

AS-12-671

OCD Hobbs

HOBBS OCD

Form 3160-3
(April 2004)

AUG 01 2012

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT **RECEIVED**

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No NMLC 057210	
1b Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" 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 Pearsall Federal SWD No. 1 393767	
3b Phone No (include area code) 432-571-7800		9 API Well No 30-025- 40712	
4 Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 2303 FNL & 1260 FWL Unit E At proposed prod Zone 2303 FNL & 1260 FWL SWD Well		10 Field and Pool, or Exploratory SWD; Wolfcamp 96135	
14 Distance in miles and direction from nearest town or post office*		11 Sec, T R M or Blk and Survey or Area 28-17S-32E	
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line if any) 1260'		12 County or Parish Lea	
16 No of acres in lease 200 160		13 State NM	
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 315'		17 Spacing Unit dedicated to this well NA	
21 Elevations (Show whether DF, KDB, RT, GL, etc) 4015' GR		20 BLM/BIA Bond No on File NM-2575	
22 Approximate date work will start* 07.30.12		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 Zeno Farris	Name (Printed/Typed) Zeno Farris	Date 05.02.12
Title Manager Operations Administration		
Approved By (Signature) /s/ W. W. Ingram	Name (Printed/Typed) CARLSBAD FIELD OFFICE	Date JUL 30 2012
Title FIELD MANAGER		

Application approval does not
conduct operations thereon
Conditions of approval, if any
Title 18 U S S Section 1001.
States any false, fictitious, or
* (Instructions on page 2)

CONDITION OF APPROVAL- Approval for
drilling only. **CAN NOT** dispose into the
wellbore without a Disposal order approved by
the Santa Fe OCD office.

at lease which would entitle the applicant to
APPROVAL FOR TWO YEARS
make to any department or agency of the United

08/03/12
Roswell Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

AUG 06 2012

Application to Drill
Pearsall Federal SWD #1
 Cimarex Energy Co. of Colorado
 Unit E, Section 28
 T17S-R32E, Lea 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 2303 FNL & 1260 FWL
 BHL 2303 FNL & 1260 FWL
- 2 Elevation above sea level: 4015' 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: MD 10500' TVD 10500'
- 6 Estimated tops of geological markers:

Rustler	900'
Top of Salt	Stringy
Base of Salt	Stringy
Salado	1015'
Tansill	2250'
Yates	2235'
Seven Rivers	2500'
Queen	3160'
Grayburg	3566'
San Andres	3920'
Top/base MCA Unit	3500'/4200'
Glorieta	5340'
Paddock	5780'
Bone Spring	6220' — 7
Tubb	7410'
Drinkard	7470'
Abo	7750'
Wolfcamp	9225'
Cisco	10700'
- 7 Possible mineral bearing formation:
 Not applicable

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 900'	8.4 - 9.0	28	NC	FW
900' to 3000'	10.0	30-32	NC	Brine water
3000' to 4230'	10.0	30-32	NC	Brine water
4230' to 10500'	8.4-9.0	28-29	NC	FW and brine, use hi-vis sweeps to keep hole clean

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.

Proposed drilling Plan

After setting surface and intermediate drill 8 3/4" hole to TD @ 10500'. Run 5 1/2" 26# L-80 LTC from 0-10500 and cement to 3700'.

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9 Casing & Cementing Program:

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	17 1/2"	0' to 955' 900'	New 13 3/8"	48#	STC	H-40
Intermediate	12 1/4"	0' to 3000'	New 9 5/8"	36#	LTC	J-55
Intermediate	12 1/4"	3000' to 4230'	New 9 5/8"	40#	LTC	N-80
Production	7 7/8"	3700' to 10500'	New 5 1/2"	26#	LTC	L-80

17#

10 Cementing:

Surface

Lead: 600 sx Class C + 4% Bentonite + 2% CaCl₂, 13.5 ppg 1.75 yield

Tail: 200 sx Class C + 2% CaCl₂, 14.8 ppg, 1.35 yield, 100% Excess

TOC Surface Centralizers per Onshore Order 2.III.B.1.f

Intermediate

Lead: 1150 sx Econocem + 5% Salt + 5 lbm/sk Gilsonite, yld 1.88,

Tail: 200 sks Halcem + 1% CaCl₂ (wt 14.8, yld 1.34) 100% Excess

TOC Surface

Production

Stage 1: Lead 425 sx EconoCem - H + 0.2 % HR-601 11.9ppg 2.44 yield 75% Excess

Tail 225 sx Versacem - H + 0.5% Halad(R)-344 + 0.4% CFR-3 + 1 lbm/sk salt + 0.1% HR-601 14.5ppg 1.22 yield 75% Excess

Stage 2: Lead 950 sx Econocem - H + 0.2% HR-601 11.9 ppg 2.44 yield. Tail 125 sx Versacem - H + 0.5% Halad(R)-344 + 0.4% CFR-3 + 1 lbm/sk salt + 0.1% HR-601 14.5 ppg 1.22 yield. 50% excess.

TOC 3700' DV-Tool to be set at +/- 7000' or between 200' of current shoe and 50' of previous shoe

According to the State engineer, depth to ground water is 21'. Fresh water zones will be protected by setting 13 3/8" casing at 900' and cementing to surface. Hydrocarbon zones will be protected by setting 9 5/8" casing at 4230' and cementing to surface, and Injection zone by setting 5 1/2" casing at 10500' and cementing to 3700'.

<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 13 5/8" 5000 PSI working pressure BOP system 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 as needed. 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 installed before drilling out of the surface casing.

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 13 3/8" casing through the running of production casing, the well will be equipped with a 5000 psi BOP system.

Before drilling out of 13 3/8" surface casing 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. Before drilling out of the 9 5/8" intermediate casing BOP's will be tested by an independent service company to 250 psi low and 5000 psi high. Hydril will be tested to 250 psi low and 2500 psi high.

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

- A. Mud logging program: 0
- 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. 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 **4725 psi** Estimated BHT **138°**

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.

Wolfcamp pay will be perforated and stimulated.

The proposed well will be tested and potentialized as **SWD**

SR & A

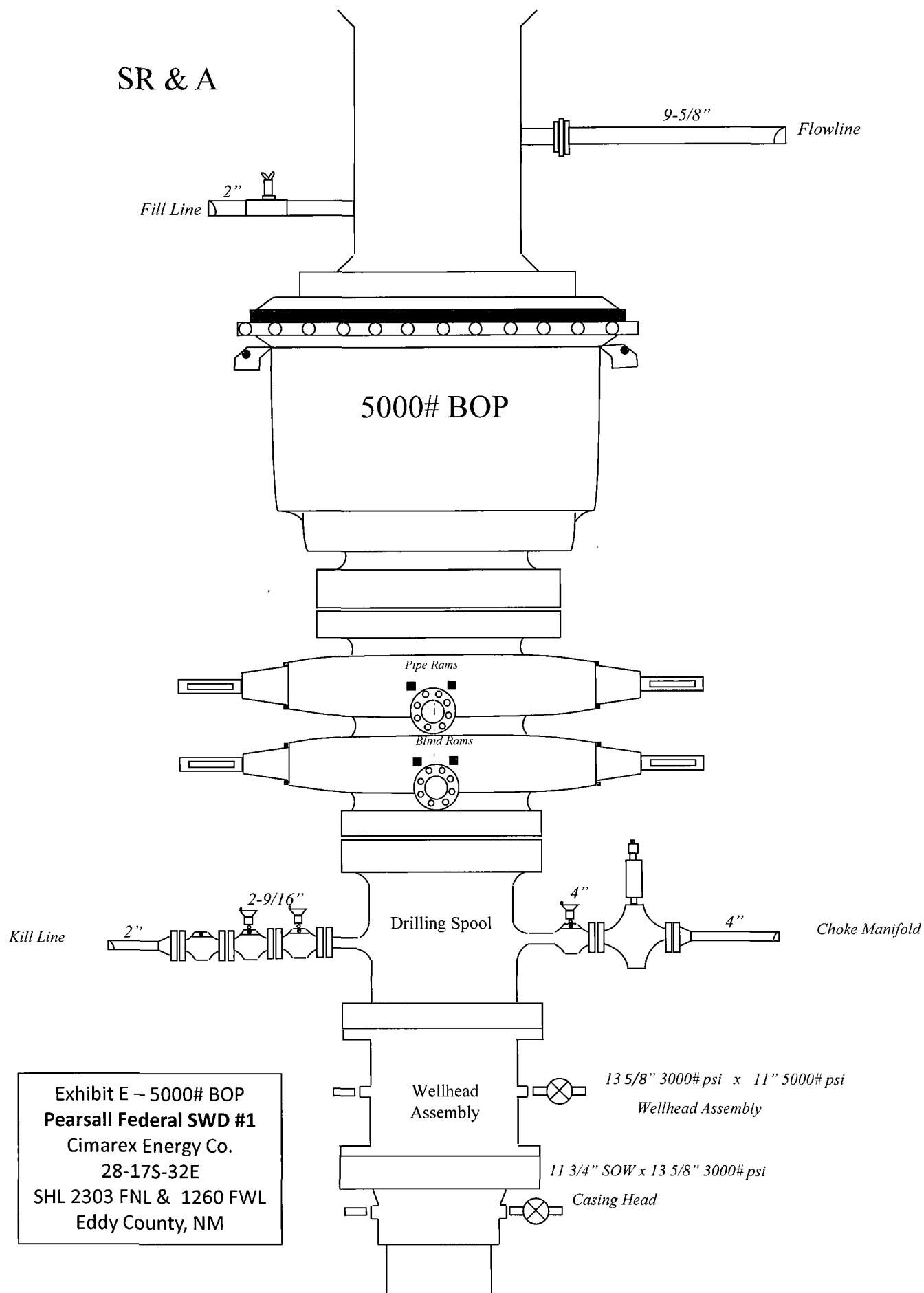
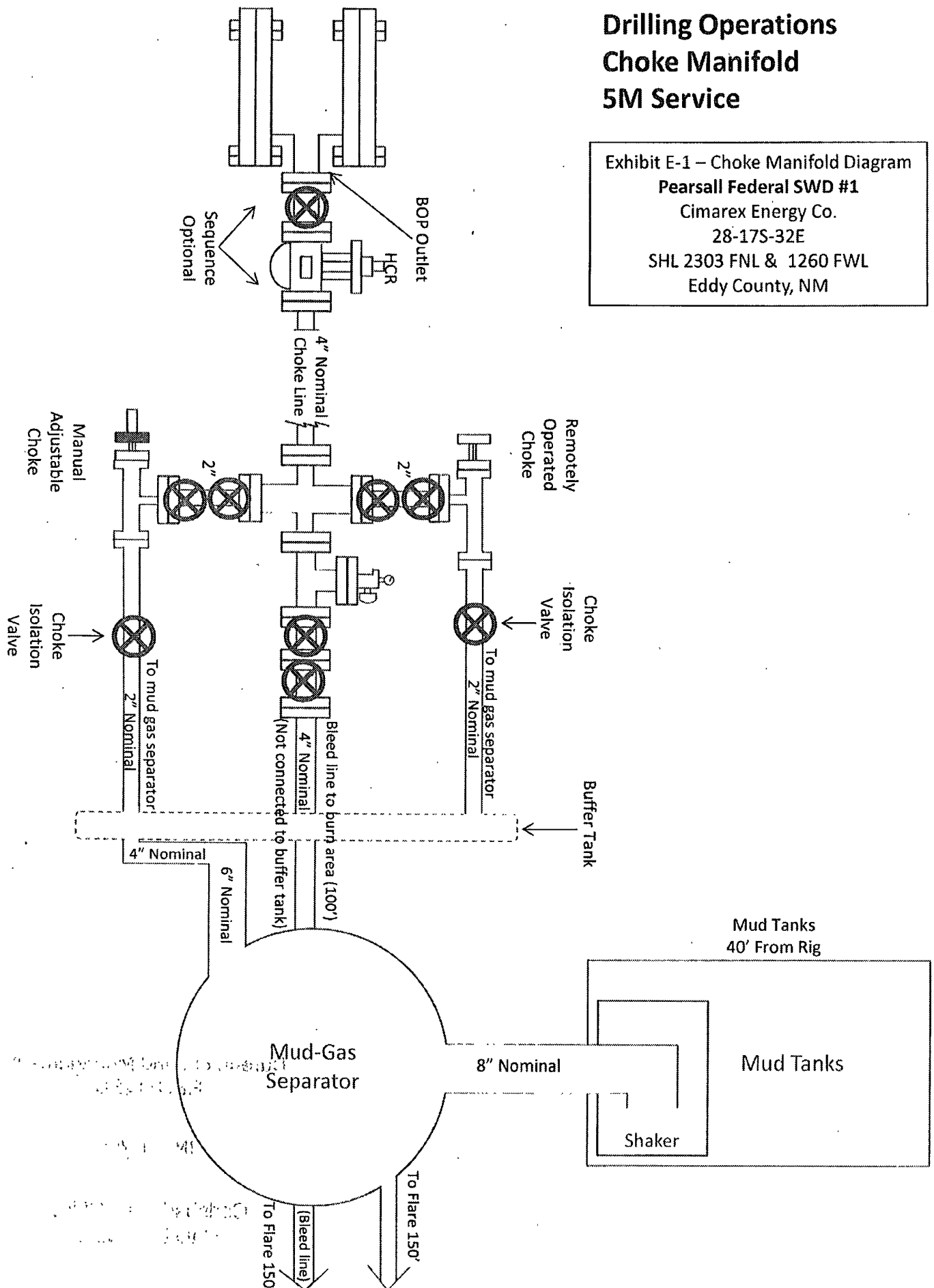


Exhibit E ~ 5000# BOP
Pearsall Federal SWD #1
Cimarex Energy Co.
28-17S-32E
SHL 2303 FNL & 1260 FWL
Eddy County, NM

Drilling Operations Choke Manifold 5M Service

Exhibit E-1 – Choke Manifold Diagram
Pearsall Federal SWD #1
Cimarex Energy Co.
28-17S-32E
SHL 2303 FNL & 1260 FWL
Eddy County, NM



Cimarex Energy Co. of Colorado – Closed-Loop System Design Plan

Equipment List

- Primary Shakers
- Mud Cleaner – hydro-cyclones
- 1 or 2 Centrifuges (depending on well depth)
- De-watering system with pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing (may not be necessary for shallower wells)
- Drying Augur
- Sump Drying Augur
- Sump
- Cuttings Boxes
- Reserve Fluids Tank Farm
- Wire Mesh Trash Enclosure (spent motor oils kept in separate containers and later sent to approved landfill)

Operation and Maintenance

The Cimarex Zero Discharge system is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This ensures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

These closed loop operations can be monitored by our service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

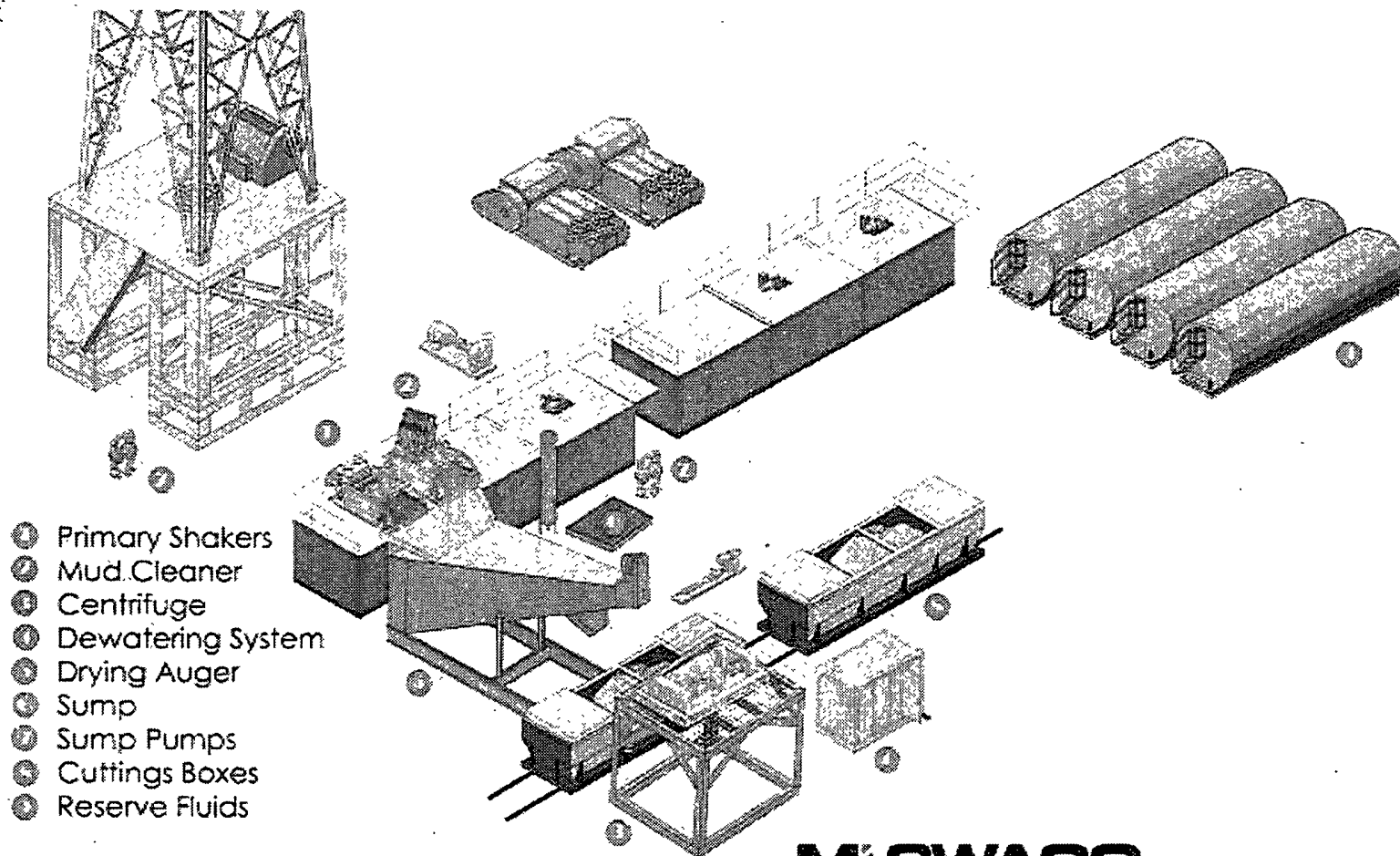
Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and tested for all regulated toxic materials. If found they are removed and disposed of per regulatory requirements.

Closure Plan

During drilling operations, all liquids, drilling fluids, and cuttings will be hauled off via CRI (Controlled Recovery Incorporated, Permit R-9166).

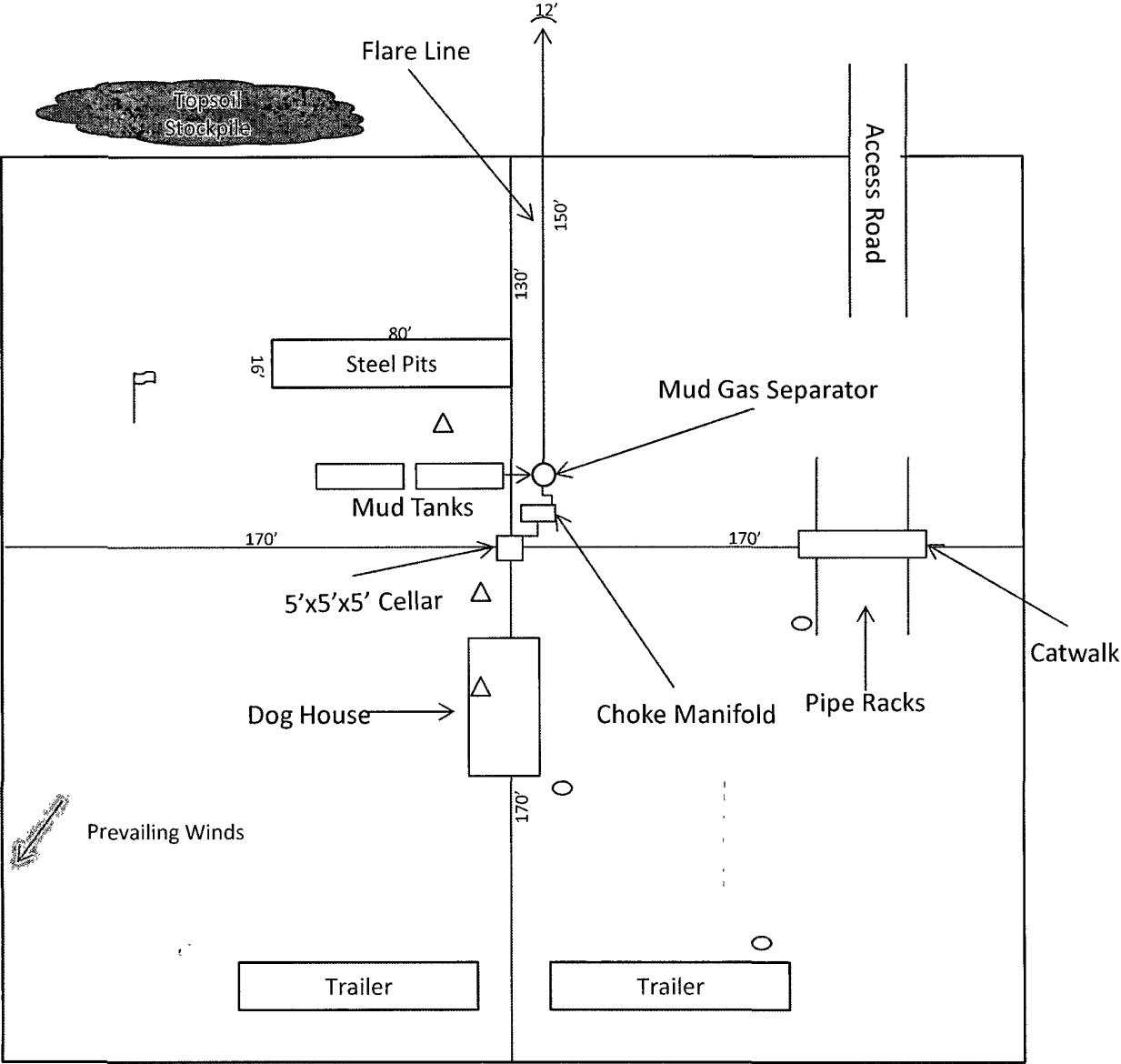


Closed Loop with Drying Auger and Dewatering System



Mi SWACO

Patriot 4






-  Wind Direction Indicators (wind sock or streamers)
-  • H2S Monitors (alarms at bell nipple and shale shaker)
-  Briefing Areas



Exhibit D – Rig Diagram
Pearsall Federal SWD #1
Cimarex Energy Co.
28-17S-32E
SHL 2303 FNL & 1260 FWL
Eddy County, NM
Lea

Hydrogen Sulfide Drilling Operations Plan

Pearsall Federal SWD #1

Cimarex Energy Co. of Colorado

Unit E, Section 28

T17S-R32E, Lea County, NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
- 2 H₂S Detection and Alarm Systems:
 - A. H₂S 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 (H₂S 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 H₂S has on tubular goods and other mechanical equipment.
- 9 If H₂S 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 H₂S scavengers if necessary.