Form 3160-3 (March 2012) HOBBS OCD

ATS-12-663
13-344

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

JAN 04 2013

OCD Hobbs

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: [X] DRILL [ ] REENTER	5. Lease Serial No. NM106715
	6. If Indian, Allotee or Tribe Name
1b. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone	7. If Unit or CA Agreement, Name and No. NMNM101361X EAST SHUGART DEL
	8. Lease Name and Well No. ESDU <257437> 27 aware unit
2. Name of Operator SM ENERGY COMPANY <154903>	9. API Well No. 30-025-40909
3a. Address 3300 N "A" ST BLDG 7-200 MIDLAND, TX 79705 / 3b. Phone No. *(include area code)* (432)688-3125	10. Field and Pool, or Exploratory SHUGART; DELAWARE, EAST <56419>
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface ~~222~~ 172 FNL & ~~490~~ 640 FWL LOT 1 per Malcolm Kintzing. At proposed prod. zone SAME AS ABOVE. UNORTHODOX LOCATION	11. Sec., T. R. M. or Blk. and Survey or Area SEC 19 - T18S - R32E
14. Distance in miles and direction from nearest town or post office* 8 MILES SOUTH OF MALJAMAR	12. County or Parish LEA / 13. State NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
172'	122.07	41.03

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
535'	5500' MD	NMB000805

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3720 GL	12/03/2012	30 Days

24. Attachments

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

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature *Malcolm Kintzing*	Name *(Printed/Typed)* MALCOLM KINTZING	Date 11/07/2012
Title RESERVOIR ENGINEER		
Approved by *(Signature)* /s/ James A. Amos	Name *(Printed/Typed)*	Date JAN 2 - 2013
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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Drilling program

SM Energy Company
ESDU #27
172 FNL & 640 FWL
Sec 19-T18S-R32E
Lea County, New Mexico

The estimated tops of geologic markers are as follows

Rustler	887'
Top of Salt	1596'
Base of Salt	2208'
Yates	2380'
*Seven Rivers	2870'
*Queen	3537'
*Cherry Canyon	4237'
*Brushy Canyon	4791'

Estimated depths of anticipated fresh water, oil, or gas

Fresh water is anticipated @ 380' and will be protected by setting surface casing at 960'.

Oil and gas are anticipated in the above (*) formations. These zones will be protected by casing as required.

Pressure and control equipment

A 3M Double Ram BOP and 3M Annular will be installed after running the 8 -5/8" casing. Pressure tests will be conducted prior to drill out the surface casing. BOP controls will be installed prior to drilling out from under surface casing and will remain in use until completion of drilling operations. BOP's will be inspected and operated as regulated in Onshore Order #2. A Kelly cock valve and a sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the in the open position when the Kelly is not in use. SM Energy Company will have the 11" BOPE tested to 3000# and the annular tested to 1500# with a third party testing company before drilling below the surface casing shoe. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if the test is done with a test plug. All blowout preventer are related equipment shall comply with well control requirements in Onshore Oil and Gas Order No. 2 and API RP 53 Sec 17.

Proposed casing and cementing program

A. Casing program:

See COA

Hole Size	Casing Size	Casing #/foot	Grade	Setting Depth	Collar
12-1/4"	8-5/8" (new)	24	J55	0-~~925'~~ 960'	STC
7-7/8"	5-1/2" (new)	15.5	J55	0-5500'	LTC

Minimum casing design factors: Collapse 1.125, Burst 1.0, Tensile strength 1.8.
*Subject to casing availability

A. Cementing Program:

I. **Surface casing:** 425 sx Class C light cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flack + 4% bwoc Bentonite + 81.4% Fresh Water, 14.8 ppg. **Yield 1.34 cf/sk TOC @ SURFACE. 100% Excess**

II. **Production Casing: Lead 520 sks** (35:65) Poz (fly Ash): Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs / Sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water, 12.5 ppg. **YIELD: 1.96 CF/SK. Tail 270 sks** Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5, 14.8 ppg **YIELD 1.34 CF/SK. TOC @ 700'. 35% Excess**

*SM Energy Company reserves the right to change cement designs as hole conditions may warrant.

Mud Program

Interval	mud type	weight	Viscosity	Fluid loss
0-~~925'~~ 960'	Fresh water spud mud	8.6-9.4	32-34	No Control
~~925'~~-5500'	Brine	10	28-30	No Control

Evaluation Program See COA

I. Mud log samples will be taken after drilling out the surface casing.
II. No Drill stem tests or coring is planned at this time
III. Cased hole Gamma Ray/Neutron log from surface to TD (5,500')
IV. Additional testing may be initiated based on geological sample shows

Downhole Conditions

Zones of abnormal pressure:	None anticipated
Zones of lost circulation:	Anticipated in surface and production holes
Maximum bottom hole temperature:	110 degrees F
Maximum bottom hole pressure:	9.5 lbs/gal or less psi/ft gradient (2,700 psi)

Anticipated Starting Date

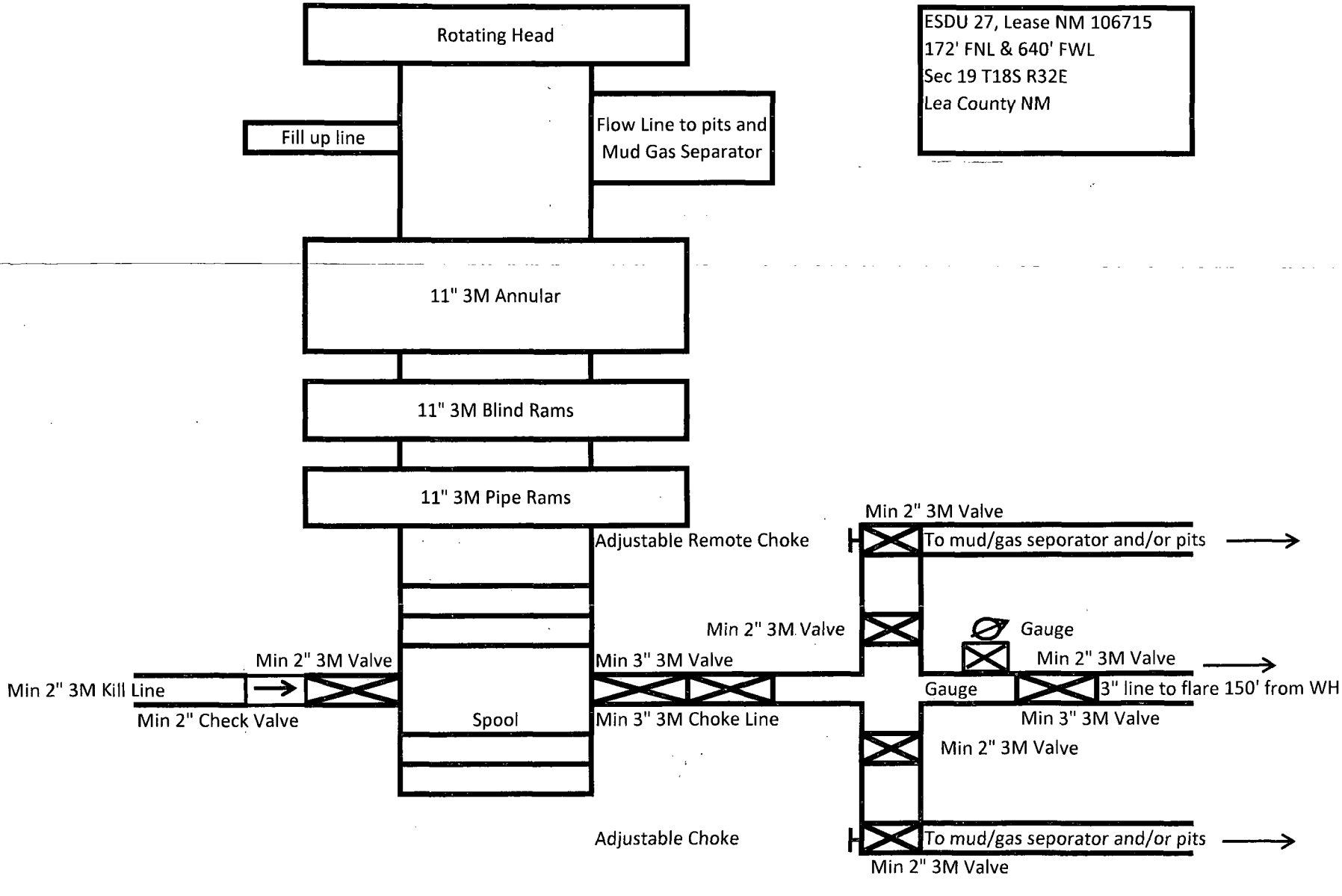
SM Energy Company intends to drill this well late 2012 with approximately 20 days involved in drilling operations and an additional 10 days involved in completion operations on the project.

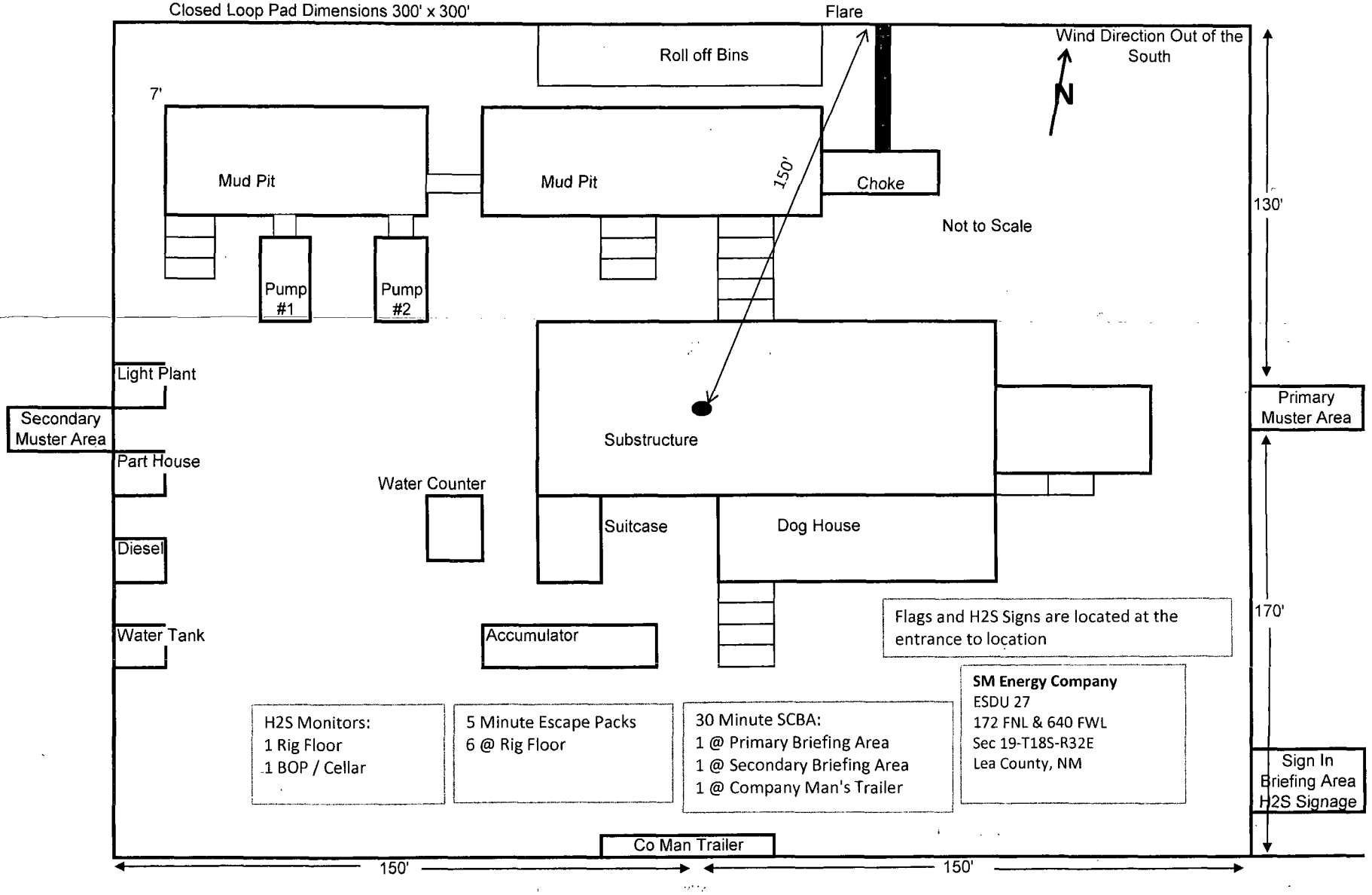
Potential Hazards

No abnormal pressures or temperatures are expected. No lost circulation is expected. SM Energy Company does not anticipate H_2S during drilling operations but will start monitoring for H_2S prior to drilling out the surface casing shoe. If H_2S is encountered the operator will comply with the provisions of Onshore Order No 6. No lost circulation is expected.

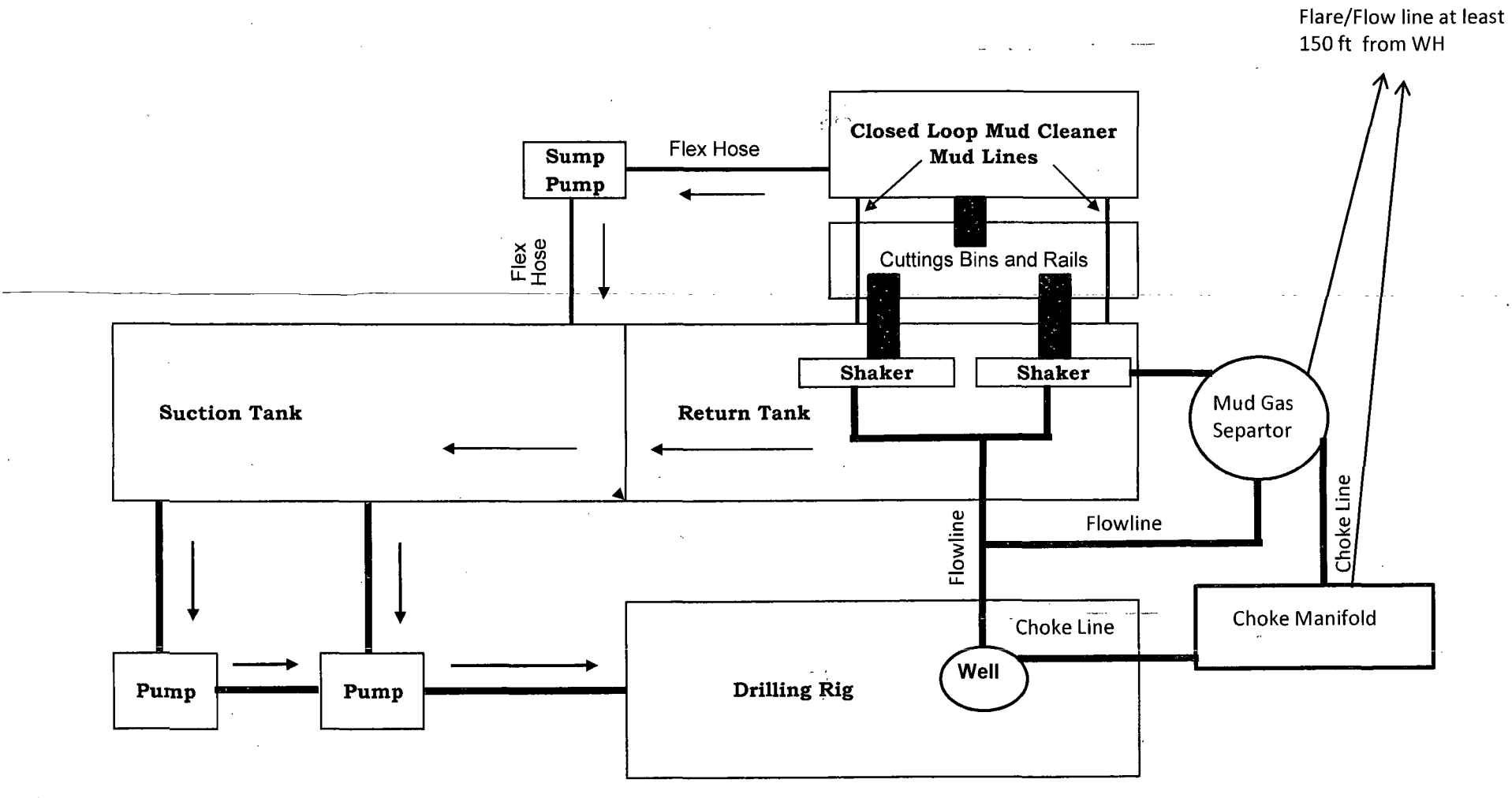
BOP SCHEMATIC

ESDU 27, Lease NM 106715
172' FNL & 640' FWL
Sec 19 T18S R32E
Lea County NM



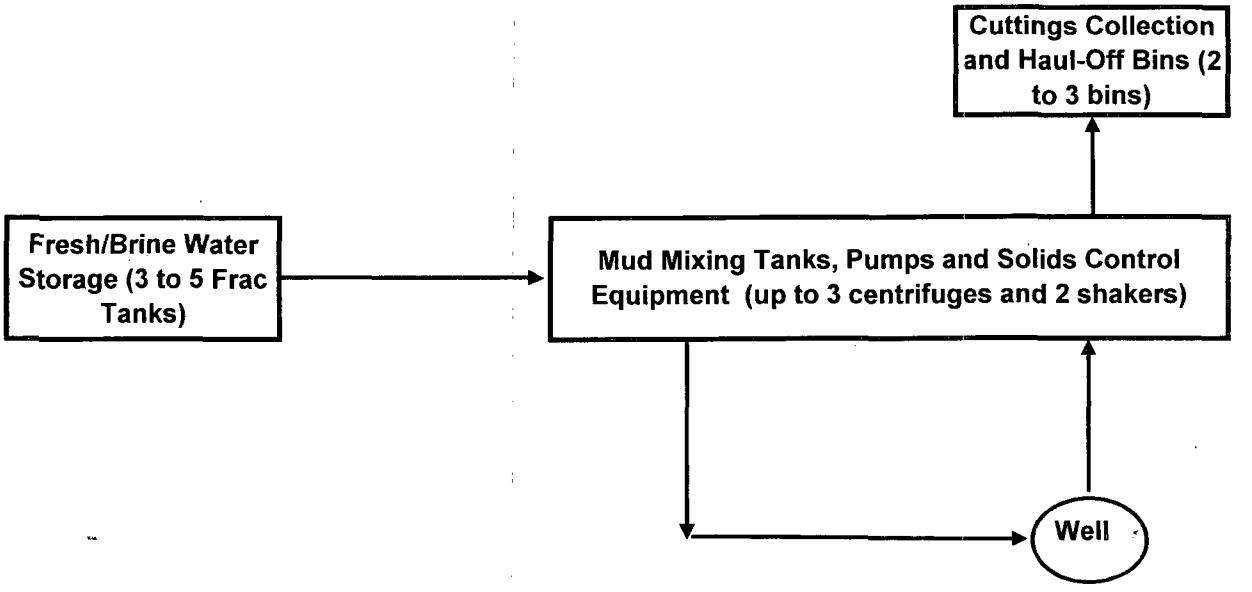

Closed Loop Pad Dimensions 300' x 300'
Flare
Roll off Bins
Wind Direction Out of the South
N
7'
Mud Pit
Mud Pit
150'
Choke
Not to Scale
130'
Pump #1
Pump #2
Light Plant
Secondary Muster Area
Part House
Substructure
Primary Muster Area
Water Counter
Suitcase
Dog House
Diesel
Water Tank
Accumulator
Flags and H2S Signs are located at the entrance to location
170'
H2S Monitors:
1 Rig Floor
1 BOP / Cellar
5 Minute Escape Packs
6 @ Rig Floor
30 Minute SCBA:
1 @ Primary Briefing Area
1 @ Secondary Briefing Area
1 @ Company Man's Trailer
SM Energy Company
ESDU 27
172 FNL & 640 FWL
Sec 19-T18S-R32E
Lea County, NM
Sign In
Briefing Area
H2S Signage
Co Man Trailer
150'
150'

Choke Manifold Schematic for Closed Loop System



CLOSED-LOOP SYSTEM

Design Plan:



Operating and Maintenance Plan:

During drilling operations, third party service companies will utilize solids control equipment to remove cuttings from the drilling fluid and collect it in haul-off bins. Equipment will be closely monitored at all times while drilling by the derrick man and the service company employees.

Closure Plan:

During drilling operations, third party service companies will haul-off drill solids and fluids to an approved disposal facility as noted on the C-144 form. At the end of the well, all closed loop equipment will be removed from the location.