HOBBS OCD

OCD Hobbs

Form 3160-3
(March 2012)

SEP 28 2016

RECEIVED

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC065710A

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☑ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
LUSK FEDERAL ~~A~~ #2 (315243)

2. Name of Operator
SHACKELFORD OIL COMPANY (20595)

9. API Well No.
30-025-30523

3a. Address
203 W. Wall St., Ste 200 Midland TX 79701

3b. Phone No. *(include area code)*
(432)682-9784

10. Field and Pool, or Exploratory
LUSK; DELAWARE, WEST (41540)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NWNE / 335 FNL / 1656 FEL / LAT 32.39 / LONG -103.47
At proposed prod. zone NWNE / 335 FNL / 1656 FEL / LAT 32.39 / LONG -103.47

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 20 / T19S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*
40 miles

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
330 feet	640	40
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**
1326 feet	7200 feet / 7200 feet	FED: NM2156
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3582 feet	07/13/2016	22 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	Name *(Printed/Typed)*	Date
	BARRY W. HUNT	04/20/2016

Title
PERMIT AGENT

Approved by (Signature)	Name *(Printed/Typed)*	Date
	George MacDonell	9/19/16
Title FIELD MANAGER	Office HOBBS	

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.

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)

APPROVED WITH CONDITIONS

KG
09/28/16

Existing

Last Updated: 4/4/2016 01:50 PM

Field Name	Lease Name	Well No.	County	State	API No.
Lusk West Delaware	Lusk West Delaware Unit	2	Lea	New Mexico	30025305230000

Version	Version Tag	Spud Date	Comp. Date	GL (ft)	KB (ft)
1	PRESENT	1/10/1990	3/18/1990	3,588.0	3,597.6

Section	Township/Block	Range/Survey	Dist. N/S (ft)	N/S Line	Dist. E/W (ft)	E/W Line	Footage From
20	19S	32E	330	FNL	1,656	FEL	

Operator	Well Status	Latitude	Longitude	Prop Num
Shackelford Oil Company	Plugged			

Other 1	Other 2	Other 3	Other 4

Last Updated	Prepared By	Updated By
04/04/2016 1:50 PM	Shackelford	Shackelford

Additional Information

POTENTIAL RE-ENTRY, PRESENT

Hole Summary

Date	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
1/28/1990	17.500	0	870	
2/5/1990	12.250	870	4,500	
2/26/1990	7.875	4,500	7,220	

Tubular Summary

Date	Description	No. Jts	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)	Comments
12/8/1990	Surface Casing		13.375	54.50	K-55	0	870	
2/5/1990	Intermediate Casing		8.625	24.00	J-55	0	4,500	
2/26/1990	Production Casing		5.500	15.50	J-55	1,622	7,220	

Casing Cement Summary

C	Date	No. Sx	Yield (ft3/sk)	Vol. (ft3)	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
	12/8/1990	1,000	1.00	1,000	13.375	0	870		CEMENTED W/ CLASS C, 2% CACL, 1.32 YIELD CIRC. 218 SKS TO SURFACE
	2/5/1990	3,230	1.00	3,230	8.625	0	4,500		CEMENTED W/550 SX CLASS C, 2.69 YIELD, TAIL W/150 SX CLASS C NEAT, 1.37 YIELD. CEMENTED 2ND STAGE (DC TOOL @ 2622) W/1000 SX, 1.51 YIELD, 850 SX CLASS C, 3.02 YIELD, 150 SX CLASS H, YIELD 1.61, RAN TEMP SURVEY TOC 2310'. 1" SPOT 100 SX CLASS C, SPOT 100 SX CLASS C, SPOT 130 SX CLASS C, CEMENT 200 SX CLASS C CIRC. 35 SX TO SURFACE
	2/10/1990	900	1.00	900	5.500	1,630	7,220		CEMENTED W/600 SX CLASS C 65/35 POZ, 1.59 YIELD. 300 SX CLASS C 1.32 YIELD

Tools/Problems Summary

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
2/5/1990	DV tool (drilled out)	5.500	0.000	2,622	0		

Cement Plug Summary

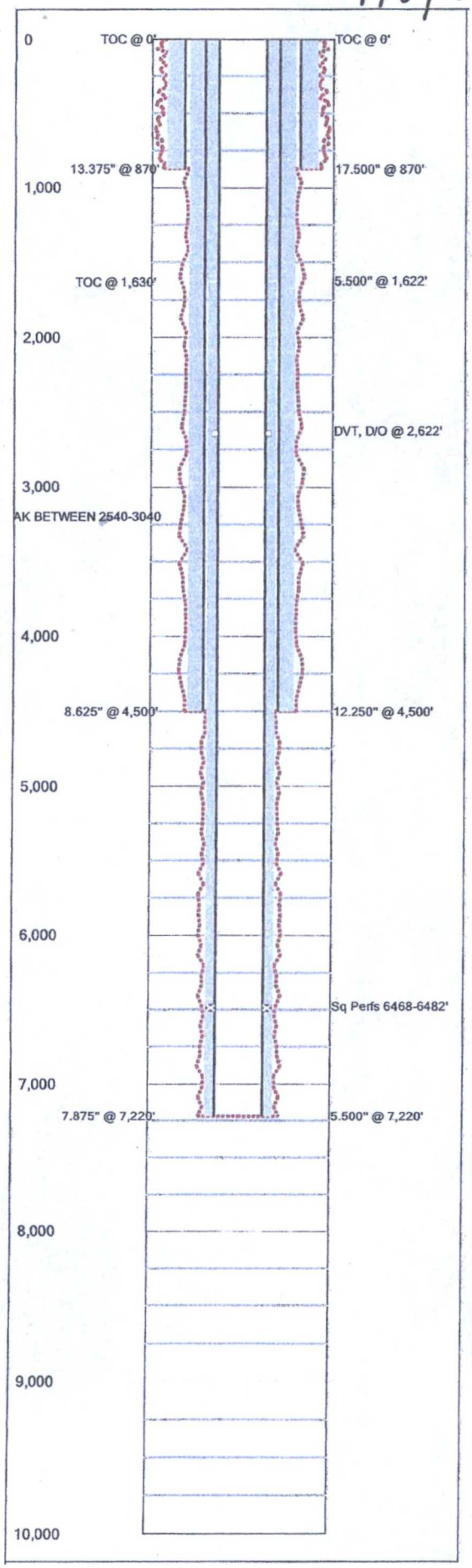
Date	No. Sx	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
12/7/2010	20	8.625	3	63	PLUGGED 12/07/2010
12/6/2010	60	8.625	668	920	
12/4/2010	35	8.625	1,401	1,685	
12/4/2010	45	5.500	2,431	2,815	
12/3/2010	45	5.500	2,815	2,900	DID NOT TAG PLUG ON 1ST ATTEMPT AT THIS PLUG
12/2/2010	25	5.500	4,003	4,692	
12/2/2010	25	5.500	6,152	6,352	

Perforation Summary

C	Date	Perf. Status	Formation	Comments
	2/23/1990	Open	Delware	

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
6,468	6,482		52		SF/17000 GAL POLY EMULSION & 60000# 20/40 MESH SAND

Proposed



Last Updated: 4/5/2016 03:10 PM

Field Name	Lease Name	Well No.
Lusk West Delaware	Lusk ~~West Delaware Unit~~ Fed	2 A

County	State	API No.
Lea	New Mexico	30025305230000

Version	Version Tag
2	PROPOSED

GL (ft)	KB (ft)	Section	Township/Block	Range/Survey
3,588.0	3,597.6	20	19S	32E

Operator	Well Status	Latitude	Longitude
Shackelford Oil Company	Plugged		

Dist. N/S (ft)	N/S Line	Dist. E/W (ft)	E/W Line	Footage From
330	FNL	1656	FEL	

Prop Num	Spud Date	Comp. Date
	1/10/1990	3/18/1990

Additional Information

PROPOSED RE-ENTRY

Other 1	Other 2	Other 3	Other 4

Prepared By	Updated By	Last Updated
Shackelford	Shackelford	4/5/2016 3:10 PM

Hole Summary

Date	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
1/28/1990	17.500	0	870	
2/5/1990	12.250	870	4,500	
2/26/1990	7.875	4,500	7,220	

Tubular Summary

Date	Description	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)
12/8/1990	Surface Casing	13.375	54.50	K-55	0	870
2/5/1990	Intermediate Casing	8.625	24.00	J-55	0	4,500
	Production Casing	5.500	15.50	J-55	0	1,622
2/26/1990	Production Casing	5.500	15.50	J-55	1,622	7,220

Casing Cement Summary

C	Date	No. Sx	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	12/8/1990	1,000	13.375	0	870	CEMENTED W/CLASS C, 2% CACL, 1.32 YIELD,CIRC. 218 SKS TO SURFACE
	2/5/1990	3,230	8.625	0	4,500	CEMENTED W/550 SX CLASS C, 2.69 YIELD, TAIL W/150 SX CLASS C NEAT, 1.37 YIELD. CEMENTED 2ND STAGE (DC TOOL @ 2622) W/1000 SX, 1.51 YIELD, 850 SX CLASS C, 3.02 YIELD, 150 SX CLASS H, YIELD 1.61, RAN TEMP SURVEY TOC 2310'. 1" SPOT 100 SX CLASS C, SPOT 100 SX CLASS C, SPOT 130 SX CLASS C, CEMENT 200 SX CLASS C CIRC. 35 SX TO SURFACE
		273	5.500	0	1,622	CIRC. TO SURFACE
	2/10/1990	900	5.500	1,630	7,220	CEMENTED W/600 SX CLASS C 65/35 POZ, 1.59 YIELD. 300 SX CLASS C 1.32 YIELD

Tools/Problems Summary

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)
		0.000	0.000	0	0
2/5/1990	DVT, D/O	5.500	0.000	2,622	0

Perforation Summary

C	Date	Perf. Status	Formation	OA Top (MD ft)	OA Bottom (MD ft)	Shots
	2/23/1990	Squeezed	Delware	6,468	6,482	52

Proposed

Last Updated: 4/5/2016 03:10 PM

Field Name	Lease Name	Well No.	County	State	API No.
Lusk West Delaware	Lusk ~~West Delaware Unit~~ Fed	2 A	Lea	New Mexico	30025305230000

Version	Version Tag	Spud Date	Comp. Date	GL (ft)	KB (ft)
2	PROPOSED	1/10/1990	3/18/1990	3,588.0	3,597.6

Section	Township/Block	Range/Survey	Dist. N/S (ft)	N/S Line	Dist. E/W (ft)	E/W Line	Footage From
20	19S	32E	330	FNL	1,656	FEL	

Operator	Well Status	Latitude	Longitude	Prop Num
Shackelford Oil Company	Plugged			

Other 1	Other 2	Other 3	Other 4

Last Updated	Prepared By	Updated By
04/05/2016 3:10 PM	Shackelford	Shackelford

Additional Information

PROPOSED RE-ENTRY

Hole Summary

Date	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
1/28/1990	17.500	0	870	
2/5/1990	12.250	870	4,500	
2/26/1990	7.875	4,500	7,220	

Tubular Summary

Date	Description	No. Jts	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)	Comments
12/8/1990	Surface Casing		13.375	54.50	K-55	0	870	
2/5/1990	Intermediate Casing		8.625	24.00	J-55	0	4,500	
	Production Casing		5.500	15.50	J-55	0	1,622	PROPOSED TO TIE INTO EXISTING CASING
2/26/1990	Production Casing		5.500	15.50	J-55	1,622	7,220	

Casing Cement Summary

C	Date	No. Sx	Yield (ft3/sk)	Vol. (ft3)	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
	12/8/1990	1,000	1.00	1,000	13.375	0	870		CEMENTED W/CLASS C, 2% CACL, 1.32 YIELD,CIRC. 218 SKS TO SURFACE
	2/5/1990	3,230	1.00	3,230	8.625	0	4,500		CEMENTED W/550 SX CLASS C, 2.69 YIELD, TAIL W/150 SX CLASS C NEAT, 1.37 YIELD. CEMENTED 2ND STAGE (DC TOOL @ 2622) W/1000 SX, 1.51 YIELD, 850 SX CLASS C, 3.02 YIELD, 150 SX CLASS H, YIELD 1.61, RAN TEMP SURVEY TOC 2310'. 1" SPOT 100 SX CLASS C, SPOT 100 SX CLASS C, SPOT 130 SX CLASS C, CEMENT 200 SX CLASS C CIRC. 35 SX TO SURFACE
		273	1.26	344	5.500	0	1,622		CIRC. TO SURFACE
	2/10/1990	900	1.00	900	5.500	1,630	7,220		CEMENTED W/600 SX CLASS C 65/35 POZ, 1.59 YIELD. 300 SX CLASS C 1.32 YIELD

Tools/Problems Summary

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
		0.000	0.000	0	0		
2/5/1990	DV tool (drilled out)	5.500	0.000	2,622	0		

Perforation Summary

C	Date	Perf. Status	Formation	Comments
	2/23/1990	Squeezed	Delware	

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
6,468	6,482		52		SF/17000 GAL POLY EMULSION & 60000# 20/40 MESH SAND

Well Name Change

Lusk West Delaware Unit #2

B-Sec. 20-T19S-R32E

330' FNL & 1656' FEL

API# 3002530523

1. **Proposed zones to be tested:**
   7122'-7154' Basal Brushy Canyon (Non-unitized zone)
   5135'-5176' Cherry Canyon (Non-unitized zone)
   4886'-5009' Cherry Canyon (Non-unitized zone)
   4934'-4957' Cherry Canyon (Non-unitized zone)

The Lusk West Delaware Unit #2 re-entry will be a non-unit well, the proposed well name change will be the Lusk Federal #2-A.

DRILLING PLAN:

SHACKELFORD OIL COMPANY, INC.
(RE-ENTRY) LUSK FEDERAL #2-A
330' FNL & 1656' FEL, SECTION 20, T19S, R32E
Lea County, NM

1. GEOLOGIC NAME OF SURFACE FORMATION:

A. Recent Permian with quaternary alluvium and other surficial deposits.

2. ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Formation	Subsea Depth	Well Depth	Water / Oil / Gas
Anhydrite		790'	Salt
Tansil		2463'	Water/Oil/Gas
Yates		2632'	Water/Oil/Gas
Seven Rivers		2843'	Water/Oil/Gas
Top Capitan Reef		2931'	Water/Oil/Gas
Base Capitan Reef		4567'	Water/Oil/Gas
Delaware		4760'	Water/Oil/Gas
TD		7200'	Water/Oil/Gas

Water : Surface water between 50' – 230' behind casing.
Oil : Possible in the Yates below 2,600' and the Delaware below 4,820
Gas: None expected.

This project will involve re-entering the plugged and abandoned #2 well, drilling out cement and plugs, using a workover rig, and proposing to tie-in to existing casing at 1622' (Cimarex Energy had cut off the casing from 7220' to 1622' and set a plug). This vertical oil well will be re-entered for the Delaware.

3. CASING PROGRAM: EXISTING IN WELL

Hole Size	Depth	Casing Size	Weight	Joint	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17 ½"	0' - 870'	13 3/8"	54.5#	STC	K-55	New	N/A	N/A	N/A
12-1/4"	0'– 4500'	8-5/8"	24#	STC	J-55	New	N/A	N/A	N/A
7-7/8"	0'-7220'	5 1/2"	15.5#	LTC	J-55	New	N/A	N/A	N/A

Plan on running new 5 1/2" casing (15.5#, J-55, LTC) from 0' to 1622'. SF (Burst 1.35) (Collapse 1.13) (Tension 2.27).

4. **CEMENT PROGRAM: EXISTING**

A. **Surface Casing**: Existing. 13 3/8", 54.4#, K-55, @870' cmtnd w 1000 sx circ to surface.

B. **Intermidiate Casing:** Existing. 8 5/8", 24#, J-55, @ 4500' cmtnd w 3230 sx, circ to surface. (DV TOOL @2622')

C. **Production Casing**: Existing. 5 1/2", 15.5#, J-55 @ 7220' cmtnd w 900 sx, circ to surface.

NEW 5 ½" CEMENT PROGRAM: 5 ½", 15.5, J-55 @ 0'-1622' cmtnd w 272.69 sx. cl "C" Circ to surface.

5. **PRESSURE CONTROL EQUIPMENT:**
The blow out preventer equipment (BOP) for this well consists of a 10" 3M Cameron Space Saver, double ram BOP with choke manifold. The BOP will be installed on the 8 5/8" casing. Casing and BOP will be tested as described in Onshore Order No. 2. The pipe rams will be operated and checked daily, plus each time drill pipe is out of hole. This will be documented on drillers log. (See Exhibits).

6. **PROPOSED MUD CIRCULATION SYSTEM: In lateral hole**

INTERVAL		Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0 – 7200'		Brine water mud	9.5	29	NC

If needed, the necessary mud products for weight addition and fluid loss control will be on location at all times.

7. **AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:**

A. A Kelly cock will be in the drill string at all times.
B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
C. H2S monitors will be on location.

8. **LOGGING, CORING AND TESTING PROGRAM:**

Drill Stem Tests : None.
Logging: Bond Log was previously run.
Coring: None.

9. **ABNORMAL PRESSURES AND TEMPERATURES / POTENTIAL HAZARDS:**

None anticipated. In the event abnormal pressures are encountered, the proposed mud program will be modified to increase the mud weight. Max bottom hole pressure should not exceed 3,168 psi., surface pressure 1,856 psi (part. Evac. Hole) with BHT of 122 F anticipated.

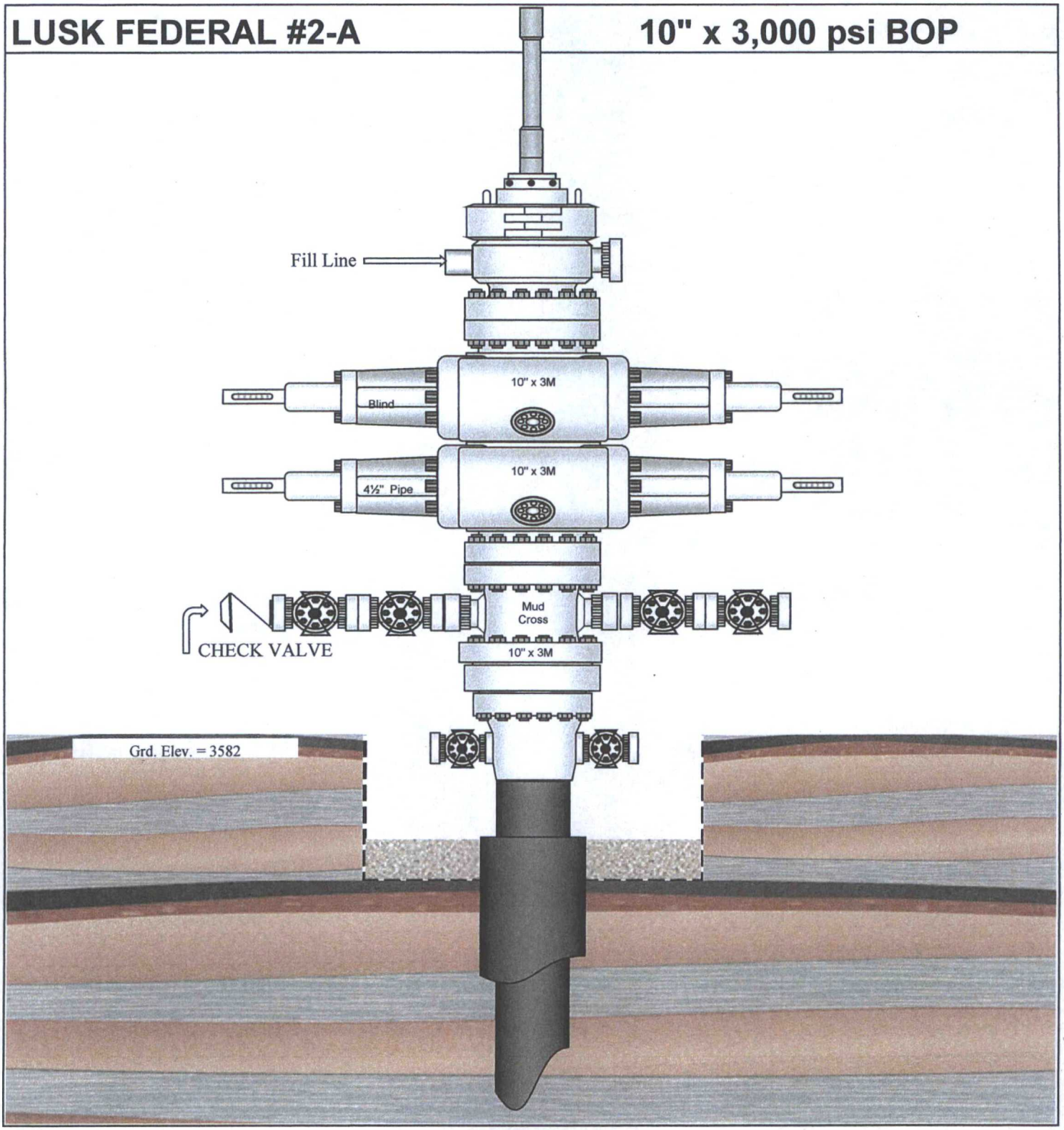
H2S: None expected. None in the previously drilled well, but the Mud Log Unit will be cautioned to use a gas trap to detect H2S and if any is detected the mud weight will be increased along with H2S inhibitors sufficient to control the gas. The well will be shut down until a mud separator and flare line can be installed on the choke manifold, if the gas monitor approaches 10.
The operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment.

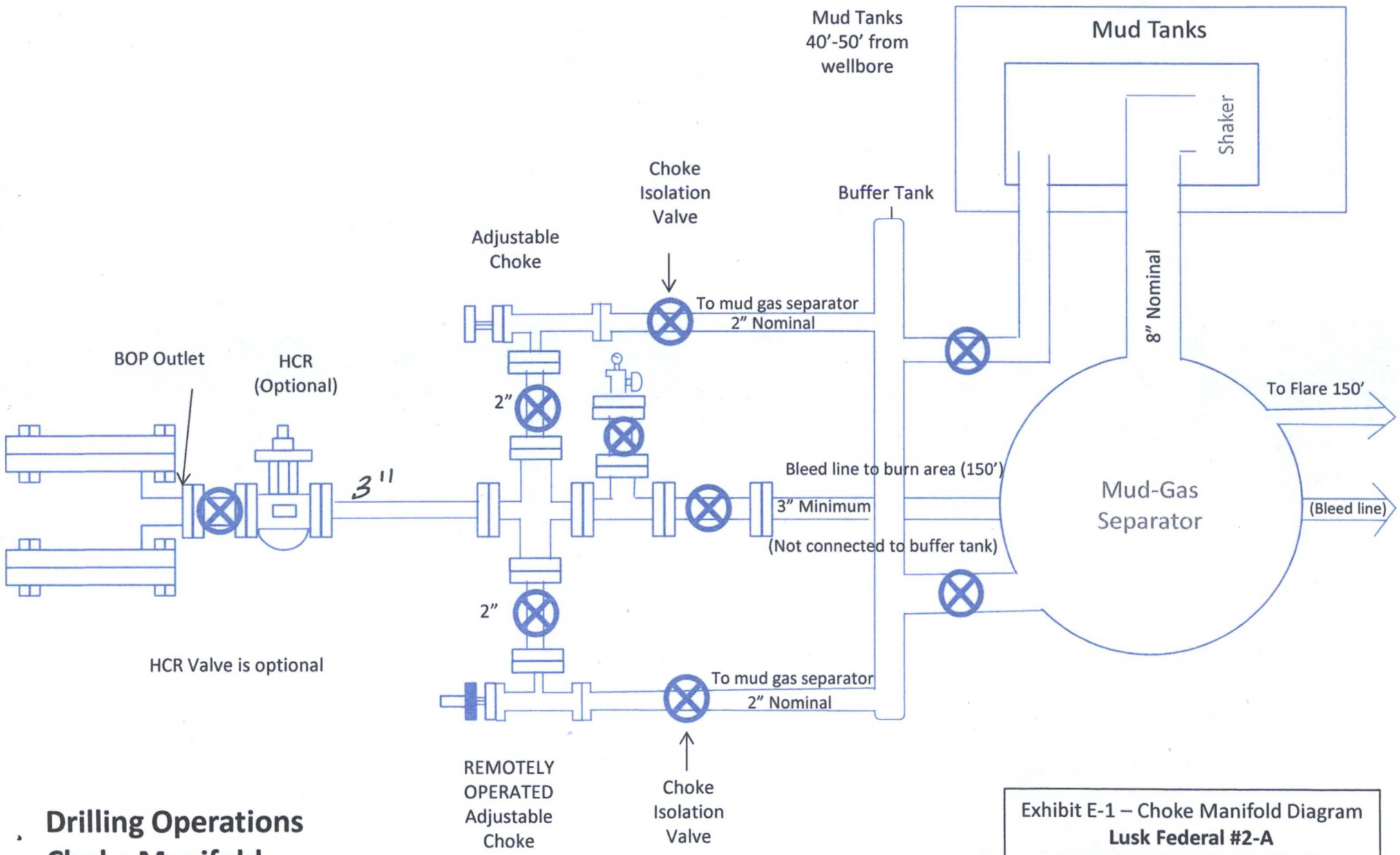
10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

A. Road and location construction will begin after BLM has approved APD. Anticipated spud date will be as soon after BLM approval and as soon as rig will be available. Move in operations and drilling is expected to take 25 days. An additional 30 days will be needed to complete the well and construct surface facilities and/or lay flow lines in order to place well on production.

LUSK FEDERAL #2-A

10" x 3,000 psi BOP





Drilling Operations
Choke Manifold
3M Service

Exhibit E-1 – Choke Manifold Diagram
Lusk Federal #2-A
SHACKELFORD OIL COMPANY.

SHACKELFORD OIL COMPANY

203 W. Wall STE 200

Midland, TX 79701

DESIGN: Closed Loop system with roll-off steel bin (pits)

Contacts: Bob Shackelford – Office: 432-682-9784 Cell: 432-813-7090

Art Marquez – Office: 432-682-9784 Cell: 575-405-1334

Monitoring: 12 hour service

Equipment:

500 bbl waste fluid tank

500 bbl brine water tank

500 bbl 2% KCL Water Tank

Pump, swivel manifold

Reverse tank

1 CRI Bin with track system

Air pumps on location for immediate remediation process

Layout of Closed Loop System with bin, attached

Cuttings and associated liquids will be hauled to a State regulated third party disposal site, via CRI (Controlled Recovery, Inc.) Disposal Facility Permit # R9166

OPERATIONS:

Closed Loop equipment will be inspected daily by each tour and any necessary maintenance performed.

Any leak in system will be repaired and/or contained immediately.

OCD will be notified within 48 hours of the spill.

Remediation process started immediately.

CLOSURE:

During drilling operations all liquids, drilling fluids and cuttings will be hauled off via CRI (Controlled Recovery Incorporated) Disposal Facility Permit # R9166

EXHIBIT D

LUSK FEDERAL #2-A
V-DOOR EAST
Rig Up West