-9				
	OCD Hobbs			
Form 3160-3 (June 2015)	HOL	3821	OMB No	APPROVED 5. 1004-0137
UNITED STATE	S	1 1 0 0	Expires: Jan	nuary 31, 2018
DEPARTMENT OF THE I	NTERIOR	Y 162	5. Lease Serial No.	
BUREAU OF LAND MAN	AGEMENT		LC-065710-A	
APPLICATION FOR PERMIT TO D		CEN	6. If Indian, Allotee	or Tribe Name
la. Type of work: DRILL I R	EENTER		7. If Unit or CA Agr	eement, Name and No.
1b. Type of Well:	other		8. Lease Name and	Well No.
1c. Type of Completion:     Hydraulic Fracturing	ingle Zone Multiple Zone		LUSK FEDERAL #	2A) 319243
2. Name of Operator SHACKELFORD OIL COMPANY (20595)			9. API Well No. 30-025-30494	
3a. Address 203 W. WALL, SUITE 200, MIDLAND, TEXAS 79701	3b. Phone No. <i>(include area cod</i> (432) 682-9784	le)	10. Field and Pool, of LUSK; DELAWARE	E, WEST 41540
4. Location of Well (Report location clearly and in accordance	with any State requirements.*)		11. Sec., T. R. M. or	Blk. and Survey or Area
At surface 1657 FNL & 330 FEL			Section 20, T. 19 S	8., R. 32 E.
14 Distance in miles and direction from nearest town or post of	îce*		12. County or Parish	13. State
40 MILES SOUTHWEST OF HOBBS, NM		T	LEA	NM
15. Distance from proposed* 330' location to nearest	16. No of acres in lease	17. Spaci	ng Unit dedicated to th	nis well
property or lease line, ft. (Also to nearest drig. unit line, if any)	640	40		
18. Distance from proposed location*	19. Proposed Depth	20. BLM	/BIA Bond No. in file	
applied for, on this lease, ft.	4967'	NM 215	6	
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will	start*	23. Estimated duration	on
3591.8° GL	ASAP		15 DAYS	and the state of the
(as applicable)	f Onshore Oil and Gas Order No.	I, and the I	Hydraulic Fracturing ru	ale per 43 CFR 3162.3-3
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan</li> </ol>	4. Bond to cover the Item 20 above).	ne operation	ns unless covered by an	existing bond on file (see
<ol> <li>A Surface Use Plan (if the location is on National Forest Syster SUPO must be filed with the appropriate Forest Service Office</li> </ol>	Em Lands, the 5. Operator certifies). 6. Such other sites	cation. pecific info	rmation and/or plans as	may be requested by the
	BLM.			
25. Signature	BARRY W. HUNT			12/12/16
Permit Agent				,
Approved by (Signature) Card A- Lung to	Name (Printed/Typed)	la	ytar	Date - 10/17
Title FILL FIFLD MANAGER	Office BLM-(	CARL	BAD FIELD	OFFICE
Application approval does not warrant or certify that the application	nt holds legal or equitable title to t	hose rights	in the subject lease wh	nich would entitle the
conditions of approval, if any, are attached.	APPROVAL	FOR T	WO YEARS	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, r of the United States any false, fictitious or fraudulent statements	nake it a crime for any person kno or representations as to any matte	wingly and within its	willfully to make to a jurisdiction.	ny department or agency
				1/2 1
ALLKUVAL SUBJECT 10		OTT	DECD	KT 11/17
GENERAL REQUIREMENTS AND	SEE ATTA	ACHE	DFOR	091111
SPECIAL STIPULATIONS	CONDITI	ONS (	OF APPRO	VAL
ATTACHED				

(Continued on page 2)

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\*(Instructions on page 2)

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# RE-ENTRY PROCEDURE SHACKELFORD OIL COMPANY LUSK WEST DELAWARE UNIT #8 (LUSK FEDERAL # 8A) H-SEC. 20-T19S-R32E 1651' FNL & 330' FEL

- 1. Cut wellhead.
- 2. Install BOP test to 3000 PSI
- 3. GIH w/ 7 7/8" Bit and drill collars
- 4. Drill out 63' surface plug, tag 2<sup>nd</sup> plug at 766'
- 5. Drill out 2<sup>nd</sup> plug to 1000', tag 3<sup>rd</sup> plug at 1977'
- 6. Drill out 3rd plug to top of 5 1/2" casing stub at 2100'
- GIH w/ 4 ¾" Bit and drill collars. Drill out remainder of 3<sup>rd</sup> plug to 2150'. Tag top of 4<sup>th</sup> plug at 2437'.
- 8. Drill out 4th plug to 2928'. Tag 5th plug at 3087'.
- 9. Drill out 5th plug to 3275'. Tag 6th plug at 4444
- 10. Drill 6th plug to 4777'. Tag 7th plug to 4828'.
- 11. Drill out 7th plug to 4920'. Circulate hole clean. Pressure test casing to 500 #. POOH w/Bit and Drill Collars.
- GIH w/Cement Bond Log, log from 4920' to surface. Determine where top of cement is on 5 1/2" casing and determine where the cement is on 8 5/8" casing to be sure salt section is covered.

REVIEW CEMENT BOND LOG WITH BLM TO DETERMINE CASING AND CEMENT PROCEDURE, IF NEEDED FILE SUNDRY NOTICE WITH BLM FOR NEW CASING AND CEMENT PROGRAM.

- 13. If cement is ok, drill out to 4967', circulate hole clean, then perforate 5 ½" casing from 4935'-4946'. Acidize with 15% HCL. Swab test for oil shows. If zones look productive put on pump.
- 14. If 4935'-4946' does not look productive set CIBP at 4600'. Perforate 5 ½" casing at 2624'-2696' and 2714'-2722'. Acidize w/ 15% HCL. Swab test for oil show. If zones look productive Frack and put on pump.



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X

PROPOSE<sup>W</sup> Last Updated: 10/20/2016 11:04 AM

Fi	eld Name						L	ease	Na	me					We	II No	).
Lu	isk West I	Del	awa	re			L	usk W	les	t De	alaw	are	Unit		8		
C	ounty					Sta	ite						A	PI No	D.		
L.e	a					Ne	W	Mexic	0				3	0025	3049	400	00
Ve	rsion	-	Ver	sion	Tac	1											
-		2	Pre	DDOS	ed		-										
GI	_ (我)	K	3 (代)	1	Se	ctio	1	Tow	ns	hip	Blo	ck	IR	ande	/Su	rvev	
-		-	(		20		-	10e	-				- 2	20			
0,	orator	_			1-0	1106	-11	Ctate	10		110	414+++	10		Longitude		
CL	ockolford	0	100			DI	Cas	Juli	19		La	utur		-	Long	jitut	ie .
	ackelloru		100	mpa	Dist FAN (ft) FAN						1	_		_			
DI	SL N/S (1	13	N/S	Line	3 10	JIST.	E	IVV (T	1)	EW	Lin	10	Foot	age f	-1011	1	
_	16	51	FNL				_	33	0	FEL							
Pr	op Num	_							Sp	bud	Dat	e		Con	np. i	Date	
		_									11	1/17	1988			2/1	7/1989
Ad	ditional	Inf	orma	ation	1												
Dt	her 1			Oth	ier 2				O	her	3			Oth	er 4		
				1			-			-							
Pr	epared B	y		-	Up	date	d	By	-			La	st Up	date	d		
Sh	ackelford	-			Sh	acke	fo	brd	-				1	0/20/	2016	3 11:	04 AM
10	le Summ	an	/		-												
-	Date	0	D. (i	n)	To	D	T	Botto	m	T			Com	men	ts		
		-	(1		(MD	ft)	Ľ	(MD	Rt)								
			17.5	00		0			82	8							
			12.2	50		0		4,	50	0							
-			7.8	75		0 7			22	0							
ſu	bular Su	mn	nary				-			-							
-	Date	-	De	escri	iptio	n	1	O.D	. 1	V	Vt	Gra	de	Top		Bo	ttom
					(in)	) (1		/ft)			(MD	ft)	(M	D ft)			
11	/24/1988	24/1988 Surface Ca						13.375		4	8.00	H-	40		0		828
11	/30/1988	In	term	edia	te Ca	asin	ng 8.		25	2	4.00	1	55				4,500
1	2/9/1988	F	rod	uctio	n Ca	sing	ng 5.8		00	1	7.00	K-	5 2		2,100 2,6		2,675
1	2/9/1988	F	rod	uctio	n Ca	sing	sing 5.			1	7.00	K-	55	2,	675		2,924
1	2/9/1988	F	rode	uctio	n Ca	sing	sing 5.			1	5.50	K-	55	2	924		7,220
Ca	sing Cen	ner	nt St	mm	ary		-		-			-					
cl	Date	-	No	T	C	sa.		Te	DD	1	Bott	om		Co	mm	ents	
			S		0.D	. (in)	)	(ME	) ft	)	(MD	ft)					
8	11/24/19	88	1,4	00		13.3	75	5		0		828	Clas	sC			
	3/15/20	111		0		8.6	25			0		63	circu	lated	50	SX C	ement
	3/15/20	)11	1	25		8.6	25	1	4	36	1,	,000	estir	nated	ł		
	11/30/19	88	7	00		8.6	25	2	,3	70	4.	,500	-				
1			3	46		5.5	00	2	2.30	00	4	,690	New	cem	ent		
1	12/12/19	88	6	00	-	5.5	00	4	6	90	7	220	-				
0	ols/Probl	en	is S	umn	arv		_	1	-				L				
-	Date	_	To	ol T	uno		-	0.0		-	0	-	To	0	-	Rott	om
	Jure		10	-JT 1	1hc			(in)		()	n)		(MD	ft)		(MD	1 ft)
			D	VT, C	0/0			7.87	75	1	0.00	0	-	3,18	3		(
-	3/3/2011	-		CIBI	>		-	5.50	00	1	0.00	0		6,45	0		(
11	/11/1989	-		CIBI	2	-	-	5.50	00	1	0.00	0		7,03	0		(
Ce	ment Plu	0 5	Sum	mar	1		-	-	1	-					-		
-	Date	N	0 1	01		T	or		Br	otto	m		(	Com	nen	in a	
	Date	S	x	(in	1)	(M	D	ft)	(1)	ID f	t)						
-	3/5/2011		25	5.	500		4,	970	-	5,	100						
-	3/4/2011		25	5.	500	-	5,	530		5,	800						
-	3/4/2011		25	5.	500		6,	250	-	6,	450						
		-	-	5.	500		6.	944		7.	220						
Pe	rforation	Su	mm	arv			-	1			-1						
e l	Date	-	Por	f C.	atue	T	E	orma	tio	n		OA	Top	OA	Bot	om	Shote
1	Date		1 61			1	1	Juind				(ME	)ft)	()	AD f	t)	5
	3/15/20	111	Squ	eeze	d	1	-		-		1		63	3		63	
-	3/15/20	11	Squ	eeze	d	1					+		1,000		1,	000	
	3/15/20	11	Squ	eeze	d	1			-		+		2,150		2,	150	-
1		1				1					-			-			

#### Last Updated: 10/20/2016 11:04 AM

Field Nam	10		Leas	e Name		Well	No.	Cou	nty		State	B		APIN	0.	
Lusk West	Dela	aware	Lusk	West Delawar	e Unit	8		Lea			New	Mexico		300253049400		000
Version		Version Tag	-					_		Spud Dat	e	Comp.	Date	GL (ft	)	KB (ft)
	2	Proposed								11/17/	1988	2/1	7/1989			
Section	To	wnship/Block		Range/Surve	у	Dist.	N/S (ft)	N/S L	ine	Dist. E/W	(代)	E/W Lit	te F	ootage	From	
20	19	s		32e		1	1,651	FNL	-		330	FEL				
Operator					Well Status	-	and the second		Lati	tude		Longita	ıde		Prop	Num
Shackelfor	d Oi	Company			Plugged										1	
Other 1			C	Other 2			Other 3					Ot	her 4		1	
							1									
Last Upda	ted			Prepared By						Updated	By					
10/20/2016	6 11:	04 AM		Shackelford						Shackelf	ord					
Additiona	Info	mation			and the state of the state of the state of											

#### Hole Summary

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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 Su	Constant da las r			

#### Tubular Summary

Date	Description	No. Jts	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD 代)	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	
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	2,924	
12/9/1988	Production Casing		5.500	15.50	K-55	2,924	7,220	
0 1 0	10			and the second se				

#### **Casing Cement Summary**

C	Date	No. Sx	Yield (ft3/sk)	Vol. (ft3)	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
195	11/30/1988	700	.00	700	8.625	2,370	4,500		
TC.		346	1.26	436	5.500	2,300	4,690		New cement
	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 作)	Description	Comments
	DV tool (drilled out)	7.875	0.000	3,183	0		
3/3/2011	Cast Iron Bridge Plug	5.500	0.000	6,450	0		
11/11/1989	Cast Iron Bridge Plug	5.500	0.000	7,030	0	4 sx cement on top	

#### Cement Plug Summary

Date	No. Sx	0.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
3/5/2011	25	5.500	4,970	5,100	
3/4/2011	25	5.500	5,530	5,800	
3/4/2011	25	5.500	6,250	6,450	
		5.500	6,944	7,220	

#### Perforation Summary

C	Date	Perf. Status	For	mation		Comments
	3/15/2011	Squeezed			Pressured up no rate	
	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
	2,1	150 2,1	50			
C	Date	Perf. Status	For	mation		Comments
	3/15/2011	Squeezed			Sqzd 125 sx	
	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
	1,0	1,0	00			
C	Date	Perf. Status	For	mation		Comments
3.55	3/15/2011	Saueezed			Circulate LEG	

3/15/2011 Sauezed

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C Date	Per	. Status	Forma	tion	1			(	Comments		-		
Top (MD ft)		Bottom (MD ft)	SPF	Shots	Phasing	(deg)			Interval C	omments			
	4,940	5,078	3										
C Date	Per	Status	Forma	tion				. (	Comments				
1/6/19	89Open												
Top (MD ft)		Bottom (MD ft)	SPF	Shots	Phasing	(deg)			Interval C	omments			
	7,121	7,136											
C Date	Per	Status	Forma	tion				(	Comments				
1/12/19	89Open												
Top (MD ft)		Bottom (MD ft)	SPF	Shots	Phasing	(deg)			Interval C	omments	n de zur same C. Banna II. (n militari a da singer a mi		
	6,468	6,478											
Behind Pipe	Summa	гу											
C Formatio	n Name	Top (MD ft)	Bottom (MD ft)	Net Pay(ft)	Drain. Area(Acre)	Res. Pres.(p	Water Sat. (%)	Eff. Por. (%)	EUR Oil (MBO)	EUR Gas (MMCF)	Comments		
YATES		2,624	2,696	0	0		0 0.0%	0.0%	(				
YATES		2,714	2,722	0	0		0 0.0%	0.0%	(	0 0			
Cherry Ca	inyon	4,936	4,958	0	0		0 0.0%	0.0%	(	0 0	4950' Zone		
Well History	Summa	ry											
Date							Comments						
3/5/2011	Attempt	to cut and pull	5 1/2" casing	g @ 4527	, not free, p	ressured	up on casing 15	500#.					
3/6/2011	Attempt	o cut 5 1/2" c	asing @ 322	4', not free	2				and the second second by a				
3/8/2011	Attempt	o cut 5 1/2" c	asing @ 287	8', not free	e, pressure u	up to 500a	#						
3/9/2011	Ran free	point tool cas	ing free @ 2	100', 50%	free @ 215	0', 100%	stuck @ 2200'						
3/10/2011	Cut 5 1/	2" casing @ 2	100' nulled i	asing at 2	2100'								
0110/2011	Out o m	ut 5 1/2" casing @ 2100', pulled casing at 2100'											



4



EXIST JN4 Last Updated: 10/20/2016 10:56 AM

Field Name	e				Le	as	e N	am	e					Well I	No.		
LUSK West	Dela	ware		101	Lu	JSK	vve	st	De	awa	are	Unit	API No.				
County				Sta	te			_				1	APINO	D.			
Lea				Nev	N 1	Nex	cico					1	80025	304940	000		
Version	ľ	Versi	on Ta	g					-								
	1	Prese	nt						-	-							
GL (ft)	KB	(ft)	Se	ection		To	wn	shi	n/F	RIO	ele	- 1	Range	Surve	V		
(,		()	20		-	10			Para				20e		.,		
			20			19	s		_				sze				
Operator				We	ell	Sta	tus			Lat	tituc	le	Longitude				
Shackelford	liO t	Comp	any	Ph	Jgg	jed											
Dist. N/S (	ft) N	I/S Li	ne	Dist.	E	W	(代)	E	W	Lin	e	Foo	tage F	rom			
16	51 F	NL				:	330	FE	EL								
Prop Num	_						Is	DU	dI	late			Comp Date				
							+			11	1171	1000		2/	17/100		
							1				1111	1900	1	21	1//190		
Additional	Intol	mate	DR					_	_								
Other 1		0	ther :	2			0	th	er	3			Oth	er 4			
		-					+						-	and the second second			
Prepared B	3v		U	odate	d	Bv	_	-	-	-	Las	st Ur	dated	d			
Chackolford			101	nacko	lfa	ed.			-				0/20/	2016 1/	-56 A		
Shackenord			131	lacke	10	u		_	_	-	_		0/20/	2010 10	J.30 AI		
Hole Sumn	nary																
Date	O.D	. (in)	To	pp	E	Bot	tom	1				Con	nment	ts			
	-		(ME	o ft)		ME	) ft)										
	1	7.500		0			82	28									
	1:	2.250		0			4,50	00		_							
	1	7.875		0	-		7,220										
Tubular Su	mma	IV			9 7			-									
Data	I	Deer	-	202	T	0	n	T	VAA	-	Geo	del	Ton		ottom		
Jaid		0050	- put	***		(i	n)	0	b/i	t)	and	10	(MD 1	ft) (	MD ft)		
11/24/1988	5	Surfac	e Cas	ino	+	13	375		48	00	H	10	1	0	82		
11/30/1088	Inte	mod	iato (	acino	+	8	626	-	24	00	LE	5		0	4 50		
11/30/1300	11100	ameu	late C	asing	4	0.	020	1	47	.00	5-0	-	-	100	4,00		
12/9/1988	Pr	oduci	ion Ca	asing		5.	.500	1	17	.00	K-0	5	2,	100	2,67		
12/9/1988	Pn	roduction Casing				5.	500		17	17.00 K-55			2,	675	2,92		
12/9/1988	Pn	Production Casing				g 5.500				.50	K-{	55	2,	,924 7,220			
Casing Cen	nent	ent Summary						-		-		-					
C Date	te No. Cso.					1	Ton		B	otto	m		Comments				
-		Sx	0.0	). (in)		(M	ID f	t)	(1	ND	ft)			omments			
11/24/19	88	,400		13.3	75			0		1	828	Cla	ss C				
3/15/20	)11	0		8.6	25			0	-		63	circ	ulate !	50 sx c	ement		
3/15/20	111	125		8.6	8.625 436 1,000						esti	mated	1				
11/20/10	000	700		9.6	8 625 2 370 4 500												
40/40/40	00	000		0.04	20		2,0	00	_	7,5	000	20					
12/12/19	88	600		5.50	00		4,0	90	_	1,1	220						
ools/Probl	lems	Sum	mary														
Date		Tool	Туре	T	(	D.D			I.D		T	To	p	Bo	ttom		
					1	(in)			(in	)		(MD	ft)	(M	D ft)		
		DVT,	D/O			7.8	375		0.	000			3,183	3			
3/3/2011		CII	BP			5.5	500	-	0.	000			6,450	0			
11/11/1989		CI	3P	-		5.5	500	-	0.	000			7,030	2			
ement Plu	g Su	mma	rv			-	_	-	-	-	-						
Date	N-	To	0	T		_	P	0.64	0.00	T			Comer	aonto			
Date	SY	10	in)	(MC	) fi	0	()	/D	ft)				Jounn	ents			
3/16/2011	5	0	8.625	1		0	1.		F	3							
3/15/2014	40	1	8 625		-	766	-	4	0/	0							
3/15/2011	12		0.020		1 -	00		1	,00	2							
3/15/2011	2		0.020	_	1,5	11		2	,10	U							
3/14/2011	4	0	5.500		2,4	37		2	,92	8							
3/7/2011	3	0	5.500	1	3,0	87		3	,27	5							
3/6/2011	2	5	5.500		4,4	44		4	,77	7							
3/5/2011	3	0	5.500		4,8	28		4	,92	28							
3/5/2011	2	5 1	5,500		4.9	28		5	.10	0							
3/4/2014		5	5 500		5 6	30		F	90	0							
0/4/2011					0,0	50		0	,00	-							
3/4/2011	2	0	5.500		0,2	:50		6	,45	U							
		1 4	5.500	(	6,9	44		7	,22	0					_		
erforation	Sum	mary				-		_	-	_							
Date	P	erf. S	tatus	1	Fo	rma	atio	n		C	A	op	OAE	Bottom	Shots		
										(	MD	ft)	(M	D ft)			
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3/15/20	11Sc	ueez	ed	1				-		-		1,000		1,000			
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C Date	Perf. Status	Form	ation	Comments				
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5,700 5,760								
C Date	C Date Perf. Status Form		ation		Comments			
12/30/19	12/30/1993Open				attempted sqz 2/8/1994, 2/15/1994, 2/18/1994 did not hold.			
Top (MD ft)	Top Bottom (MD ft) (MD ft)		Shots	Phasing (deg)	Interval Comments			
	4,940 5,078							
C Date	Perf. Status	Form	ation		Comments			
1/6/19	1/6/1989Open							
Top (MD ft)	Top Bottom (MD ft) (MD ft)		Shots	Phasing (deg)	Interval Comments			
	7,121 7,136							
C Date	C Date Perf. Status Formation		Comments					
1/12/19	1/12/1989Open							
Top (MD ft)	Top Bottom (MD ft) (MD ft)		Shots	Phasing (deg)	Interval Comments			
	6,468 6,478							
Well History	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							

#### DRILLING PLAN:

### SHACKELFORD OIL COMPANY, INC. (RE-ENTRY) LUSK FEDERAL #8-A 1651' FNL & 330' 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		812'	Salt	
Tansil		2422'	Water/Oil/Gas	
Yates		2607'	Water/Oil/Gas	
Seven Rivers		2808'	Water/Oil/Gas	
Top Capitan Reef		2903'	Water/Oil/Gas	
Base Capitan Reef		3920'	Water/Oil/Gas	
Delaware		4840'	Water/Oil/Gas	
TD		4967'	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 (Originally the Lusk Deep Unit–A #15) Lusk West Delaware Unit #8 well. This vertical oil well will be re-entered for the Delaware (SEE RE-ENTRY PROCEDURE).

#### 3. CASING PROGRAM: EXISTING IN WELL

Hole Size	Depth	Casing	Weight	Joint	Grade	New/Used	SF	SF Collapse	SF Tension
		Size					Burst		
17 1/2"	0' - 828'	13 3/8"	48#	STC	H-40 (8	New	N/A	N/A	N/A
					Round)				
12-1/4"	0'-4500'	8-5/8"	24#	STC	K-55 (8 Round)	New	N/A	N/A	N/A
7-7/8"	2100'- 7220'	5 1/2"	17#	STC	K-55 (8 Round)	New	N/A	N/A	N/A

5 1/2" Casing cut and pulled at 2100' when well was plugged on 3/8/2011.

#### 4. CEMENT PROGRAM: EXISTING

- A. <u>Surface Casing: Existing.</u> 13 3/8", 48#, H-40, @828' cmtnd w 1000 sx Class C 2% CaCl, 14.8 ppg, 1.32 yield, 6.3 gal. Circ 220 sx. to surface.
- B. Intermediate Casing: Existing. 8 5/8", 24#, K-55, @ 4500' cmtnd w 550 sx. Class C w/20% Diacel D, 12 ppg., and 150 sx. Class C Neat, 14.8ppg. TOC 2320'.
- C. <u>Production Casing</u>: Existing. 5 1/2", 17#, K-55 @ 7220' cmtnd w 300 sx. Class C w/20% Diacel D and 300 sx. Class C Neat, 14.8 ppg. TOC 4690'.

# 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 – 4967'	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. A Visual mud monitoring system will be utilized.

# 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.CBL will be run from TD to surface.

#### 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 2,454 psi., and BHT of 95 degrees 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:**

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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 15 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.





#### CERTIFICATION

2

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Shackelford Oil Company am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 14th. day of November 2016.

Signed:

Printed Name: Barry Hunt Position: Agent for Shackelford Oil Company Address: 1403 Springs Farm Place, Carlsbad, NM 88220 Telephone: (575) 361-4078 E-mail: specialtpermitting@gmail.com

#### **POWER OFATTORNEY**

#### **DESIGNATION OF AGENT**

#### SHACKELFORD OIL COMPANY, hereby names the following person as its agent

Name of Agent: Barry W. Hunt

Agent's Address: 1403 Spring Farm Place, Carlsbad, NM 88220

Agent's Telephone Number: (575) 361-4078

### **GRANT OF SPECIAL AUTHORITY**

SHACKELFORD OIL COMPANY, grants its agent the authority to act for it with respect to the following only:

- 1. Executing forms require to be filed with the Bureau of Land Management of the Department of Interior of the United States of America.
- 2. Executing forms required to be filed with the Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department.

#### **EFFECTIVE DATE**

This power of attorney is effective immediately.

#### **RELIANCE ON THE POWER OF ATTORNEY**

Any person, including the agent, may rely upon the validity of this power of attorney or a copy of it unless that person knows it has terminated or is invalid.

#### ACKNOWLEDGEMENT

#### SHACKELFORD OIL COMPANY:

**By: Don Shackelford** 

This instrument was acknowledged before me on this day of 2014 by 2014 by Sna Collford President of Shackelford Oil Company.

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Notary Public

Kathleen Ann Kane My Commission Expires 09/02/2015

My Commission Expires \_\_\_\_\_, 20\_\_\_\_

WELL NAME CHANGE Lusk West Delaware Unit #8 H-Sec. 20-T19S-R32E 1651' FNL & 330' FEL

Proposed zones to be tested:

2624'-2696' Yates sand (Non-unitized zone)

2714'-2722' Yates sand (Non-unitized zone)

4936'-4958' Cherry Canyon zone (Non-unitized zone)

The Lusk West Delaware Unit #8 re-entry will be a non-unit well, the proposed name change will be the Lusk Federal #8-A.