

## 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		8. Lease Name and Well No. Pere Marquette 18 Federal No. 10
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-015- 38998
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 1800 FNL & 1210 FWL At proposed prod. Zone 1800 FNL & 1210 FWL		10. Field and Pool, or Exploratory Empire; Glorieta-Yeso
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area 18-17S-29E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 1210	16. No of acres in lease 1054.42	12. County or Parish Eddy
17. Spacing Unit dedicated to this well SENW 40	13. State NM	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 663'	19. Proposed Depth TVD 5300	20. BLM/BIA Bond No. on File NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3662' GR	22. Approximate date work will start* 04.15.11	23. Estimated duration 20-25 days

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

- Well plat certified by a registered surveyor
- A Drilling Plan
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator Certification
- 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) CARLSBAD FIELD OFFICE	Date APR 15 2011
Title FIELD MANAGER		

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

Approval Subject to General Requirements  
& Special Stipulations Attached

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

Application to Drill  
Pere Marquette 18 Federal No. 10  
Cimarex Energy Co. of Colorado  
Unit F, 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 1800 FNL & 1210 FWL  
BHL 1800 FNL & 1210 FEL
- 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'
Blaine	4455'
Tubb	5225'
- 7 Possible mineral bearing formation:

Paddock	Oil
Blaine	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to <del>300'</del> 250'	8.4 - 8.8	40-45	NC	FW
<del>300'</del> 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.

Application to Drill  
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9 Casing Plan:

*See COA*

String	Hole Size	Depth	Casing OD	Weight	Thread	Collar	Grade
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.

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 log*

- 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. Mud gas separator will be utilized if drilling in H2S area.

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              20-25 days

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

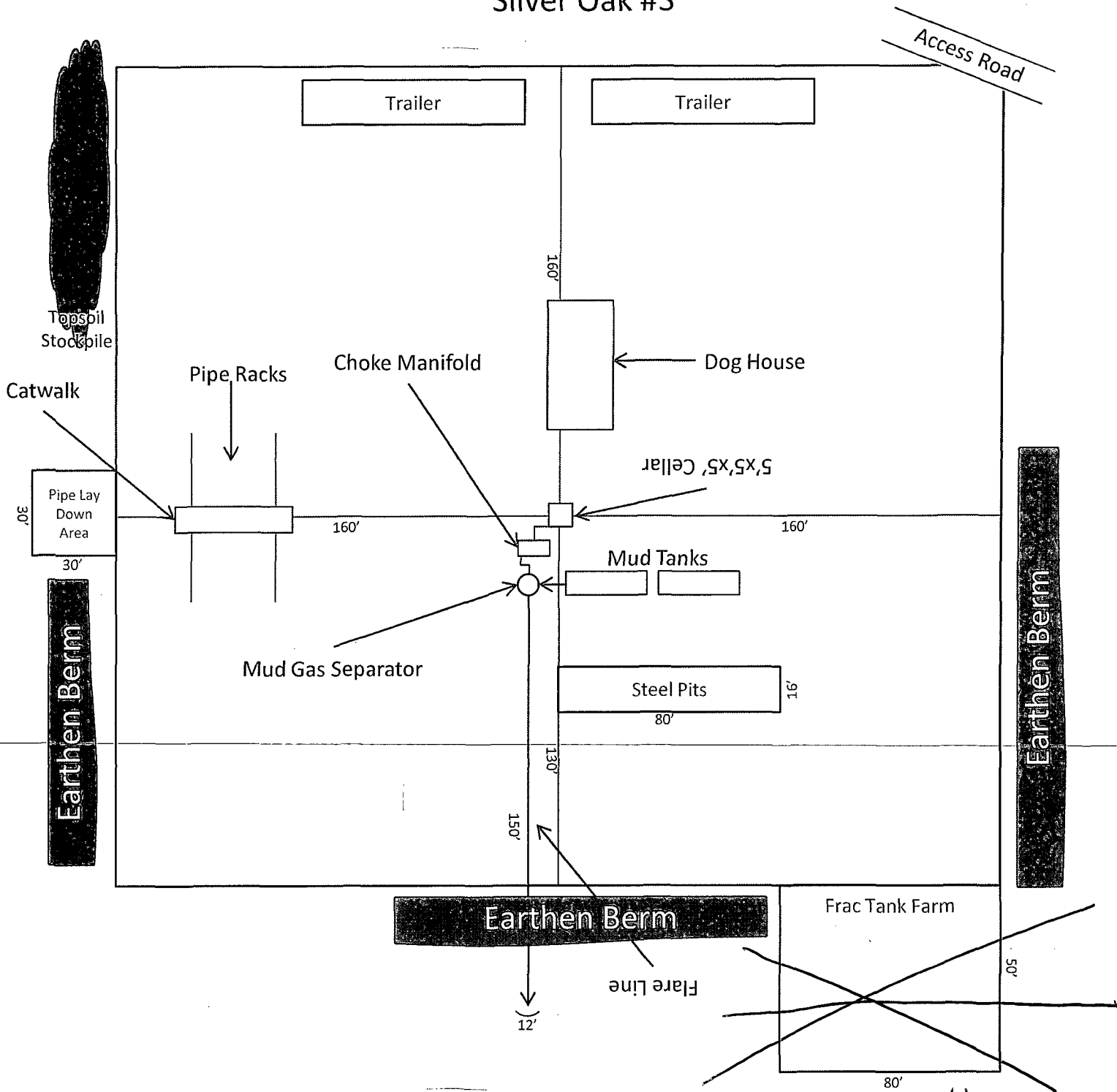
15 Other Facets of Operations:

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

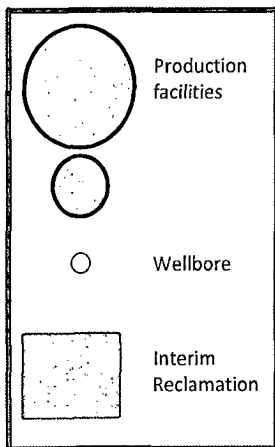
Blinebry              pay will be perforated and stimulated.

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

# Silver Oak #3



1"=50'



Limit 130' south  
See COAs

Exhibit D – Rig Diagram  
Pere Marquette 18 Federal No. 10  
Cimarex Energy Co. of Colorado  
18-17S-29E  
1800 FNL & 1210 FWL  
Eddy County, NM

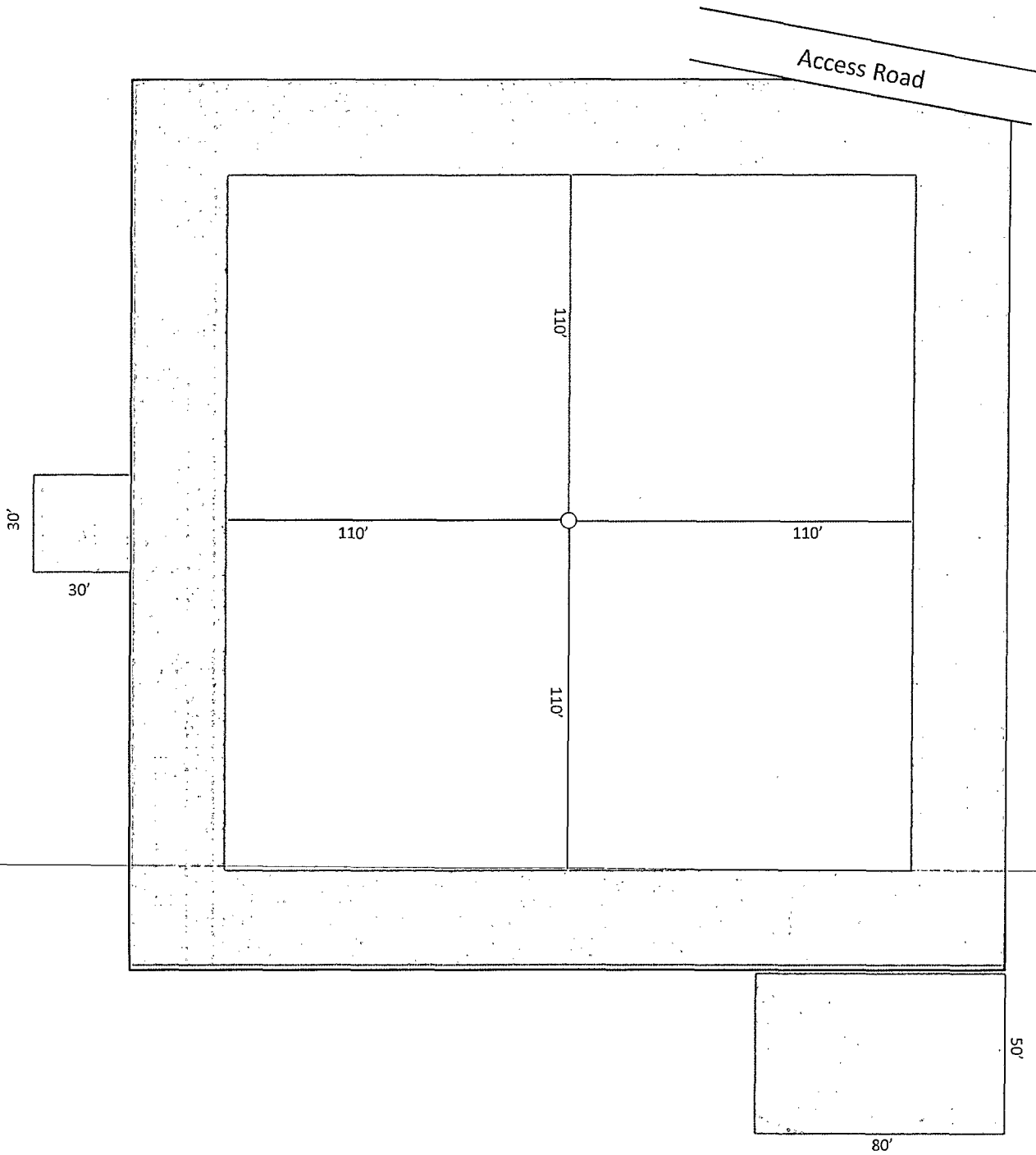
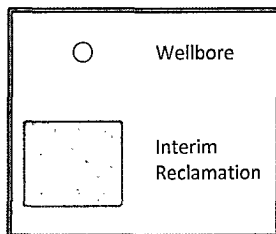


Exhibit D-1 Reclamation Plat  
**Pere Marquette 18 Federal No. 10**  
Cimarex Energy Co. of Colorado  
18-17S-29E  
1800 FNL & 1210 FWL  
Eddy County, NM



1"=50'

SR & A

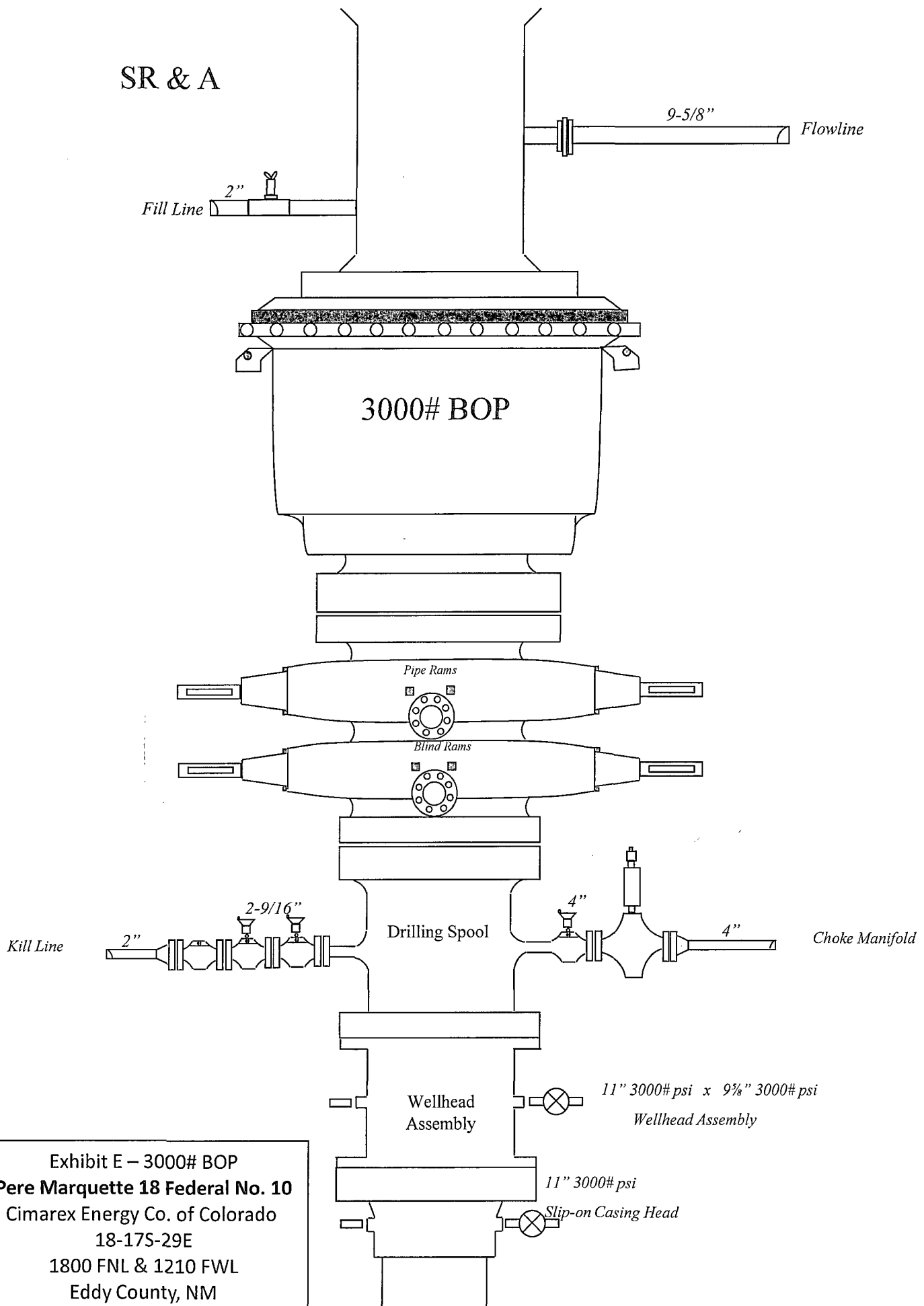


Exhibit E – 3000# BOP  
Pere Marquette 18 Federal No. 10  
Cimarex Energy Co. of Colorado  
18-17S-29E  
1800 FNL & 1210 FWL  
Eddy County, NM

Drilling Operations  
Choke Manifold  
3M Service

Exhibit E-1 – Choke Manifold Diagram  
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