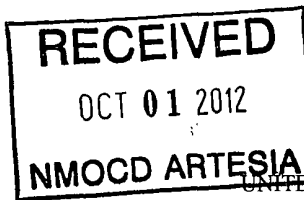


12-926

Form 3160-3  
(April 2004)

OCD Artesia

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 TES	
2. Name of Operator Cimarex Energy Co. <i>Colorado</i>		7. If Unit or CA Agreement, Name and No 10/10/2002	
3a. Address 600 N. Marienfeld St., Ste. 600; Midland, TX 79701		8. Lease Name and Well No. Pere Marquette 18 Federal No. 13 <i>&lt;38581&gt;</i>	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-015- <i>40785</i>	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 1199 FNL & 1412 FWL At proposed prod. Zone 1199 FNL & 1412 FWL		10. Field and Pool, or Exploratory Empire; Glorieta-Yeso <i>&lt;96210&gt;</i>	
14. Distance in miles and direction from nearest town or post office* <b>UNORTHODOX LOCATION</b>		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 drg. unit line if any) 1199'		12. County or Parish Eddy	
16. No of acres in lease 1054.42		13. State NM	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 887'		17. Spacing Unit dedicated to this well NENW 40	
19. Proposed Depth 5320'		20. BLM/BIA Bond No. on File NMNM2575; NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3697' GR		22. Approximate date work will start* 08.15.12	
		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>Tracie J Cherry</i>	Name (Printed/Typed) Tracie J Cherry	Date 09.06.12
---	---	------------------

Title Sr. Regulatory Analyst		Title /s/ Don Peterson		Date SEP 27 2012
Approved By (Signature) /s/ Don Peterson		Name (Printed/Typed) /s/ Don Peterson		
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.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

\* (Instructions on page 2)

Roswell Controlled Water Basin

NMOCD: Must be in compliance w/ Rule 5.9 to produce

Approval Subject to General Requirements &amp; Special Stipulations Attached

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

Operator Certification Statement  
**Pere Marquette 18 Federal No. 13**  
Cimarex Energy Co.  
Unit C, Section 18  
T17S R29E, Eddy County, NM

Operator's Representative

Cimarex Energy Co. of Colorado  
600 N. Marienfeld St., Ste. 600  
Midland, TX 79701  
Office Phone: (432) 571-7800  
Paula Brunson

**CERTIFICATION:** I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 2nd day of July, 2012

NAME:   
Paula Brunson

TITLE: Drilling Technician, Regulatory

ADDRESS: 600 N. Marienfeld St., Ste. 600  
Midland, TX 79701

TELEPHONE: (432) 571-7848

EMAIL: [pbrunson@cimarex.com](mailto:pbrunson@cimarex.com)

Field Representative: Same as above

## DISTRICT I

1625 N. French Dr., Hobbs, NM 88240  
Phone (505) 393-6161 Fax: (505) 393-0720

## DISTRICT II

611 S. First St., Artesia, NM 88210  
Phone (505) 748-1263 Fax: (505) 748-9720

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone (505) 334-6178 Fax: (505) 334-6170

## DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone (505) 476-3400 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised August 1, 2011

Submit one copy to appropriate  
District Office

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number <b>30-015-40785</b>	Pool Code <b>96210</b>	Pool Name <b>Empire; Glorieta-Yeso</b>
Property Code <b>38581</b>	Property Name <b>PERE MARQUETTE 18 FEDERAL</b>	Well Number <b>13</b>
OGRID No. <b>215099</b>	Operator Name <b>CIMAREX ENERGY CO.</b>	Elevation <b>3697'</b>

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>C</b>	<b>18</b>	<b>17 S</b>	<b>29 E</b>		<b>1199</b>	<b>NORTH</b>	<b>1412</b>	<b>WEST</b>	<b>EDDY</b>

## 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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
<b>40</b>			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p><b>OPERATOR CERTIFICATION</b></p> <p>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.</p> <p><i>Paula Brunson</i> 7/2/2012 Signature Date</p> <p><b>Paula Brunson</b> Printed Name</p> <p><b>pbrunson@cimarex.com</b> Email Address</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>APR 12 2012 Date Surveyed</p> <p><i>[Signature]</i> Signature of Professional Surveyor</p> <p><b>7977</b> Certificate No.</p> <p><b>26577</b> BASIN SURVEYS</p>

**Application to Drill**  
**Pere Marquette 18 Federal No. 13**  
**Cimarex Energy Co.**  
Unit C, 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   1199 FNL & 1412 FWL  
                              BHL   1199 FNL & 1412 FWL
- 2 Elevation above sea level:           3697' 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:           5,320'
- 6 Estimated tops of geological markers:  
Rustler                   Surface  
Top of Salt               285'  
Base of Salt              700'  
Tansill                   777'  
Yates                     884'  
Seven Rivers             1150'  
Queen                    1670'  
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 250'	8.4 - 8.8	40-45	NC	FW
250'	to 5320'	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**  
**Pere Marquette 18 Federal No. 13**  
**Cimarex Energy Co.**  
Unit C, Section 18  
T17S R29E, Eddy County, NM

9 Casing Plan:

String	Hole Size	Depth			Casing OD		Weight	Thread	Collar	Grade
Surface	12 1/4"	0'	to	250'	New	9 5/8"	36#	8-R	LTC	J55
Production	7 7/8"	0'	to	5320'	New	5 1/2"	17#	8-R	LTC	L80

Drilling Plan

Drill 7 7/8" hole to TVD 5320. Set and cement 5 1/2" production casing from 0-5320.

10 Cementing:

**Surface**      Lead: 150 sx Class "C" + 4% D020 (Extender) + 2% S001 (CaCl<sub>2</sub>) + 0.2% D046 (Defoamer) , Mixed at 12.9 ppg, 1.97 ft<sup>3</sup>/sx  
Tail: 200 sx Class C + 1% S001 (CaCl<sub>2</sub>), Mixed at 14.8 ppg, 1.34 ft<sup>3</sup>/sx  
**100% Excess**  
**TOC    Surface    Centralizers per Onshore order 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 ft<sup>3</sup>/sx  
Tail: 250 sx PVL+ 0.2% D167 + .2% D65 + .1% D13 + 1.3% NaCl, wt 13.0 ppg, yld 1.4 ft<sup>3</sup>/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 9 5/8" casing at 250' and cementing to surface. Hydrocarbon zones will be protected by setting 5 1/2" 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

**Application to Drill**  
**Pere Marquette 18 Federal No. 13**  
**Cimarex Energy Co.**  
Unit C, Section 18  
T17S R29E, Eddy County, NM

**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 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 - Surface to TD
- 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

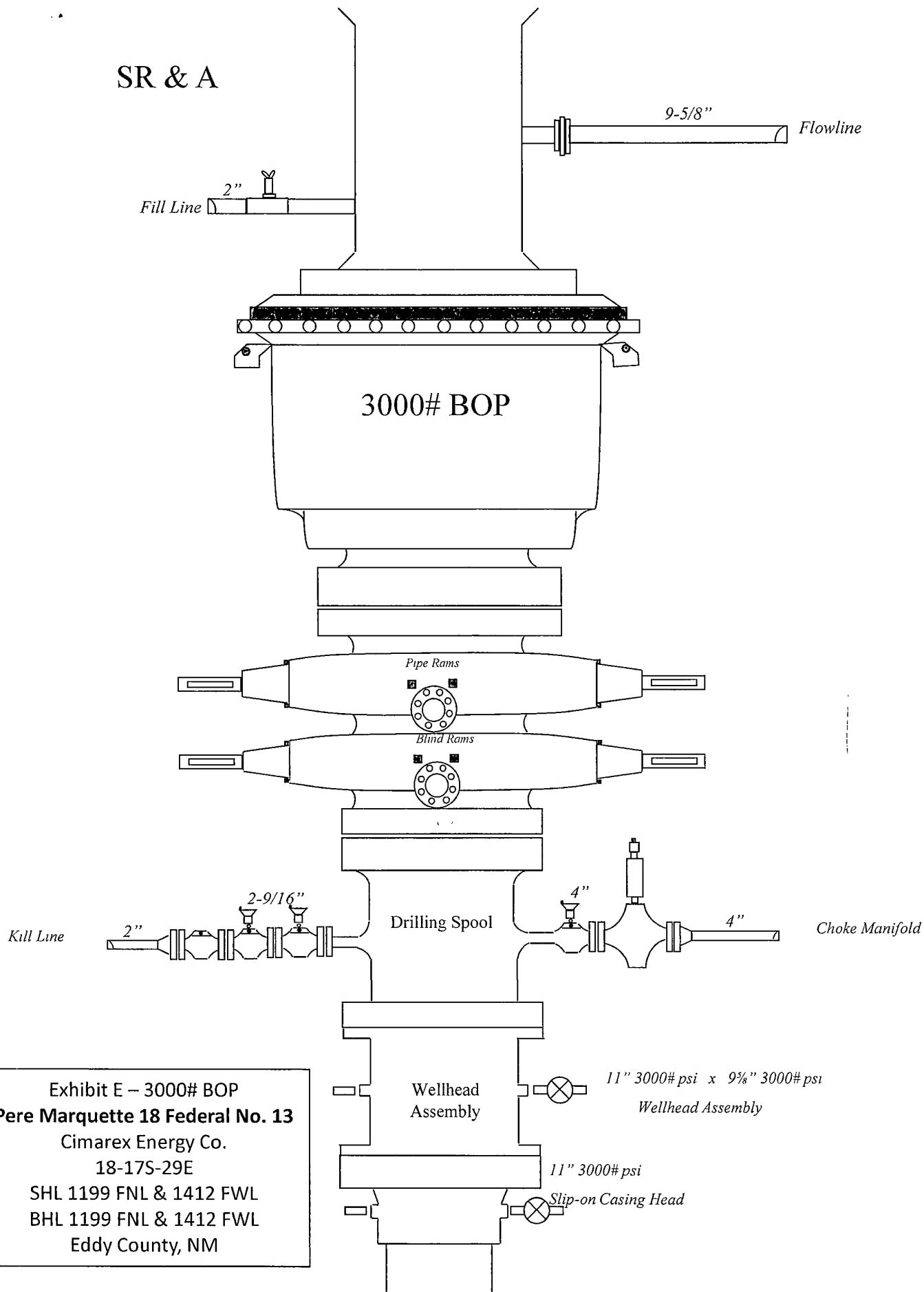


Exhibit E – 3000# BOP  
Pere Marquette 18 Federal No. 13  
Cimarex Energy Co.  
18-17S-29E  
SHL 1199 FNL & 1412 FWL  
BHL 1199 FNL & 1412 FWL  
Eddy County, NM

# Drilling Operations Choke Manifold 3M Service

Exhibit E-1 – Choke Manifold Diagram

Pere Marquette 18 Federal No. 13

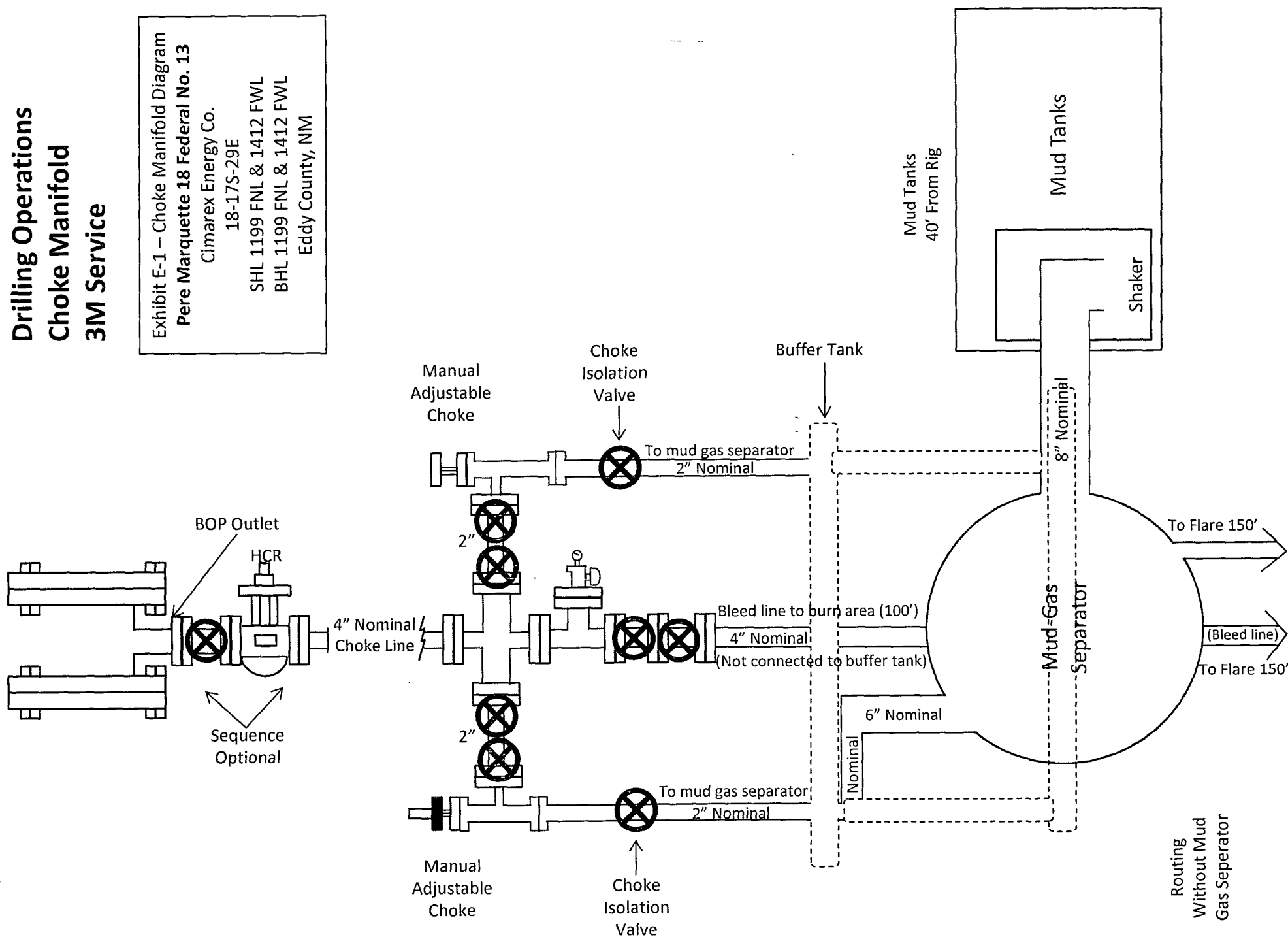
Cimarex Energy Co.

18-17S-29E

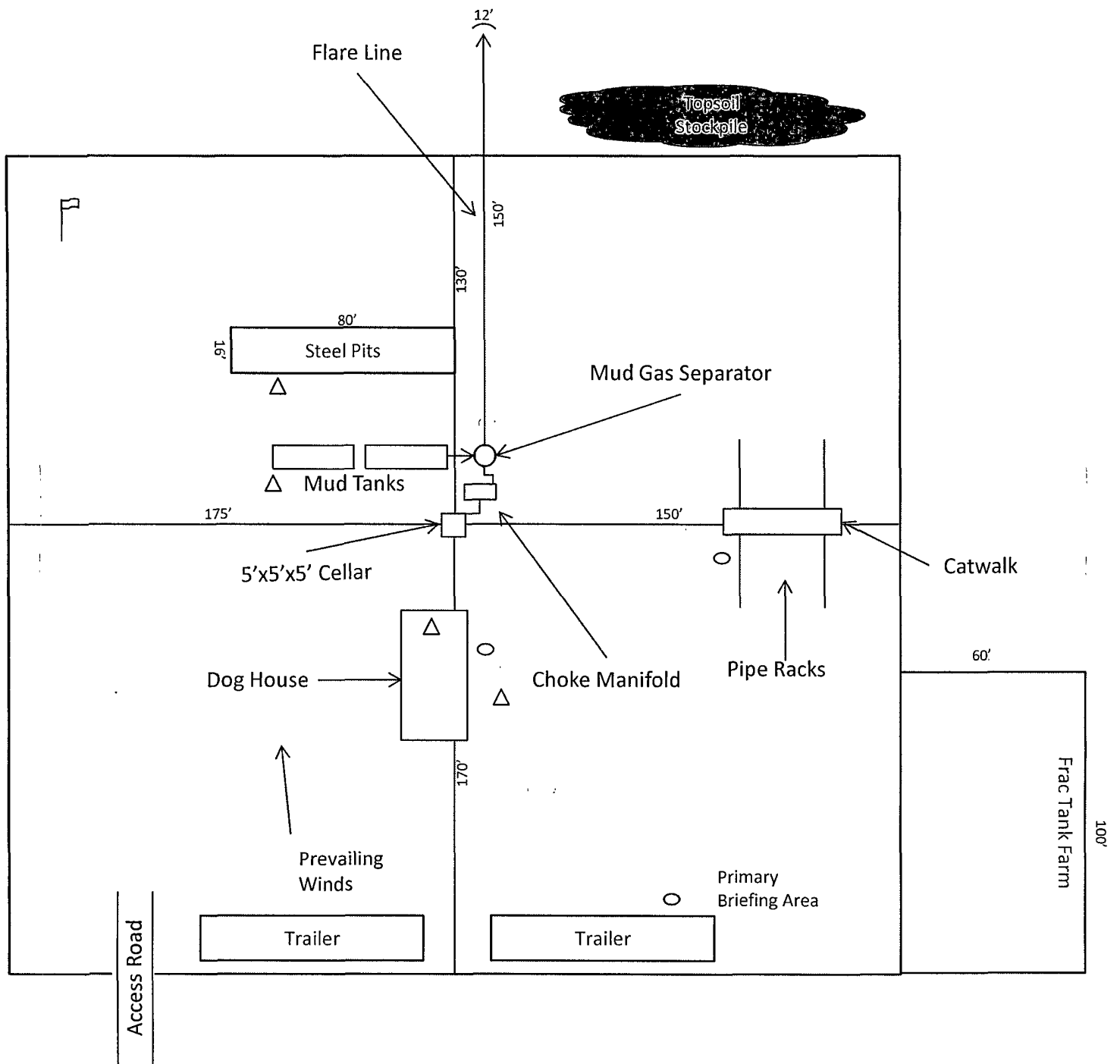
SHL 1199 FNL & 1412 FWL

BHL 1199 FNL & 1412 FWL

Eddy County, NM







Wind Direction Indicators  
(wind sock or streamers)



• H2S Monitors  
(alarms at bell nipple and shale shaker)



Briefing Areas

N



Exhibit D – Rig Diagram  
**Pere Marquette 18 Federal No. 13**  
 Cimarex Energy Co.  
 18-17S-29E  
 SHL 1199 FNL & 1412 FWL  
 BHL 1199 FNL & 1412 FWL  
 Eddy County, NM

**Hydrogen Sulfide Drilling Operations Plan**  
**Pere Marquette 18 Federal No. 13**  
**Cimarex Energy Co.**  
Unit C, Section 18  
T17S R29E, Eddy County, NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazards
  - C. Proper use of safety equipment and life support systems.
  - D. Principle and operation of H<sub>2</sub>S detectors, warning system and briefing areas.
  - E. Evacuation procedure, routes and first aid.
  - F. Proper use of 30 minute pressure demand air pack.
- 2 H<sub>2</sub>S Detection and Alarm Systems:
  - A. H<sub>2</sub>S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.
- 3 Windsock and/or wind streamers:
  - A. Windsock at mudpit area should be high enough to be visible.
  - B. Windsock at briefing area should be high enough to be visible.
- 4 Condition Flags and Signs:
  - A. Warning sign on access road to location.
  - B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H<sub>2</sub>S present in dangerous concentration). Only emergency personnel admitted to location.
- 5 Well control equipment:
  - A. See exhibit "E"
- 6 Communication:
  - A. While working under masks chalkboards will be used for communication.
  - B. Hand signals will be used where chalk board is inappropriate.
  - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 Drillstem Testing:

No DSTs or cores are planned at this time.
- 8 Drilling contractor supervisor will be required to be familiar with the effects H<sub>2</sub>S has on tubular goods and other mechanical equipment.
- 9 If H<sub>2</sub>S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H<sub>2</sub>S scavengers if necessary.

H<sub>2</sub>S Contingency Plan  
**Pere Marquette 18 Federal No. 13**  
Cimarex Energy Co.  
Unit C, Section 18  
T17S R29E, Eddy County, NM

**Emergency Procedures**

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must:

- ★ Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- ★ Evacuate any public places encompassed by the 100 ppm ROE.
- ★ Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- ★ Use the "buddy system" to ensure no injuries occur during the response.
- ★ Take precautions to avoid personal injury during this operation.
- ★ Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- ★ Have received training in the:
  - ◆ Detection of H<sub>2</sub>S, and
  - ◆ Measures for protection against the gas,
  - ◆ Equipment used for protection and emergency response.

**Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

**Characteristics of H<sub>2</sub>S and SO<sub>2</sub>**

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air=1	2 ppm	N/A	1000 ppm

**Contacting Authorities**

Cimarex Energy Co. of Colorado's personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Cimarex Energy Co. of Colorado's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

## H<sub>2</sub>S Contingency Plan Emergency Contacts

### Pere Marquette 18 Federal No. 13

Cimarex Energy Co.

Unit C, Section 18

T17S R29E, Eddy County, NM

#### Company Office

Cimarex Energy Co. of Colorado  
Co. Office and After-Hours Menu

800-969-4789

#### Key Personnel

Name	Title	Office	Mobile
Larry Seigrist	Drilling Manager	432-620-1934	972-333-1407
Scott Lucas	Field Drilling Super		432-894-5572
Jeff Lajoie	Field Drilling Super		432-257-9889
Tommy Herring	Field Drilling Super		432-238-2450

#### Artesia

Ambulance	911
State Police	575-746-2703
City Police	575-746-2703
Sheriff's Office	575-746-9888
<b>Fire Department</b>	<b>575-746-2701</b>
Local Emergency Planning Committee	575-746-2122
New Mexico Oil Conservation Division	575-748-1283

#### Carlsbad

Ambulance	911
State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
<b>Fire Department</b>	<b>575-887-3798</b>
Local Emergency Planning Committee	575-887-6544
US Bureau of Land Management	575-887-6544

#### Santa Fe

New Mexico Emergency Response Commission (Santa Fe)	505-476-9600
New Mexico Emergency Response Commission (Santa Fe) 24 Hrs	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635

#### National

National Emergency Response Center (Washington, D.C.)	800-424-8802
---	--------------

#### Medical

Flight for Life - 4000 24th St.; Lubbock, TX	806-743-9911
Aerocare - R3, Box 49F; Lubbock, TX	806-747-8923
Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque, NM	505-842-4433
SB Air Med Service - 2505 Clark Carr Loop S.E.; Albuquerque, NM	505-842-4949

#### Other

Boots & Coots IWC	800-256-9688	or	281-931-8884
Cudd Pressure Control	432-699-0139	or	432-563-3356
Halliburton	575-746-2757		
B.J. Services	575-746-3569		

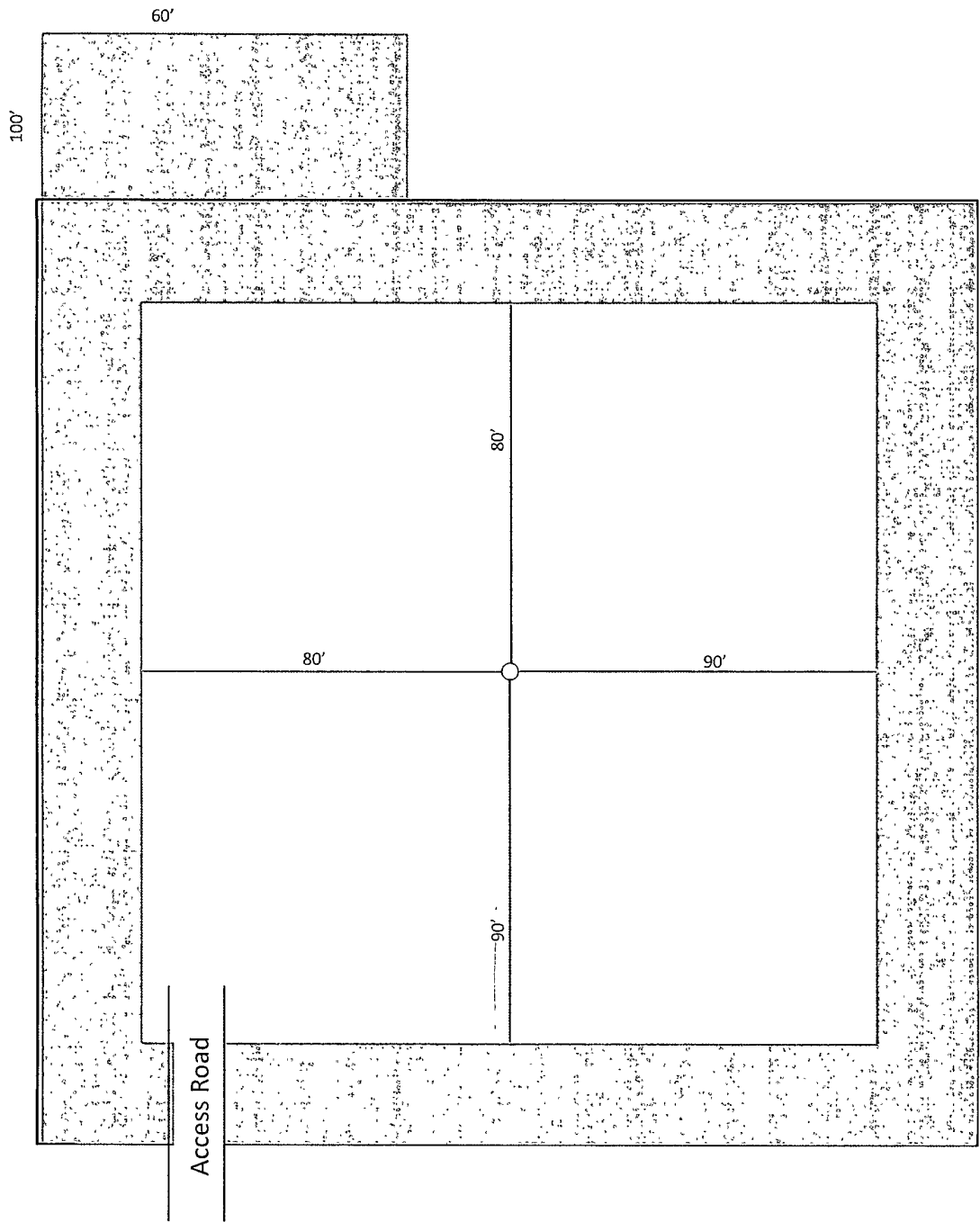
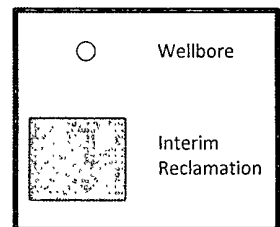


Exhibit D-1 Reclamation Plat  
**Pere Marquette 18 Federal No. 13**  
Cimarex Energy Co.  
18-17S-29E  
SHL 1199 FNL & 1412 FWL  
BHL 1199 FNL & 1412 FWL  
Eddy County, NM



## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Co of Colorado
LEASE NO.:	NM14847
WELL NAME & NO.:	13 Pere Marquette 18 Federal
SURFACE HOLE FOOTAGE:	1199' FNL & 1412' FWL
BOTTOM HOLE FOOTAGE:	' FL & ' FL
LOCATION:	Section 18, T.17 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

### TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Pad restriction**
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - H2S Requirements—Onshore Order #6
  - Logging Requirements
  - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**