

ATS-11-200

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Form 3160-3
(April 2004)JAN 31 2011
HOBBSOCDFORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTJAN 31 2011
HOBBSOCD

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-36916
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 <i>L162683</i>		7. If Unit or CA Agreement, Name and No. NM-72609X North Maduro Federal Unit
3a. Address 600 N. Marienfeld St., Ste. 600; Midland, TX 79701		8. Lease Name and Well No. <i><300536></i> North Maduro Unit No. 6
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-025- 40038
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 2310 FNL & 610 FWL <i>Unit E</i> At proposed prod. Zone		10. Field and Pool, or Exploratory Crazy Horse; Delaware <i><13390></i>
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area 20-19S-33E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 610'	16. No of acres in lease 320 acres	17. Spacing Unit dedicated to this well SWNW 40 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A	19. Proposed Depth 6,000'	20. BLM/BIA Bond No. on File NM-2575
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3612' GR	22. Approximate date work will start* 02.28.11	23. Estimated duration 25-30 days

24. Attachments

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>Natalie Krueger</i>	Name (Printed/Typed) Natalie Krueger	Date 12.22.10
Title Regulatory Analyst		
Approved By (Signature) <i>James A. Amos</i>	Name (Printed/Typed)	Date JAN 28 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.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)

Capitan Controlled Water Basin

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

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DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

JAN 31 2011

HOBBS OIL

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised July 16, 2010

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 90-025-40038	Pool Code 13390	Pool Name Crazy Horse; Delaware
Property Code 300536	Property Name NORTH MADURO UNIT	Well Number 6
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 3612'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	20	19 S	33 E		2310	NORTH	610	WEST	LEA

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 40	Joint or Infill	Consolidation Code	Order No.
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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>SURFACE LOCATION Lat - N 32°38'48.088" Long - W 103°41'30.762" NMSPCE- N 599593.4 E 738774.3 (NAD-83)</p>	<p>OPERATOR CERTIFICATION 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>Natalie Krueger</i> 12/22/2010 Signature Date Natalie Krueger Printed Name nkrueger@cimarex.com Email Address</p> <p>SURVEYOR CERTIFICATION 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>DECEMBER 22 2010 Date Surveyed Signature & Seal of Professional Surveyor Professional Surveyor Certificate No. Gary L. Jones 7977 BASIN SURVEYS 23895</p>
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Application to Drill
North Maduro Unit No. 6
Cimarex Energy Co. of Colorado
Unit E, Section 20
T19S-R33E, Lea County, NM

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

- 1 Location: 2310 FNL & 610 FWL
- 2 Elevation above sea level: 3612' 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: 6,000' 0
- 6 Estimated tops of geological markers:

Rustler	1255'
T Salt	1350'
B Salt	2665'
Yates	3138'
Queen	4147'
Delaware SS	5300'
- 7 Possible mineral bearing formation:

Delaware	Oil
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8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1380'	8.4 - 8.6	28	NC	FW
1380' to 3000'	10.0	30-32	NC	Brine water
3000' to 6000'	8.4 - 9.5	30-32	NC	FW, 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 & Cementing Program:

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
See CoA Surface	17½"	0' to 1355' ^{See CoA} 1380'	New 13½"	48#	STC	H-40
Intermediate	12¾"	0' to 3000'	New 9½"	40#	LTC	J/K-55
Production	8¾"	0' to 6000'	New 5½"	17#	LTC	P-110

10 Cementing:

Surface
See CoA
Lead: 440SKS Halcem C + 4% Bentomite + 2% CaCl 13.5ppg 1.75yield 100% Excess
Tail: 30SKS Halcem C + 2% CaCl 14.2ppg 1.34 yield 50% Excess
TOC Surface

Intermediate
Lead: 980SKS EconoCem + 5% salt + 5 lbm gilsonite 14.6ppg 1.54yield 70% Excess
Tail: 200SKS Halcem + 1% CaCl 14.8ppg 1.34 yield 25% Excess
TOC Surface

Production
Lead: 960SKS EconoCem - H + 0.2 % HR-601 2.44 11.9ppg 2.44 yield 50% Excess
Tail: 1385SKS 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
TOC 2800'

Office of the State Engineer indicates average depth to groundwater at 177'. Fresh water zones will be protected by setting 13½" casing at 550' and cementing to surface. Hydrocarbon zones will be protected by setting 9½" casing at 3000 and cementing to surface, and by setting 5 1/2" casing at 6000 and cementing to 2800.

<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 13½" 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 6000.' 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. 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 surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system tested to 3000 psi.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high. Hydril will be tested to 250 psi low and 1500 psi high.

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12 Testing, Logging and Coring Program: *See COA*

- A. Mud logging program: 2 man unit from 3000 to TD
- 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. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H₂S Safety package on all wells, attached is an "H₂S Drilling Operations Plan." 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 **2400 psi** Estimated BHT **139°**

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

Drilling expected to take 30-35 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.

Delaware pay will be perforated and stimulated.

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

Silver Oak 3

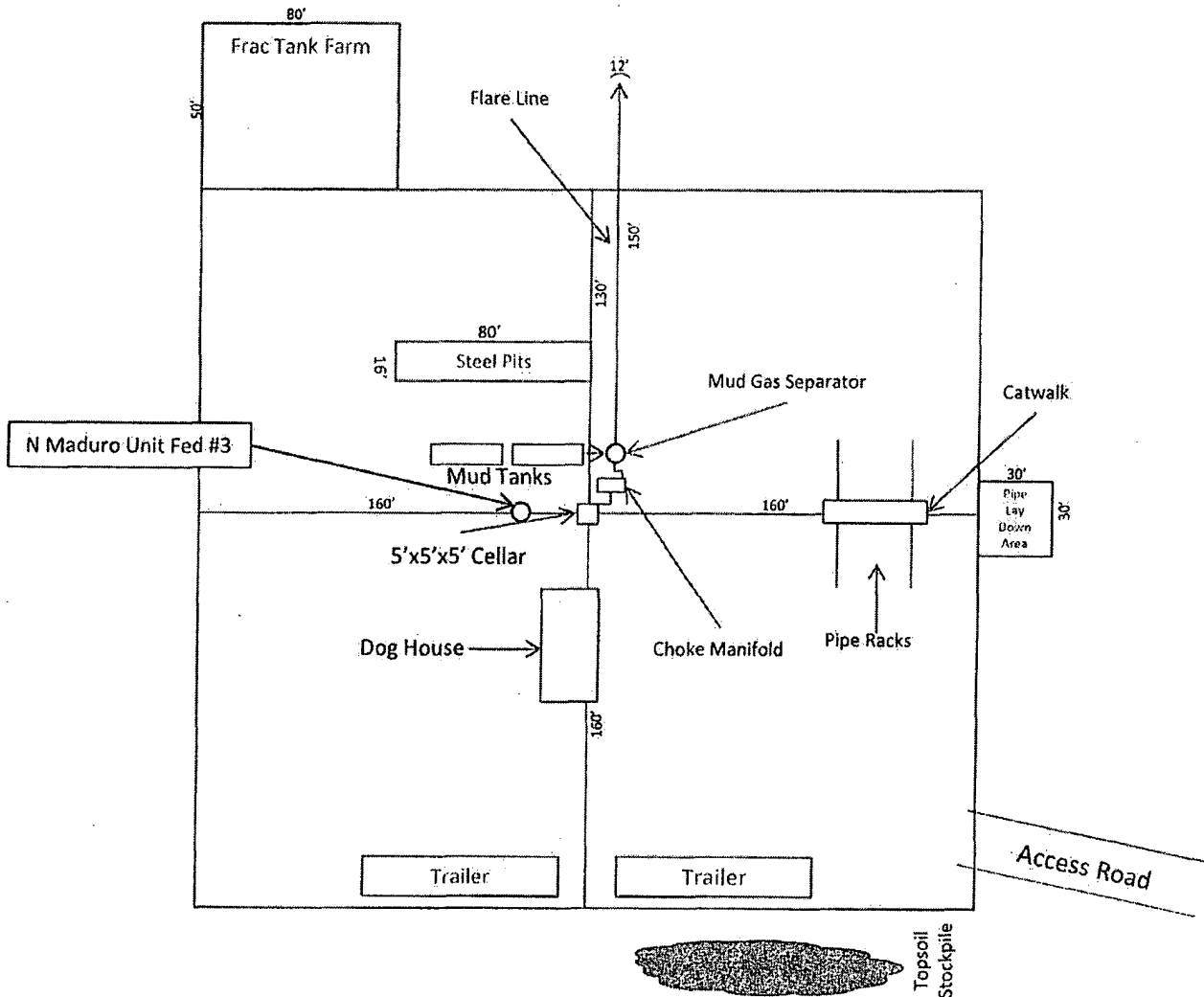


Exhibit D – Rig Diagram
 North Maduro Unit No. 6
 Cimarex Energy Co. of Colorado
 20-19S-33E
 2310 FNL & 610 FWL
 Lea County, NM

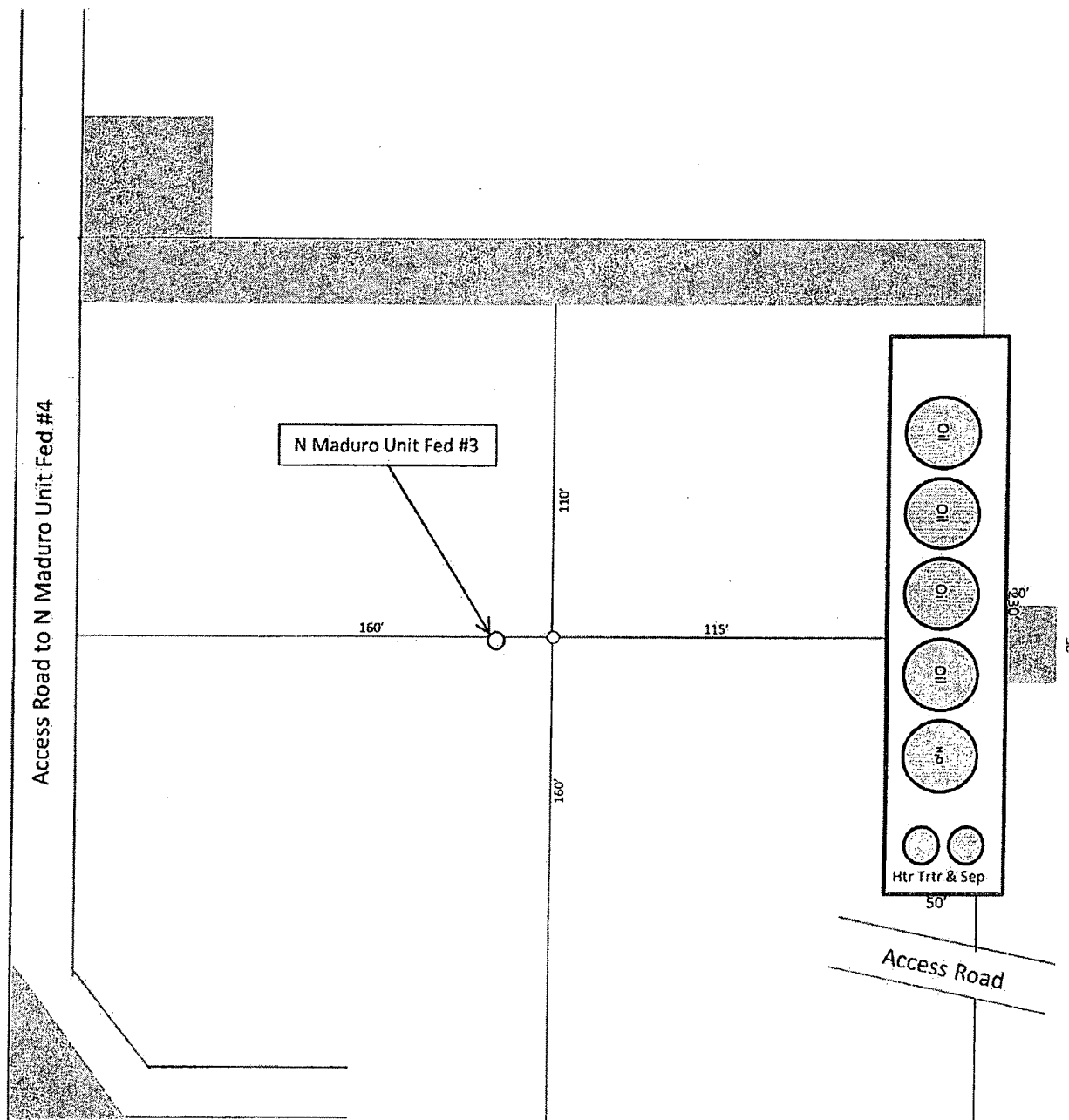
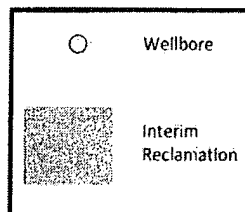


Exhibit D-1
 North Maduro Unit No. 6
 Cimarex Energy Co. of Colorado
 20-19S-33E
 2310 FNL & 610 FWL
 Lea County, NM



1"=50'

SR & A

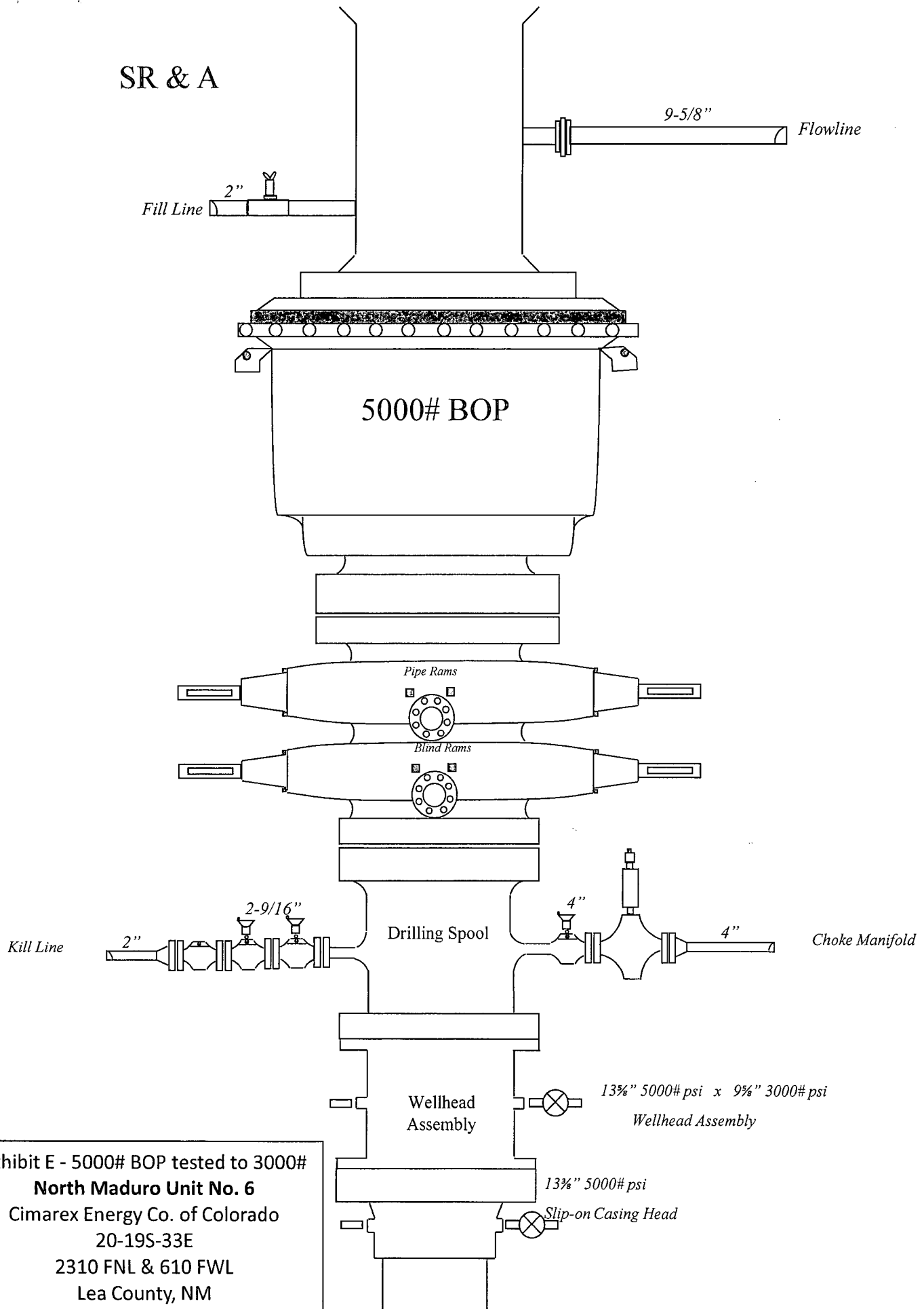


Exhibit E - 5000# BOP tested to 3000#
North Maduro Unit No. 6
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20-19S-33E
2310 FNL & 610 FWL
Lea County, NM

Drilling Operations
Choke Manifold
5M Service tested to 3M

Exhibit E-1 – Choke Manifold Diagram
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20-19S-33E
2310 FNL & 610 FWL
Lea County, NM

