' (REVERSE RIG OR FOAM UNIT). TOOH WITH TUBING AND RBP.
17. RIH WITH 2-7/8 TUBING AND BHA CONFIGURED FOR PUMPING AND SET EOT @ ~10,700'.
18. INSTALL PUMPING EQUIPMENT AND OBTAIN PRODUCTION TEST FROM BONE SPRING PAY.
19. HAVE BJ MONITOR SCALE INHIBITOR RESIDUALS MONTHLY. OBTAIN DYNO CARD AND FLUID LEVEL AFTER WELL HAS BEEN PUMPING FOR 10 DAYS.