

Form 3160-3  
(April 2004)FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.

LC-028480-B

6. If Indian, Allottee or Tribe Name

1a. Type of Work ☒ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No.

1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.

Hawker 7 Federal No. 4

2 Name of Operator

Cimarex Energy Co. of Colorado

9. API Well No.

30-015-

39397

3a. Address

600 N. Marienfeld St., Ste. 600; Midland, TX 79701

3b. Phone No. (include area code)

432-571-7800

10 Field and Pool, or Exploratory

Empire; Glorieta-Yeso

4. Location of Well (Report location clearly and in accordance with any State requirements)

At Surface

2310 FNL &amp; 940 FEL

11. Sec., T. R. M. or Blk. and Survey or Area

7-17S-29E

At proposed prod. Zone

14. Distance in miles and direction from nearest town or post office\*

12 County or Parish

Eddy

13. State

NM

15 Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drg. unit line if  
any)

330

16 No of acres in lease

120

17. Spacing Unit dedicated to this well

SENE 40

18 Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft

50'

19. Proposed Depth

5200'

20. BLM/BIA Bond No. on File

NM-2575

21 Elevations (Show whether DF, KDB, RT, GL, etc.)

3673' GR

22. Approximate date work will start\*

06.01.11

23. Estimated duration

10-15 days

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).   |
| 2. A Drilling Plan   | 5. Operator Certification   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office) | 6. Such other site specific information and/or plans as may be required by the authorized officer |

25. Signature

Zeno Farris

Name (Printed/Typed)

Zeno Farris

Date

03.29.11

Title

Manager Operations Administration

Approved By (Signature)

/s/ Don Peterson

Name (Printed/Typed)

Date

AUG 23 2011

Title

FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

Application approval 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

Conditions of approval, if any, are attached

APPROVAL FOR TWO YEARS

Title 18 U.S.S. 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)

Roswell Controlled Water Basin

SEE ATTACHED FOR  
CONDITIONS OF APPROVALApproval Subject to General Requirements  
& Special Stipulations Attached

Application to Drill  
Hawker 7 Federal No. 4  
Cimarex Energy Co. of Colorado  
Unit H, Section 7  
T17S R29E, 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 2310 FNL & 940 FEL
- 2 Elevation above sea level: 3673' 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: 5,200'
- 6 Estimated tops of geological markers:

Rustler	294'
Top of Salt	250'
Base of Salt	600'
Tansill	700'
Yates	830'
Seven Rivers	1057'
San Andres	2393'
Glorieta	3760'
Paddock	3880'
Blaine	4330'
Tubb	5200'
- 7 Possible mineral bearing formation:

Paddock	Oil
Blaine	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 210'	8.4 - 8.8	40-45	NC	FW
210' to 1100'	9.9 - 10.1	28-32	NC	Brine***
1100' to 5200'	9.1	28-32	NC	Cut Brine

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.

\*\*\* This is for the intermediate contingency plan.

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9 Casing Plan:

String	Hole Size	Depth		Casing OD		Weight	Thread	Collar	Grade
Surface	12 1/4"	0'	to 210'	New	9 1/2"	36#	8-R	STC	J55
Int Contingency	11"	0'	to 1100'	New	8 1/2"	24#	8-R	STC	J55
Production	8 3/4"	0'	to 5200'	New	5 1/2"	17#	8-R	LTC	N80

10 Cementing:

**Surface**

Lead: 160 sx Class "C" + 10% W-60 + 1% CaCl<sub>2</sub> + 0.25% R-38 + 5# Gilsonite per sx, 14.4 ppg, 1.56 cuft/sx, 7.04 gal fw.

Tail: 225 sx Class C + 2% CaCl<sub>2</sub> + 0.25% R-38, 14.8 ppg, 1.35 cuft/sx, 6.34 gal fw.

**100% Excess**

**TOC Surface Centralizers per Onshorder 2.III.B.1.f**

**Production**

Lead Slurry: 700 sacks Class C 50/50 Poz + 10% Bentonite + 0.3% FL-10 + 0.25% R-38 + 5% Salt, Mixed at 11.92 ppg. Yeild 2.37 cuft/sx, 13.52 gal/sx Fresh Water.

Tail Slurry: 320 sacks C Star Bond + 0.3% FL-10 + 0.1% C-20 + 0.25% R-38. Mixed at 13.2 ppg, Yeild 1.55 cuft/sx, 7.86 gal/sx Fresh Water.

**50% Excess**

**TOC Surface**

In case of lost returns while drilling 11" hole to 1100, Cimarex will run a contingency intermediate casing string.

**Intermediate** Lead: 200 sx 50:50 Poz: C +0.2% Defoamer (D046) +5% D044 (Salt) +10% D020 (Extender) +1/8 pps

**Contingency Cement** Polyflake (D130) +2 pps Gilsonite (D042), 11.8 ppg, Yeild 2.57, 15.061 gal/sx water.

Tail: 300 sx C +1%S001 (CaCl<sub>2</sub>), 14.8 ppg, 1.35 yeild, 6.365 gal/sx water.

**50% Excess**

**TOC Surface**

**Production Cement in case of Intermediate** Lead Slurry: 460 sacks Class C 50/50 Poz + 10% Bentonite + 0.3% FL-10 + 0.25% R-38 + 5% Salt, Mixed at 11.92 ppg. Yeild 2.37 cuft/sx, 13.52 gal/sx Fresh Water.

**Contingency** Tail Slurry: 320 sacks C Star Bond + 0.3% FL-10 + 0.1% C-20 + 0.25% R-38. Mixed at 13.2 ppg, Yeild 1.55 cuft/sx, 7.86 gal/sx Fresh Water.

**50% Excess**

**TOC Surface**

According to the State Engineer, average depth to ground water is 60'. Fresh water zones will be protected by setting 11 1/4" casing at 210 and cementing to surface. Hydrocarbon zones will be protected by setting 5 1/2" casing at 5200 and cementing to surface, and if needed, setting 8" casing at 1100 and cementing to surface.

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

APPROVED FOR DRILLING

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11 Pressure control Equipment:

Exhibit "E-1" - A 13 $\frac{3}{8}$ " 3000 PSI working pressure B.O.P. consisting of a one set of blind rams and one set of pipe rams and a 3000 psi annular-type preventor. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. 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 available if drilling in H2S areas.

BOP unit will be hydraulically operated. Below intermediate casing shoe, BOP will be 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 surface pipe through the running of production casing, the well will be equipped with a 3000 psi BOP system.

Test BOP equipment and choke manifold to 250 psi low and 3000 psi high and annular BOP to 250 psi low and 1500 psi high by an independent service company.

12 Testing, Logging and Coring Program: See CoA

- A. Mud logging                      No mud logging program.
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
- C. No DSTs or cores are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. The area has a potential H2S hazard. An H2S drilling plan is attached. Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP        **2300 psi**        Estimated BHT        **110°**

14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take        10-15 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Blinberry        pay will be perforated and stimulated.

The proposed well will be tested and potentialized as        **an oil well.**

SR & A

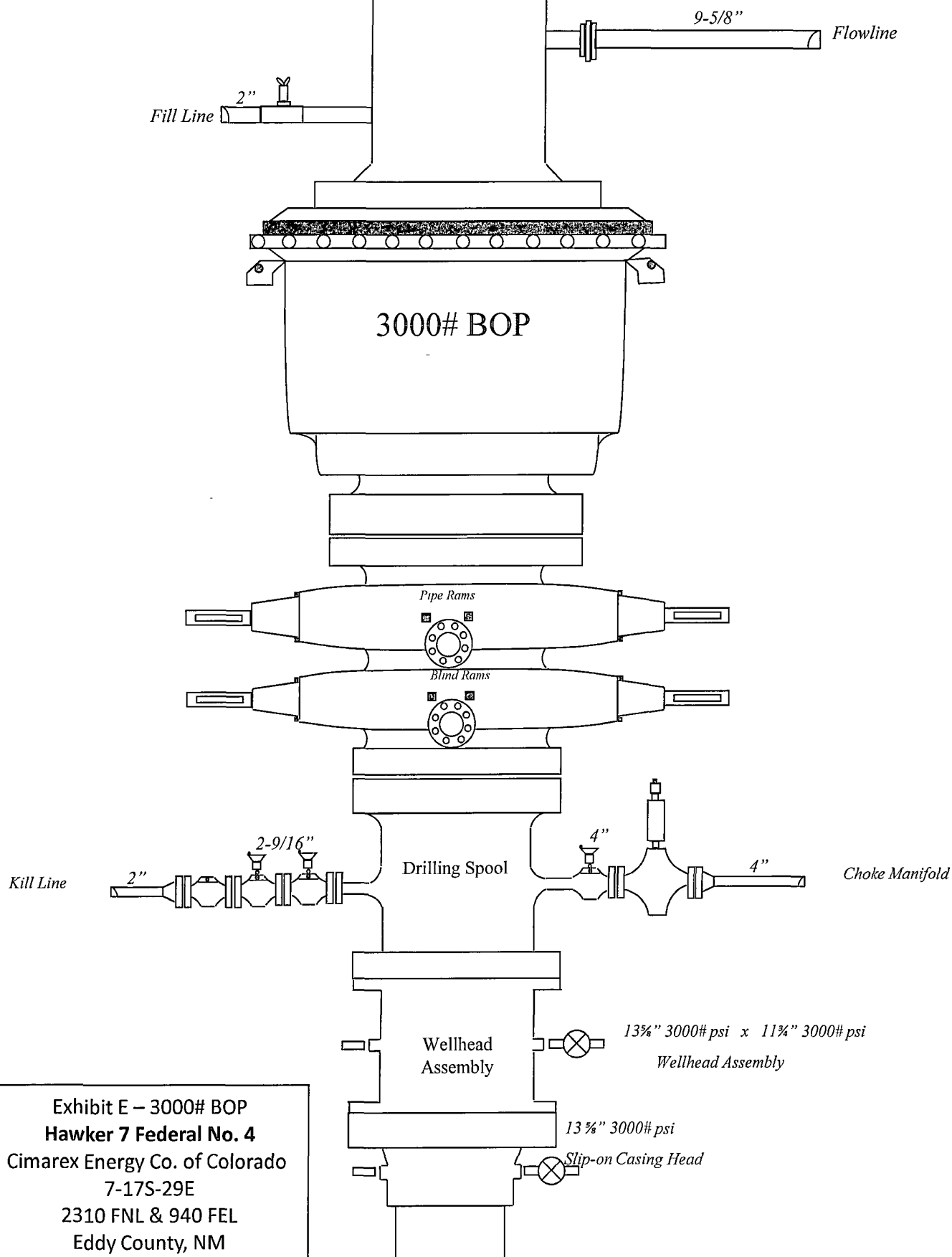


Exhibit E – 3000# BOP  
Hawker 7 Federal No. 4  
Cimarex Energy Co. of Colorado  
7-17S-29E  
2310 FNL & 940 FEL  
Eddy County, NM

**Drilling Operations**  
**Choke Manifold**  
**3M Service**

Exhibit E-1 – Choke Manifold Diagram

**Hawker 7 Federal No. 4**

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7-17S-29E

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