

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OM B No. 1004-0135
Expires: January 31, 2004

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NM LC 065710-A
2. Name of Operator SHACKELFORD OIL CO		6. If Indian, Allottee or Tribe Name
3a. Address 11417 W COUNTY RD 33 MIDLAND TX 79707	3b. Phone No. (include area code) 432-682-9784	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1650 FNL & 330 FEL SEC 20 T19S R32E		8. Well Name and No. LUSK FEDERAL A #8
		9. API Well No. 30-025-30494
		10. Field and Pool, or Exploratory Area LUSK DELAWARE WEST
		11. County or Parish, State LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other PROPOSED
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	CHANGE
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

CHANGE OF TOTAL DEPTH

DRILL FROM 4960 FT TO 5690FT

CIRCULATE HOLE, CLEAN AND PERFORATE FROM 5640-5650'

ACIDIZE WITH 15% HCL SWAB TEST IF APPEARS PRODUCTIVE, PUT ON PUMP

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) DON SHACKELFORD		Title PRESIDENT/OWNER
Signature 	Date 11/09/2017	
THIS SPACE FOR FEDERAL OR STATE OFFICE USE		

Approved by C. Nimmer	Title Engineer	Date 11/16/17
Conditions of approval, if any, are attached. Approval of this notice 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.		Office BLM - CFB

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)

KZ

Chris Walls

Chris

In accordance with our permit for our Lusk Federal #8A we were to run a bond log to determine top of cement on the 5 1/2" casing and 8 5/8" casing. Based on our bond log run on 11/8/17 we believe the top of cement on each casing string is as follows:

	Top of Casing	Top of Cement
5 1/2" Casing	2098'	2170' CBL
8 5/8" Casing	Surface	2370' by temperature survey

The top of Salt is 812' and the base of the salt is 2410' in this well. We have drilled to 4967' in this well. After review, we have decided we would like to drill to 5690' in order to test a dolomite interval from 5640-5650'. I am enclosing our proposed sundry to add this deepening.

Items Attached:

Sundry Notice -Notice of Intent to deepen to 5690'

Cement Bond Log Date 11/8/17

Proposed Schematic after deepening

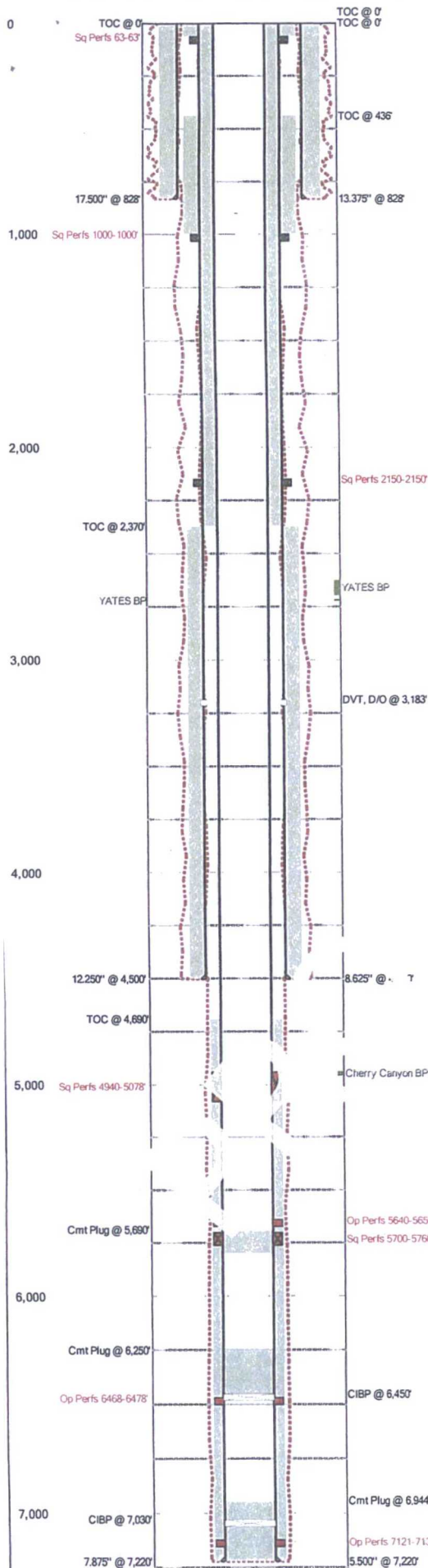
I went by the Carlsbad office yesterday, no engineer there at that time (about 1:30 pm). I was back in Hobbs later in the afternoon and went in to talk to Steve Caffey. I showed him the Bond Log and talked to him briefly about deepening.

If you have someone that we need to talk to just let me know. If we need to wait until next week we are ok there, also.

Should you have any questions or need additional information please let me know.

We are still on the well if you can let us know at your convenience.

Don



Field Name		Lease Name		Well No.
Lusk West Delaware		Lusk Federal A		8
County	State	API No.		
Lea	New Mexico	30025304940000		
Version	Version Tag			
2	Proposed			
GL (ft)	KB (ft)	Section	Township/Block	Range/Survey
		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
1651	FNL	330	FEL	
Prop Num		Spud Date	Comp. Date	
		11/17/1988	2/17/1989	
Additional Information				
Name change from Lusk West Delaware Unit #8				
Other 1	Other 2	Other 3	Other 4	
Prepared By		Updated By	Last Updated	
Shackelford		Shackelford	11/15/2017 11:02 AM	

Hole Summary

Date	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
17.500		0	82	
12.250		0	4,500	
7.875		7,220		

Tubular Summary

Date	Description	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)
11/24/1988	Surface Casing	13.375	48.00	H-40	0	828
11/24/1988	Intermediate Casing	8.625	24.00	J-55	0	4,500
6/10/2017	Production Casing	5.500	15.50	K-55	0	2,100
12/12/1988	Production Casing	5.500	17.00	K-55	2,100	2,675
12/9/1988	Production Casing	5.500	17.00	K-55	2,675	2,924
12/12/1988	Production Casing	5.500	15.50	K-55	2,924	7,220

Casing Cement Summary

C	Date	No. Sx	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	11/24/1988	1,400	13.375	0	828	Class C
	3/15/2011	0	8.625	0	63	circulated 50 sx cement
	3/15/2011	125	8.625	436	1,000	estimated
	11/30/1988	700	8.625	2,370	4,500	
	6/10/2017	371	5.500	0	2,370	
	12/12/1988	600	5.500	4,690	7,220	

Tools/Problems Summary

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)
	DVT, D/O	7.875	0.000	3,183	0
3/3/2011	CIBP	5.500	0.000	6,450	0
11/11/1989	CIBP	5.500	0.000	7,030	0

Cement Plug Summary

Date	No. Sx	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
3/4/2011	25	5.500	5,690	5,800	
3/4/2011	25	5.500	6,250	6,450	
		5.500	6,944	7,220	

Perforation Summary

C	Date	Perf. Status	Formation	OA Top (MD ft)	OA Bottom (MD ft)	Shots
	3/15/2011	Squeezed		63	63	
	3/15/2011	Squeezed		1,000	1,000	
	3/15/2011	Squeezed		2,150	2,150	
	12/30/1993	Squeezed		4,940	5,078	
		Open		5,640	5,650	40
	12/15/1993	Squeezed		5,700	5,760	
	1/12/1989	Open		6,468	6,478	
	1/6/1989	Open		7,121	7,136	

Field Name	Lease Name	Well No.	County	State	API No.
Lusk West Delaware	Lusk Federal A	8	Lea	New Mexico	30025304940000
Version	Version Tag	Spud Date	Comp. Date	GL (ft)	KB (ft)
2	Proposed	11/17/1988	2/17/1989		
Section	Township/Block	Range/Survey	Dist. N/S (ft)	N/S Line	Dist. E/W (ft)
20	19s	32e	1,651	FNL	330
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			
11/15/2017 11:02 AM	Shackelford	Shackelford			
Additional Information					
Name change from Lusk West Delaware Unit #8					

Hole Summary

Date	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	17.500	0	828	
	12.250	0	4,500	
	7.875	0	7,220	

Tubular Summary

Date	Description	No. Jts	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)	Comments
11/24/1988	Surface Casing		13.375	48.00	H-40	0	828	
11/30/1988	Intermediate Casing		8.625	24.00	J-55	0	4,500	
6/10/2017	Production Casing		5.500	15.50	K-55	0	2,100	
12/9/1988	Production Casing		5.500	17.00	K-55	2,100	2,675	
12/9/1988	Production Casing		5.500	17.00	K-55	2,675	2,824	
12/9/1988	Production Casing		5.500	15.50	K-55	2,824	7,220	

Casing Cement Summary

C	Date	No. Sx	Yield (ft ³ /sk)	Vol. (ft ³)	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
	11/24/1988	1,400	.00	1,400	13.375	0	828		Class C
	3/15/2011	0	.00	25	8.625	0	63		circulated 50 sx cement
	3/15/2011	125	.00		8.625	436	1,000		estimated
	11/30/1988	700	.00	700	8.625	2,370	4,500		
	6/10/2017	371	1.26	467	5.500	0	2,100		
	12/12/1988	600	.00	600	5.500	4,690	7,220		

Tools/Problems Summary

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
	DV tool (drilled out)	7.875	0.000	2,183	0		
3/3/2011	Cast Iron Bridge Plug	5.500	0.000	4,450	0		
11/11/1989	Cast Iron Bridge Plug	5.500	0.000	7,220	0	4 sx cement on top	

Cement Plug Summary

Date	No. Sx	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
3/4/2011	25	5.500	5,690	5,800	
3/4/2011	25	5.500	6,000	450	
		5.500	244	220	

Perforation Summary

C	Date	Perf. Status	Formation			Comments	
	3/15/2011	Squeezed				Pressured up no rate	
	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments	
	2,150	2,150					
C	Date	Perf. Status	Formation			Comments	
	3/15/2011	Squeezed				Sqzd 125 sx	
	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments	
	1,000	1,000					
C	Date	Perf. Status	Formation			Comments	
	3/15/2011	Squeezed				Circulated 50 sx	
	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments	
	63	63					
C	Date	Perf. Status	Formation			Comments	
	12/15/1993	Squeezed				Pressured casing to 500# held OK	
	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments	
	5,700	5,760					
C	Date	Perf. Status	Formation			Comments	
	12/30/1993	Squeezed				attempted sqz 2/8/1994, 2/15/1994, 2/18/1994 did not hold.	
	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments	

C	Date	Perf. Status	Formation		Comments	
#	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
	4,940	5,078				
C	Date	Perf. Status	Formation		Comments	
	1/6/1989	Open				
#	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
	7,121	7,136				
C	Date	Perf. Status	Formation		Comments	
	1/12/1989	Open				
#	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
	6,468	6,478				
C	Date	Perf. Status	Formation		Comments	
		Open				
#	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
	5,640	5,650	4	40		

Behind Pipe Summary

C	Formation Name	Top (MD ft)	Bottom (MD ft)	Net Pay (ft)	Drain. Area (Acre)	Res. Pres. (psi)	Water Sat. (%)	Eff. Por. (%)	EUR Oil (MBO)	EUR Gas (MMCF)	Comments
	YATES	2,624	2,696	0	0	0	0.0%	0.0%	0	0	
	YATES	2,714	2,722	0	0	0	0.0%	0.0%	0	0	
	Cherry Canyon	4,936	4,958	0	0	0	0.0%	0.0%	0	0	4950' Zone

Well History Summary

Date	Comments
3/5/2011	Attempt to cut and pull 5 1/2" casing @ 4527', not free, pressured up on casing 1500#
3/6/2011	Attempt to cut 5 1/2" casing @ 3224', not free
3/8/2011	Attempt to cut 5 1/2" casing @ 2878', not free, pressure up to 500#
3/9/2011	Ran free point tool casing free @ 2100', 50% free @ 2150', 100% stuck @ 2200'
3/10/2011	Cut 5 1/2" casing @ 2100', pulled casing at 2100'
3/11/2011	Attempt to spear 5 1/2" casing, free @ 2100' to 2878', unsuccessful

**PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Shackelford Oil Company
LEASE NO.:	NMLC065710A
WELL NAME & NO.:	8A- Lusk Federal
SURFACE HOLE FOOTAGE:	1651'N & 330'E
BOTTOM HOLE FOOTAGE	1651'N & 330'E
LOCATION:	Section 20 T.19 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well – Re-entry
- b. Setting and/or Cementing of all casing strings and remedial casing cement work.
- c. BOPE tests

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. **Hydrogen Sulfide has been reported as a hazard in Yates formation and in deeper formations than the proposed completion interval. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper**

copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING –Re-entry

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least **8 hours**. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible water flows in Capitan Reef, Salado, and Artesia Group
Possible lost circulation in Rustler, Capitan Reef, Red Beds, Delaware and Artesia Group
H2S detected within 1 mile

Existing casing

1. The 13-3/8 inch 54.5# K-55 surface casing is set at 828 feet with cement circulated to surface.
2. The 8-5/8 inch 24# J-55 intermediate casing is set at 4,444 feet.
3. The 5-1/2 inch 15.5# J-55 production casing is set at 7220 and was cut pulled from 2100 to surface.

Requirements for Operator

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi. Operator will test BOP/BOPE as soon as it is installed.**
3. All blowout preventer (BOP) and related equipment (BOPE) shall comply with reasonable well control requirements. A two ram system with a blind ram and a pipe ram designed for the size of the work string shall be adequate. Tapered work strings will require an additional pipe ram. The manifold shall comply with Onshore Oil and Gas Order #2 Attachment I (3M Diagrams of Choke Manifold Equipment). The accumulator system shall have an immediately available power source to close the rams and retain 200 psi above pre-charge. The pre-charge test shall follow requirements in Onshore Order #2.
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - b. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - c. The results of the test shall be reported to the appropriate BLM office.
 - d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - e. 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 test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

CLN 11162017