

OCD Artesia

Form 3160-3
(April 2004)

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-14847
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Cimarex Energy Co. of Colorado		7. If Unit or CA Agreement, Name and No.
3a. Address 600 N. Marienfeld St., Ste. 600; Midland, TX 79701	3b. Phone No. (include area code) 432-571-7800	8. Lease Name and Well No. Pere Marquette 18 Federal No. 8
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 990 FNL & 550 FWL At proposed prod. Zone 990 FNL & 550 FWL		9. API Well No. 30-015- 39023
14. Distance in miles and direction from nearest town or post office*		10. Field and Pool, or Exploratory Empire; Glorieta-Yeso
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 550'		11. Sec., T. R. M. or Blk. and Survey or Area 18-17S-29E
16. No of acres in lease 1054.42	17. Spacing Unit dedicated to this well Lot 1 26.69	12. County or Parish Eddy
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 695'	19. Proposed Depth TVD 5300	13. State NM
20. BLM/BIA Bond No. on File NM-2575	21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3707' GR	22. Approximate date work will start* 04.15.11
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. |

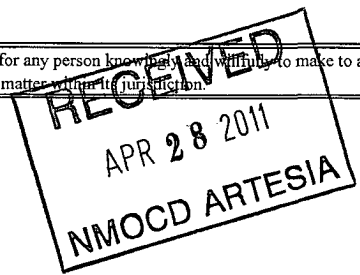
25. Signature <i>Zeno Farris</i>	Name (Printed/Typed) Zeno Farris	Date 02.03.11
Title Manager Operations Administration		
Approved By (Signature) <i>/s/ Don Peterson</i>	Name (Printed/Typed)	Date APR 19 2011
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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 APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

Application to Drill
Pere Marquette 18 Federal No. 8
Cimarex Energy Co. of Colorado
Lot 1, Section 18
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 990 FNL & 550 FWL
 BHL 990 FNL & 550 FWL
- 2 Elevation above sea level: 3662' 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: TVD 5300
- 6 Estimated tops of geological markers:
Rustler Surface
Top of Salt 200'
Base of Salt 700'
Tansill 777'
Yates 884'
Seven Rivers 1150'
San Andres 2403'
Glorieta 3797'
Paddock 3890'
Blinebry 4455'
Tubb 5225'
- 7 Possible mineral bearing formation:
Paddock Oil
Blinebry Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 300' 250'	8.4 - 8.8	40-45	NC	FW
300' to 5300'	9.9 - 10.1	28-32	NC	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.

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9 Casing Plan:

String	Hole Size	Depth	Casing OD	Weight	Thread	Collar	Grade
<i>See COA</i> Surface	12¼"	0' to 250' 300'	New 9½"	36#	8-R	STC	J55
Production	8¾"	0' to 5300'	New 5½"	17#	8-R	LTC	N80

Drilling Plan

Drill 8¾" hole to TVD 5300. Set and cement 5½" production casing from 0-5300.

10 Cementing:

Surface

Lead: 150 sx Class "C" + 4% D020 (Extender) + 2% S001 (CaCl₂) + 0.2% D046 (Defoamer) , Mixed at 12.9 ppg, 1.97 ft³/sx

Tail: 200 sx Class C + 1% S001 (CaCl₂), Mixed at 14.8 ppg, 1.34 ft³/sx

100% Excess

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

Production

Lead: 500 sacks 35/65 Poz/ C + 5% Salt (D044) + 10% Extender Gel (D020) + 0.02% Anti Foam (D046) + 1% Fluid Loss (D112) + 3 lbs/sx Extender (D042) + 0.125 lbs/sx Lost Circ Flakes, wt 12.4 ppg, yld 2.19 ft³/sx

Tail: 250 sx PVL+ 0.2% D167 + .2% D65 + .1% D13 + 1.3% NaCl, wt 13.0 ppg, yld 1.4 ft³/sk

25% Excess

TOC Surface

According to the State Engineer, average depth to ground water is 75.' Fresh water zones will be protected by setting 9½" casing at 300' and cementing to surface. Hydrocarbon zones will be protected by setting 5½" casing at 5320 and cementing to surface.

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

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11 Pressure control Equipment:

Exhibit "E-1" - An 11" 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 utilized if drilling in H2S area.

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.

Blinebry pay will be perforated and stimulated.

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

SR & A

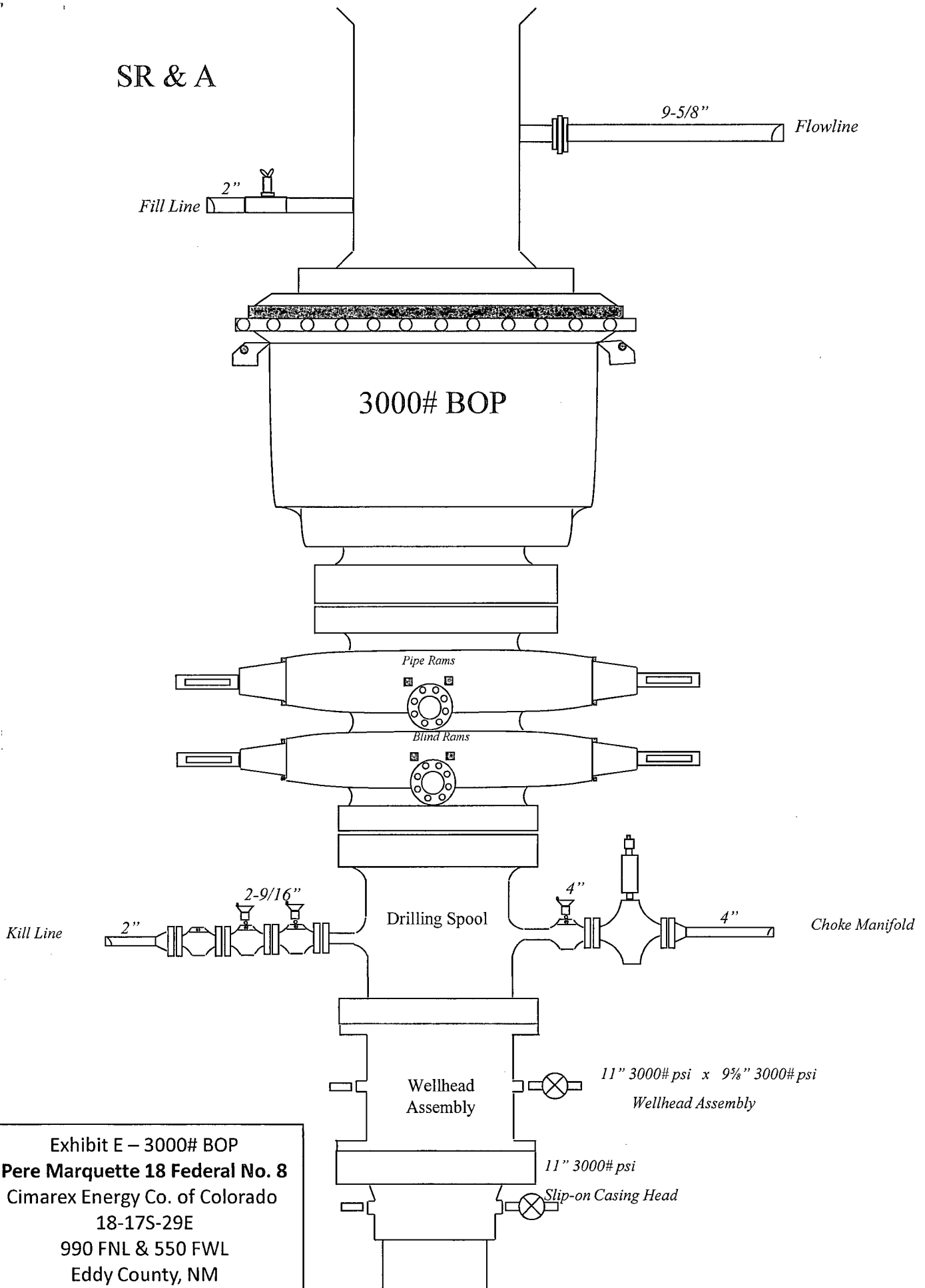


Exhibit E – 3000# BOP
Pere Marquette 18 Federal No. 8
Cimarex Energy Co. of Colorado
18-17S-29E
990 FNL & 550 FWL
Eddy County, NM

Drilling Operations
Choke Manifold
3M Service

Exhibit E-1 – Choke Manifold Diagram
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