

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO 1004-0135  
Expires July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an Artesia abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMNM01085
2. Name of Operator CIMAREX ENERGY COMPANY OF CO		6. If Indian, Allottee or Tribe Name
3a. Address 600 NORTH MARIENFELD STREET SUITE 600 MIDLAND, TX 79701		7. If Unit or CA/Agreement, Name and/or No.
3b. Phone No (include area code) Ph: 432 620 1938		8. Well Name and No IRWIN 23-14 FEDERAL 1
4. Location of Well (Footage, Sec, T, R, M, or Survey Description) Sec 23 T19S R30E NENE Lot A 1300FNL 695FEL		9. AP Well No 30-015-39891
		10. Field and Pool, or Exploratory HACKBERRY
		11. County or Parish, and State EDDY COUNTY, NM

**12. CHECK 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"/> Fracture Treat	<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 checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original APD
	<input type="checkbox"/> Convert to Injection	<input 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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Change hole size and casing &amp; cementing program as shown on attached drilling and cementing plan

All other aspects of permit remain the same

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NMOCD ARTESIA

14. I hereby certify that the foregoing is true and correct	
Electronic Submission #132111 verified by the BLM Well Information System For CIMAREX ENERGY COMPANY OF CO, sent to the Carlsbad Committed to AFMSS for processing by DEBORAH MCKINNEY on 03/07/2012 (12DLM0663SE)	
Name (Printed/Typed) ZENO FARRIS	Title MANAGER OPERATIONS ADMIN
Signature (Electronic Submission)	Date 03/02/2012

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By CHRISTOPHER WALLS	Title PETROLEUM ENGINEER	Date 03/09/2012
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

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

Application to Drill  
**Irwin 23-14 Federal No. 1**  
 Cimarex Energy Co. of Colorado  
 Unit A, Section 23  
 T19S-R30E, Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

- 1 Location: SHL 23-19S-30E; 1300 FNL & 695 FEL  
 BHL 14-19S-30E; 330 FNL & 660 FEL
- 2 Elevation above sea level: 3280' GR
- 3 Geologic name of surface formation: Quaternary Alluvium Deposits
- 4 Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
- 5 Proposed drilling depth: 0
- 6 Estimated tops of geological markers:

Rustler	300'	First Bone Spring	7750'
T. Salt	580'	Second Bone Spring	8600'
B. Salt	1650'		
Yates	1680'		
Capitan Reef	2000'		
Delaware	3500'		
Bone Spring	6350'		
- 7 Possible mineral bearing formation:

Yates	Oil
Bone Spring	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 325'	8.4 - 8.6	28	NC	FW
325' to 1750'	10.0	30-32	NC	Brine water
1750' to 3600'	8.4-9.0	28-29	NC	FW
3600' to 14925'	8.5-9.5	27-29	NC	2% KCL

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

8a. Proposed drilling Plan

After setting surface 1&2 and intermediate casing, drill to pilot hole depth of 9000 and log. Set 250 sx Halcem H with additives from 8450-9000. Wt 16.6 ppg, yld 1.06 cf/sx. 50% excess. Drill through cement and kickoff 7 7/8" lateral @ 8514 and drill through the curve to lateral TD @ 14925 MD, 8800 TVD. Run 5 1/2" 17# P110 LTC from 0-TD and cement as shown. Use 5 1/2" 17# P110 LTC from 14925 8550, then cross over with 6' long 5 1/2" 17# LTC P110 Box x 4 1/2" 11# LTC Pin Tong Neck cross over to 5 1/2" 17# P110 LTC from 8550-0. Cement as shown on following page.

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9 Casing & Cementing Program:

String	Hole Size	Depth		Casing OD		Weight	Collar	Grade
<i>Surface 1</i>	20" or 22"	0'	to 325'	New	16"	84#	BTC	J-55
<i>Surface 2</i>	14 3/4"	0'	to 1750'	New	11 3/4"	42#	STC	H-40
<i>Intermediate</i>	11"	0'	to 3600'	New	8 5/8"	32#	LTC	J/K55
<i>Production</i>	7 7/8"	0'	to 8550'	New	5 1/2"	17#	LTC	P-110
<i>Production 2</i>	7 7/8"	8550'	to 14925'	New	4 1/2"	11#	LTC	P-110

10 Cementing:

<b>Surface 1</b>	Lead: 250SKS EconoCem C + 4% Bentomite + 2% CaCl 13.5ppg 1.75 yield 100% Excess Tail: 250sx HalCem + 1% CaCl 14.8 ppg 1.34 yield 25% Excess. Cement volumes to be adjusted depending on hole size. <b>TOC Surface Centralizers per Onshore Order 2.III.B.1f</b>
<b>Surface 2</b>	Lead: 525SKS EconoCem + 5% salt + 5 lbm gilsonite 13.5ppg 1.75 yield 75% Excess Tail: 110SKS HalCem + 1% CaCl 14.2ppg 1.34 yield 25% Excess <b>TOC Surface</b>
<b>Intermediate</b>	Lead: 525SKS EconoCem + 5% salt + 5 lbm gilsonite 12.9ppg 1.88 yield 70% Excess Tail: 200SKS HalCem + 1% CaCl 14.8ppg 1.34 yield 25% Excess. In case of severe losses run DV & ECP at 1850'. Cement volumes will be adjusted according. <b>TOC Surface</b>
<b>Production</b>	Lead: 790SKS EconoCem - H + 0.2 % HR-601 11.9ppg 2.44 yield 50% Excess Tail: 1780SKS Versacem - H + 0.5% Halad(R)-344 + 0.4% CFR-3 + 1 lbm/sk salt + 0.1% HR-601 14.5ppg 1.22 yield 25% Excess <b>Centralizers every 3rd joint in lateral and curve to provide adequate cement coverage every 100'</b> <b>TOC 1500' unless lateral doglegs require greater spacing between centralizers.</b>

According to the State Engineer, average depth to groundwater is 60'. Fresh water zones will be protected by setting 16" casing at 325 and 11 3/4" casing to 1750' and cementing to surface. Hydrocarbon zones will be protected by setting 8 5/8" casing at 3600 and cementing to surface, and by setting 5 1/2" & 4 1/2" casing at 14925 and cementing to 1500.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

11 Pressure control Equipment:

Exhibit "E". A 13 3/4" 5000 PSI working pressure B.O.P. tested to 3000 PSI consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head below 3600'. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. Mud-Gas separator will be utilized if drilling in potential H2S area.

BOP unit will be hydraulically operated. BOP will be nipped up and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the 16" surface pipe, the well will be equipped with a 2M diverter system with rotating head (see exhibit E-1). From the base of the 11 3/4" surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system tested to 3000 psi.

Before drilling out of 16" surface pipe the diverter system will be tested to 250 psi low and 500 psi high by rig equipment. Before drilling out of 11 3/4" surface pipe BOP's will be tested to 250 psi low and 3000 psi high by an independent service company. Hydril will be tested to 250 psi low and 1500 psi high.