Form 3160-5 (August 2007)

UNITED STATES DEPARTMENT OF THE INTERIOR

OCD Hobbs

FORM APPROVED OMB No. 1004-0137 Expires: July 31, 2010

BURI	EAU OF LAND MANAGEMENT		NMLC065710A
Do not use this fo	OTICES AND REPORTS ON Worm for proposals to drill or to Use Form 3160-3 (APD) for suc	re-enter an	6. If Indian, Allottee or Tribe Name
SUBMIT	IN TRIPLICATE - Other instructions or	page 2.	7. If Unit of CA/Agreement, Name and/or No.
1. Type of Well Oil Well Gas W	'ell / Other		8. Well Name and No. LUSK WEST DELAWARE UNIT #12
2. Name of Operator SHACKELFORD OIL COMPANY	1		9. API Well No. 30-025-20874
3a. Address 203 W WALL ST, STE 200, MIDLAND, TX 7970		(include area code)	10. Field and Pool or Exploratory Area LUSK DELAWARE, WEST
4. Location of Well (Footage, Sec., T., I SEC 20 T19S R32E 1650' FSL & 990' FWL	R.,M, or Survey Description)		11. Country or Parish, State LEA COUNTY, NM
12. CHEC	K THE APPROPRIATE BOX(ES) TO IND	ICATE NATURE OF N	OTICE, REPORT OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF	ACTION
✓ Notice of Intent Subsequent Report Final Abandonment Notice	Casing Repair New	ure Treat Construction and Abandon	Production (Start/Resume) Water Shut-Off Reclamation Well Integrity Recomplete Other Temporarily Abandon Water Disposal
testing has been completed. Final Addressing that the site is ready for determined that the site is ready for DITIONS OF A	Abandonment Notices must be filed only after final inspection.) SEE ATT	er all requirements, inclu	completion in a new interval, a Form 3160-4 must be filed once using reclamation, have been completed and the operator has HOBBS OCD JUL 1 9 2016 RECEIVED
14. I hereby certify that the foregoing is tre Name (Printed/Typed)	ue and correct. Snackelford	Title Preside	nt
Signature Signature		Date 7/12/16	
	THIS SPACE FOR FEDE	RAL OR STATE	OFFICE USE
that the applicant holds legal or equitable tit	Approval of this notice does not warrant or cettle to those rights in the subject lease which wo	-12 OPE 4.P	g Date 7/14/16
entitle the applicant to conduct operations the	iereon.	U	

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)

Items Attached

- 1. Proposed Procedures
- 2. Calculation of Cement
- 3. Current Schematic
- 4. Proposed Schematic

Proposed Procedures: LWDU #12 WSW

- 1. Drill plug from 3525' to 3796' circulate hole clean
- 2. Clean out hole to 5500' and circulate hole clean, set plug from 5450-5130'. Pull up inside of casing and shut in for day
- 3. GIH and tag plug. Witness by Hobbs BLM
- 4. POOH w/tubing
- 5. GIH w/wireline and take approximately 30 sidewall cores

J-55

- 6. Review sidewall cores if it appears the well is productive run 5 ½" new 17# LTC casing to 7. Cement w/900 sxs of class C cement w/2% CACL and circulate cement to surface If cement doesn't Circ

 8. Evaluate well for completion

 Contact BLM

- 9. Perforate 4952-4990, 4925-4940, 4900-4915, 4828-4840, 4775-4805, 4530-4540
- 10. GIH w/tubing and packer and acidize w/2000 gals of NEFE acid. Swab back review for frac
- 11. Frac well with 80,000 lbs of 16/30 sand, 12,000 gals flud and 325,000 SCF of nitrogen

LWDU #12

Calculation of Cement

5 ½" casing 15.50# **J-55**

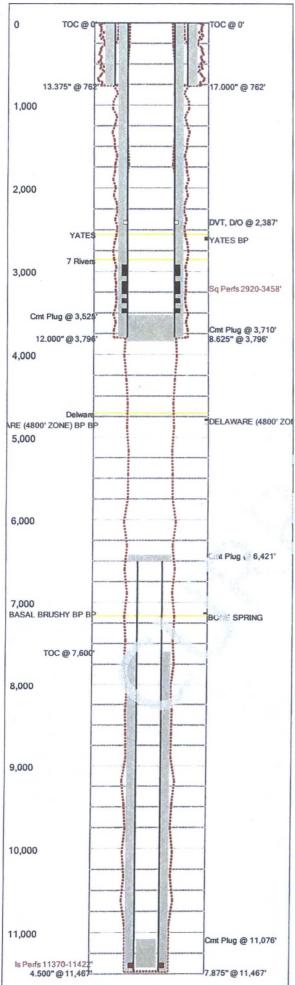
- 1. 8 5/8" 32# to 3796' .1772 cuft/ft = 672.65 cuft
- 2. 77/8" O/H to 5300' .1738 cuft/ft 1504 ft x .1738 = 261.39 cuft
- 1. 672.65 cuft
- 2. <u>261.40 cuft</u>

934.05 cuft Total

Class C Cement 1.33 cuft/sack

934.05cuft/1.33ft/cuft = 703sxs X 15% excess = 808.45 sxs

Total estimated cement- 900 sxs



Last Updated: 7/12/2016 01:14 PM

Field Name	1			Le	ease	Name					Well No.
Lusk West [Delaw	are		Lu	Lusk West Delaware Unit						12
County				State				API No.			0.
Lea		New N	Mexic	0			30	0025	208740000		
Version	Ve	ersion	Tag								
	1 Ci	urrent									
GL (ft)	KB (f	ft)	Sec	tion	Tow	nship/	Bloc	k	R	ang	e/Survey
3,567.7		19S				3	2E				
Operator				Well	Statu	IS	Lati	tud	е		Longitude
Shackelford	Oil C	ompan	У	Shut	In						
Dist. N/S (f	t) N/	S Line	D	ist. E/	st. E/W (ft) E/W Lin			1	oot	age	From
16	50 FS	SL.	\top		99	0 FWI	_	\top			
Prop Num						Spud	Date	-		Co	mp. Date
							2/	11/	964		4/6/196
Additional	Inform	nation								_	
The #12 wa Lusk West I					er 9/3	/1997	to be	use	d as	a V	/SW for the
Other 1		Oth	er 2			Other	3			Otl	ner 4
Prepared B	у		Upo	dated	Ву			Las	t Up	date	ed
Shackelford Shac					ckelford					7/1	2/2016 1:14 PM

Date	O.D. (in)	To: (Mile ft)	Bottom (MD ft)	Comments
2/4/1964	17.000	0	762	
2/19/1964	12.00	0	3,796	
3/4/1964	7.875	· C	11,467	

Tubular Summar,

Date	Description	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)
2/13/1584	Sunace Signification,	13.375	48.00		0	762
2 9/1964	immediate Casing	8.625	32.00	J-55	0	3,796
3/18/1904	Procession Casing	4.500			6,500	11,467

Casing Sement Summary

2	Date	Sx	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
盛	2/11/11/14	775	13.375	0	762	Cement Circulated
を	2/20/1964	2,350	8.625	0	3,796	1st state - 600 sx were pumped, 200 sx were circulated. DV Tool was @ 2387. 1750 sx were pumped about 100 sx were circulated
	3/18/1964	600	4.500	7,600	11,467	600 sx Regulate Plus + 1/3 cu/SKSTRATA- CRETE 6 +4% Gel

Tools/Problems Summary

I	Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	(MD ft)	
	2/20/1964	DVT, D/O	8.625	0.000	2,387	0	l

Cement Plug Summary

Date	No. Sx	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
8/15/1996	100	8.625	3,525	3,846	Original plug set at base of 8.625 csg was not tagged by Pioneer. They sat new plug @ 3525
10/18/1971	35	8.625	3,710	3,796	Estimated
10/18/1971	25	7.875	6,421	6,500	Estimated
10/18/1971	25	3.640	11,076	11,422	Estimated

Perforation Summary

С	Date	Perf. Status	Formation	OA Top (MD ft)	OA Bottom (MD ft)	Shots
	8/17/1996	Squeezed	7 Rivers	2,920	3,458	
0	3/16/1964	Isolated	Strawn	11,370	11,422	

Formation Tops Summary

Formation	Top (TVD ft)	Comments
YATES	2,554	
7 Rivers	2,856	
Delware	4,705	
BONE SPRING	7,162	

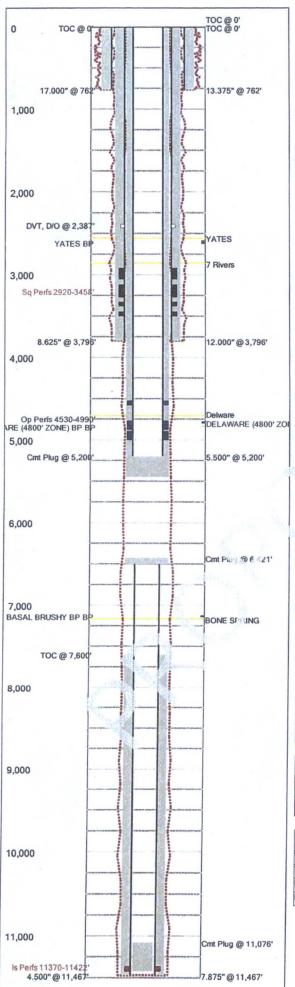
Last Updated: 7/12/2016 01:14 PM

Lusk West D				se Nar			-	/ell No.	County		State		APIN		
laun!		4	Lus	k West	Delawa	re Unit	1	2	Lea			Mexico		5208740000	
Version	Versi	on Tag								Spud D	ate	Comp. Date	e GL (f	t) KE	(ft)
	1 Curre	nt								2/1	1/1964	4/6/19	65	3,567.7	3,588
Section	Townsh	ip/Block		Ran	ge/Sun	rey	D	ist. N/S (ft)	N/S Line	Dist. E/	W (ft)	E/W Line	Footage	From	
20	198			32E				1,650	FSL		990	FWL			
Operator						Well St	atus		La	atitude		Longitude		Prop Nun	n
Shackelford	Oil Com	pany				Shut In									
Other 1				Other	2			Other 3				Other	4		
						-									
Last Update	ed			Pres	pared B	V				Update	ed By				
07/12/2016				Shad	ckelford					Shacke					
Additional I	nformati	on													
			oneer 9/3	/1997 t	o be use	ed as a W	SW for the	Lusk West Do	een Unit \	Vater Floor	1				
Hole Summ				1001	0 00 000	70 00 0 111	011101010	Edon Troot B	cop omit i	1001					
	O.D. (in)	Тор	Botto	100						mments					
Date	O.D. (III)	(MD ft)							C	mments					
2/4/1964	17.000			762											
2/19/1964	12.000		0 3,	796											
3/4/1964	7.875	5	0 11,	467											
ubular Sun	mmary									-					
Date		escriptio	n	No.	O.D. (ii	n) Wt	Grade	Тор	Bottom	1		Co	mments		
2010	5	200119410		Jts	J.D. (11	(lb/ft)	Sidde	(MD ft)	(MD ft)						
2/13/1964	Surface (Casing			13.3	75 48.00		0	7	62	7				
2/19/1964	Intermed	iate Casin	g		8.62	25 32.00	J-55	0	3,7	96					
3/18/1964	Production	n Casing			4.50	00		6,500	11,4	67					
Casing Cem	nent Sum	mary					,								
C Date	No.	Yield	Vol.	Cs	g.	Тор	Bottom	De	scription	ho.		7.1	Comme	ents	
	Sx	(ft3/sk)	(ft3)	0.D.	(in)	(MD ft)	(MD ft)			Age and					
2/14/19	64 775	1.00	775	1	3.375	0	762	A	Same	the state of	Ceme	nt Circulated			
2/20/19	64 2,350	1.00	2,350		8.625	0	3,796					te - 600 sx v			
3	-									1		ted. DV Too ed about 100			sx were
3/18/19	64 600	1.00	600		4.500	7,600	11,467		7	-		Regulate Pl			TA-CRE
0/10/10	000	1.00	000		4.000	7,000	11,407				6 +4%		140	0001101101	.,, 0,,,
Tools/Proble	ems Sun	nmary						3.8		0.					
Date		Tool Typ	e	0	.D.	I.D.	Тор	Botton:	Desc	ription	T		Comm	ents	
				(i	in)	(in)	(MD	(MD ft)	to All						
2/20/1964	DV	tool (drille	d out)		8.625	0.000	2,387	. 0							
Cement Plug	g Summ	ary													
Date		O.D.	Тор	Bottor						Comme	nts				
8/15/1996	100	(in) (l	MD ft) 3,525	(MD ft	,	rie vi olue	et at base	o: 525 csg	was not t	agged by E	ioneer	They sat no	aw plug @	n 3525	
10/18/1971	35	8.625	3,710		96 Es:		at base	0. 1920 CSg	was not t	agged by r	loneer	. They sat he	ew plug @	2, 5525	
10/18/19/1	30		3,710												
40/40/4074	25		C 424	6,5	00 Est										
10/18/1971	25	7.875	6,421	444	Z SI										
10/18/1971	25	7.875 3.640	6,421 11,076	11,4		mated									
10/18/1971 Perforation	25 Summar	7.875 3.640 y				mated									
10/18/1971 Perforation S	25 Summar Per	7.875 3.640 y	11,076	orma		mated				Con	nment	S			
10/18/1971 Perforation S	25 Summar	7.875 3.640 y	11,076 7 Rive	rs en	ation					Con	nment	S			
10/18/1971 Perforation S Date 8/17/199	Summar Per 96 Squee	7.875 3.640 y f. Status zed	11,076 7 Rive	orma			sing (deg)					S Comments	5		
70/18/1971 Perforation S Date 8/17/199 Top (MD ft)	Summar Per 96 Squee	7.875 3.640 y f. Status zed Bottom (MD ft)	11,076	rs en	ation		sing (deg)	.,					3		
10/18/1971 Perforation 9 Date 8/17/199 Top (MD ft)	Summar Per 96 Squee	7.875 3.640 y f. Status zed Bottom (MD ft)	11,076 7 Rive	rs en	ation		sing (deg)						S		
10/18/1971 Perforation S Date 8/17/199 Top (MD ft)	25 Summar Per 96 Squee 2,920 2,960	7.875 3.640 y f. Status zed Bottom (MD ft)	7 Rive	rs en	ation		sing (deg)						3		
Perforation 3 Date 8/17/198 Top (MD ft) 2	25 Summar Per 96 Squee 2,920 2,960 2,984	7.875 3.640 y f. Status zed Bottom (MD ft)	7 Rive	rs en	ation		sing (deg)						5		
10/18/1971 Perforation 3 Date 8/17/198 Top (MD ft) 2 2 2 3	25 Summar Peri 96 Squee 2,920 2,960 2,984 3,002	7.875 3.640 y f. Status zed Bottom (MD ft) 2 2 3	7 Rive	rs en	ation		sing (deg)						\$		
10/18/1971 Perforation S Date 8/17/199 Top (MD ft)	25 Summar Peri 96 Squee 2,920 2,960 2,984 3,002 3,122	7.875 3.640 y f. Status zed Bottom (MD ft) 2 2 3 3	11,076 7 Rive 28 958 ,010 ,130	rs en	ation		sing (deg)						S		
10/18/1971 Perforation 9 Date 8/17/199 Top (MD ft)	25 Summar 96 Squee 2,920 2,960 2,984 3,002 3,122 3,134	7.875 3.640 y f. Status zed Bottom (MD ft) 2 2 3 3 3 3	7 Rive 28 58 0010 11,076	rs en	ation		sing (deg)						\$		
10/18/1971 Perforation 9 Date 8/17/199 Top (MD ft)	25 Summar Per 96 Squee 2,920 2,960 2,984 3,002 3,122 3,134 3,152	7.875 3.640 y f. Status zed Bottom (MD ft) 2 2 3 3 3 3	7 Rive 28 28 58	rs en	ation		sing (deg)						\$		
10/18/1971 Perforation 9 Date 8/17/199 Top (MD ft)	25 Summar Per 96 Squee 2,920 2,960 2,984 3,002 3,122 3,134 3,152 3,198	7.875 3.640 y y f. Status zed Bottom (MD ft) 2 2 3 3 3 3 3 3	11,076 7 Rive 28 58 58 58 ,010 ,130 ,142 ,160 ,206	rs en	ation		sing (deg)						\$		
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10/18/1971 Perforation 9 Date 8/17/199 Top (MD ft) 2 2 3 3 3 3 3 3	25 Summar Per 96 Squee 2,920 2,960 2,984 3,002 3,122 3,134 3,152 3,198	7.875 3.640 y y f. Status zed Bottom (MD ft) 2 2 3 3 3 3 3 3 3	11,076 7 Rive 28 58 58 58 ,010 ,130 ,142 ,160 ,206	rs en	ation		sing (deg)						\$		
10/18/1971 Perforation 9 Date 8/17/199 Top (MD ft) 2 2 3 3 3 3 3 3 3 3	25 Summar Peri 96 Squee 2,920 2,960 2,984 3,002 3,1122 3,1134 3,152 3,198 3,220	7.875 3.640 y y f. Status zed Bottom (MD ft) 2 2 3 3 3 3 3 3 3 3 3	11,076 7 Rive 28 58 58 58 ,010 ,130 ,142 ,160 ,206 ,228	rs en	ation		sing (deg)						3		
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10/18/1971 Perforation 9 Date 8/17/199 Top (MD ft) 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3	25 Summar 96 Squee 2,920 2,984 3,002 3,122 3,134 3,152 3,198 3,220 3,330 3,450 Perf	7.875 3.640 y f. Status zed Bottom (MD ft) 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 5. Status	7 Rive 28 58 58 58 58 58 58 58 58 58 58 58 58 58	Forma	Sho	ts ?ha:	sing (deg)			Com	nterva	I Comments			
Top (MD ft) (MD ft) 2 2 3 3 3 3 3 3 3 3 3 3 3 7 7 7 8/17/198	25 Summar 96 Squee 2,920 2,984 3,002 3,122 3,134 3,152 3,198 3,220 3,330 3,450 Perf	7.875 3.640 y f. Status zed Bottom (MD ft) 2 2 3 3 3 3 3 3 . Status d Bottom (MD ft)	7 Rive 28 58 58 58 58 58 58 58 58 58 58 58 58 58	Forma	Sho	ts ?ha:				Com	nterva	I Comments			
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10/18/1971 Perforation S Date 8/17/198 Top (MD ft) 2 2 3 3 3 3 3 3 3 C Date 3/16/196 Top (MD ft) 11 ormation To	25 Summar Peri 96 Squee 2,920 2,960 2,984 3,002 3,1122 3,1134 3,152 3,152 3,152 3,154 solution (1,370) op Summor S	7.875 3.640 y f. Status zed Bottom (MD ft) 2 2 3 3 3 3 3 3 3 3 Status d Bottom (MD ft) 11 nary	11,076 7 Rive 28 958 .010 .130 .142 .160 .228 .338 .458 Strawn S .422	Forma PPF	Sho	ts ?ha:			Co	Com	nterva	I Comments			
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10/18/1971 Perforation S Date 8/17/198 Top (MD ft) 2 2 3 3 3 3 3 3 3 3 1 Date 3/16/196 Top (MD ft) 11 Dormation To Formati ATES Rivers	25 Summar Peri 96 Squee 2,920 2,960 2,984 3,002 3,1122 3,134 3,152 3,198 3,220 3,330 3,450 Perf 64 solated pop Summar Name	7.875 3.640 y f. Status zed Bottom (MD ft) 2 2 3 3 3 3 3 3 3 3 Status d Bottom (MD ft) 11 nary	11,076 7 Rive 28 58	Forma Forma Forma Forma Forma Forma Forma Forma	Sho	ts ?ha:			Cı	Com	nterva	I Comments			
Date S/16/196 Top (MD ft) 11 Date S/16/196 Top (MD ft) 12 13 14 15 16 16 16 16 16 16 16	25 Summar Peri 96 Squee 2,920 2,960 2,984 3,002 3,1122 3,134 3,152 3,198 3,220 3,330 9,450 Perf 64 Isolated pop Summion Name	7.875 3.640 y f. Status zed Bottom (MD ft) 3 3 3 3 3 3 3 Bottom (MD ft) 11 nary e T	11,076 7 Rive 28 58 .010 .130 .142 .160 .206 .228 .338 .458 Strawn Strawn 9 0p(TVD f 2,5 2,8	Forma Forma Forma Forma Forma Forma Forma Forma	Sho	ts ?ha:			Cı	Com	nterva	I Comments			
Date 8/17/196 Top (MD ft)	25 Summar Peri 96 Squee	7.875 3.640 y f. Status zed Bottom (MD ft) 3 3 3 3 3 3 3 Bottom (MD ft) 11 nary e T	11,076 7 Rive 28 58 58	Forma Forma Forma Forma Forma Forma Forma Forma	Sho	ts Phas	sing (deg)	Pres. Wat		Com	nterva	I Comments		Comme	nte

Last Updated: 7/12/2016 01:14 PM

YATES	2,583	2,627	0	0	0	0.0%	0.0%	0	0	
DELAWARE (4800	4,776	4,802	0	0	0	0.0%	0.0%	0	0	
DELWARE (4800'	4,838	4,839	0	0	0	0.0%	0.0%	0	0	
BASAL BRUSHY	7,121	7,142	0	0	0	0.0%	0.0%	0	0	

www.WellShadow.com



Last Updated: 7/12/2016 01:51 PM

Field Name				Le	ease N	Vame					Well No.	
Lusk West D	Dela	aware		Lu	Lusk West Delaware Unit						12	
County				State					AF	API No.		
Lea				New I	Mexico)			30	025	208740000	
Version		Version	Tag									
	2	Propose	d									
GL (ft)	KE	3 (ft)	Sec	ction	Town	nship	Bloc	k	R	ang	e/Survey	
3,567.7		3,585.0	20		198				32	2E		
Operator	1			Well	Statu	IS	Lat	itud	е		Longitude	
Shackelford	Oi	Compan	ıy	Shut	In						-	
Dist. N/S (f	t)	N/S Line	1	Dist. E	/W (ft	E/W	Lin	e	Foota	age	From	
165	50	FSL	\top		99	0 FW	L					
Prop Num						Spud	Date	Э		Co	mp. Date	
							2	/11/	1964		4/6/1968	
Additional I	nfo	ormation										
The #12 was Lusk West D					er 9/3/	1997	to be	use	ed as	a W	VSW for the	
Other 1		Oth	er 2			Other	3			Ot	her 4	
Prepared B	у		Up	dated	Ву			Las	st Up	dat	ed	
Shackelford Shack					ord					7/1	12/2016 1:51 PM	
Hole Summ	an	у	_	450	DVC.			_				
Date	0	D. (in)	To		Botto	WIT.	-		Com	me	nts	

Date	O.D. (in)	Tep (No ft)	Botto: (MD ft)	Comments
2/4/1964	17.000	0	76:	
2/19/1964	12.00		3,79	
3/4/1964	7.75	0	11, 37	

Tubular Summary

Date	ption	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)
2/17 964	Surface Casing	13.375	48.00		0	762
2 9/1964	In' andiate Casing	8.625	32.00	J-55	0	3,796
Carried St.	Produ on Casing	5.500	17.00	J-55	0	5,200
3/16/1964	Production Casing	4.500			6,500	11,467

ing Cement Cummary

С	nte	No. Sx	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
1	2/1/1964	775	13.375	0	762	Cement Circulated
	2	2,350	8.625	0	3,796	1st state - 600 sx were pumped, 200 sx were circulated. DV Tool was @ 2387. 1750 sx were pumped about 100 sx were circulated
		900	5.500	0	5,200	Cement Circulated
	3/18/1964	600	4.500	7,600	11,467	600 sx Regulate Plus + 1/3 cu/SKSTRATA- CRETE 6 +4% Gel

Tools/Problems Summary

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)
2/20/1964	DVT, D/O	8.625	0.000	2,387	0

Cement Plug Summary

Date	No. Sx	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	75	7.875	5,200	5,450	
10/18/1971	25	7.875	6,421	6,500	Estimated
10/18/1971	25	3.640	11,076	11,422	Estimated

Perforation Summary

С	Date	Perf. Status	Formation	OA Top (MD ft)	OA Bottom (MD ft)	Shots
	8/17/1996	Squeezed	7 Rivers	2,920	3,458	
		Open		4,530	4,990	240
	3/16/1964	Isolated	Strawn	11,370	11,422	

Formation Tops Summary

Formation	Top (TVD ft)	Comments
YATES	2,554	
7 Rivers	2,856	
Delware	4,705	
BONE SPRING	7,162	

Last Updated: 7/12/2016 01:51 PM

Field Nam	е				Leas	e Nar	ne			Well No.	С	ounty		State)		APIN	lo.	
Lusk West					Lusk	West	Delawa	re Unit		12	Le	ea			Mexico		3002	520874	10000
Version		Versio											Spud Da		Comp. Da		GL (f		KB (ft)
		Propo					-							/1964	4/6/1			3,567	
Section			/Block			Range/Survey Dist. N/S (ft) N/S Line Dist. E/W (ft) E/W Line						Fo	otage	From					
20	198	3				32E				1,6	50 FS			990	FWL				
Operator									Status			Latit	tude		Longitude	е		Pro	p Num
Shackelfor	d Oil	Comp	any					Shut	In		*								
Other 1					0	ther	2			Othe	r 3				Othe	r 4			
ast Upda	ted					Prep	pared B	у		-			Updated	d By					
07/12/2016	1:51	1 PM				Shad	ckelford						Shackel	ford					
Additional	Info	rmatic	n																
The #12 wa	as Re	e-enter	ed by Pi	ioneer	9/3/1	997 to	o be use	ed as a	WSW for the	e Lusk West	Deep	Unit Wa	ter Flood						
Hole Sumr	mary																		
Date). (in)	Тор	B	ottom)						Com	ments						
2410		. (,	(MD ft)		MD ft)							00111							
2/4/1964	4 1	7.000		0	76	62													
2/19/1964	4 1	2.000		0	3,79	96													
3/4/1964	4	7.875		0	11,46	67										7			
ubular Su	ımmı	ary															-		
Date	T		scriptio	n		No.	0.D. (ir	n) W	Grade	Тор	Bo	ottom			C	omn	nents		
						Jts	(11	(lb/	ft)	(MD ft)		ID ft)		JET!					
2/13/1964	4Sur	face C	asing				13.37	75 48	.00		0	762	32		7.4				
2/19/1964	4 Inte	rmedia	te Casir	ng			8.62	25 32	.00 J-55		0	3,796			-				
	Pro	duction	Casing	1			5.50	00 17	.00 J-55		0	5,200	24			-			
3/18/1964					-		4.50			6,50	0 .	11,4F			h 8				. 6.
Casing Cer										0,00				-					
C Date				Vo	1 1	Cr	0	Ton	Bottom	_	20000	nti				_	O.M. C.	nto	
Date		No. Sx	Yield (ft3/sk)			Cs O.D.		Top (MD ft)			Descri	hno				00	omme	1115	
2/14/1	964	775	1.00	-	775		3.375	,	0 76	2	- 0.00		-	Cenent Circulated					
2/20/1	964	2.350	1.00	2.3	350		8.625		0 3,79	6	-	-125 -	_	st sta	te - 600 sx	were	e pum	ped. 2	00 sx were
2.20.1		2,000	1.00	1 -,			0.020		0,110										1750 sx wer
															ed about 10		were	circula	ted
Ď.		900	1.00		900		5.500		0 5,20						nt Circulate				
3/18/1	964	600	1.00	0	600		4.500	7,6	00 11,46							Plus	+ 1/3	cu/SKS	STRATA-CF
													16	5+4%	Gel				
ools/Prob	olems																		
Date			Tool Typ	эе			.D.	I.D.	Тор	Bottom	188	Descrip	tion			C	Comm	ents	
0/00/4004		D\/ 4	-1 (-1-11)-	l			n) .	(in)	/MD ft;	(MD ft)	100								
2/20/1964			ool (drille	ed out))		8.625	0.0	2 38	1									
ement Plu	ug S																		
Date	No		.D.	Тор		ottor						(Comment	ts					
	S		in) (7.875	MD ft)		MD ft 5,4									-				
1011011071	-						- 1												
10/18/1971			7.875	6,4			Esti												
10/18/1971			3.640	11,0	76	11,4	2 Esti	mated											
erforation	Sur	nmary																	
Date		Perf.	Status		-5	orma	atio		1				Com	ments	÷				
8/17/19	996S	queez	ed	7:	vers			11	00 sxs of CI	ass C Ceme	nt								
Тор		T	Bottom	-	SP	FT	Shot	e P	hasing (deg)			In	terval	Commen	ts			
(MD ft		-	(MD ft)				116												
	2,92	20		2 228															
	2,96	0	- 2	2,900		-													
	2,98	14	2	2,95		- 1													
	3,00	_		3 : 0															
	3,12			20		-					_			-				-	-
	3,13			3,142		-		_		-							-		
										-									
	3,15			3,160			+											_	
	3,19			3,206								1							
	3,22			3,228															
	3,33	0	3	3,338															
	3,45	0	3	3,458				-											
Date		Perf.	Status	_	F	orma	tion			-			Comr	nents					
3/16/19	-			Str	awn														
Тор			Bottom		SPI	E	Shot	e Di	nasing (deg	N .	_	-	Int	en/al	Comment	te			
(MD ft))		(MD ft)		371		SHOU	-	asing (deg	1			1111	orval	Johnneill				
	1,37			,422															
Date			Status		F	orma	tion	-			_		Comr	nente					
Date			Julius	+	P	Jillid	JUII	-		-	4		COIIII						
	P	pen											-		-				
Top			Bottom		SPE	F	Shot	s Ph	asing (deg)				Int	erval	Comment	S			
(MD ft)			(MD ft)	540		2		20											
	4,530			,540		2		20											
	4,775			,805		2		60											
	4,828	В	4	,840		2		24											
	4,900	0	4	,915		2		30											
				,915		2		30											
	4,900 4,925	5																	Page 2 c

Last Updated: 7/12/2016 01:51 PM

C	Date	Perf. Status	Forma	ntion		Comments				
	Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments				
	4,952	4,990	2	76						

Formation Top Summary

Formation Name	Top(TVD ft)	Comments
YATES	2,554	
7 Rivers	2,856	
Delware	4,705	
BONE SPRING	7,162	

Behind Pipe Summary

Formation Name	Top (MD ft)	Bottom (MD ft)	Net Pay (ft)	Drain. Area(Acre)	Res. Pres. (psi)	Water Sat. (%)	Eff. Por. (%)	EUR OII (MBO)	EUR Gas (MMCF)	Comments
YATES	2,583	2,627	0	0	0	0.0%	0.0%	0	0	
DELAWARE (4800	4,776	4,802	0	0	0	0.0%	0.0%	0	0	
DELWARE (4800'	4,838	4,839	0	0	0	0.0%	0.0%	0	0	
BASAL BRUSHY	7,121	7,142	0	0	0	0.0%	0.0%	0	0	

LWDU #12 30-025-20874 Shackelford Oil Co. Conditions of Approval

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Notify BLM at 575-393-3612 a minimum of 24 hours prior to commencing work.

- 1. Run new 5-1/2" casing from 0-5130' and cement to surface. Notify BLM if Cement doesn't circulate to surface.
- 2. Must conduct a casing integrity test before perforating and fracturing. Submit results to BLM. The CIT is to be performed on the production per Onshore Order #2 III.B.1.h. Notify BLM if test fails.
- **3.** Before casing or a liner is added or replaced, prior BLM approval of the design is required. Use notice of intent Form 3160-5.
- 4. Surface disturbance beyond the originally approved pad must have prior approval.
- 5. Closed loop system required.
- **6.** All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of work over 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.
- 7. Operator to have H2S monitoring equipment on location.

- 8. A minimum of a 2000 (2M) BOP to be used. 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 (2M 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.
- 9. Subsequent sundry required detailing work done, a C-102 form, and completion report for the new formations. Operator to include well bore schematic of current well condition when work is complete. Operator should also submit a sundry to change the well name to reflect lease production.
- 10. See attached for General Plugback COAs.

CRW 071416

BUREAU OF LAND MANAGEMENT

Carlsbad Field Office 620 East Greene Street Carlsbad, New Mexico 88220 575-234-5972

Permanent Abandonment of Production Zone Conditions of Approval

Failure to comply with the following Conditions of Approval may result in a Notice of Incidents of Noncompliance (INC) in accordance with 43 CFR 3163.1.

1. Plugging operations shall commence within **ninety (90)** days from this approval.

If you are unable to plug back the well by the 90th day provide this office, prior to the 90th day, with the reason for not meeting the deadline and a date when we can expect the well to be plugged back. Failure to do so will result in enforcement action.

- 2. <u>Notification:</u> Contact the appropriate BLM office at least 24 hours prior to the commencing of any plug back operations. For wells in Eddy County, call 575-361-2822.
- 3. <u>Blowout Preventers</u>: A blowout preventer (BOP), as appropriate, shall be installed before commencing any plugging operation. The BOP must be installed and maintained as per API and manufacturer recommendations. The minimum BOP requirement is a 2M system for a well not deeper than 9,090 feet; a 3M system for a well not deeper than 13,636 feet; and a 5M system for a well not deeper than 22,727 feet.
- 4. <u>Mud Requirement:</u> Mud shall be placed between all plugs. Minimum consistency of plugging mud shall be obtained by mixing at the rate of 25 sacks (50 pounds each) of gel per 100 barrels of **brine** water. Minimum nine (9) pounds per gallon.
- 5. <u>Cement Requirement</u>: Sufficient cement shall be used to bring any required plug to the specified depth and length. Any given cement volumes on the proposed plugging procedure are merely estimates and are not final. Unless specific approval is received, no plug except the surface plug shall be less than 25 sacks of cement. Any plug that requires a tag will have a minimum WOC time of 4 hours.

In lieu of a cement plug across perforations in a cased hole (not for any other plugs), a bridge plug set within 50 feet to 100 feet above the perforations shall be capped with 25 sacks of cement.

Before pumping cement on top of CIBP, tag will be required to verify depth. Based on depth, a tag of the cement may be deemed necessary.

Unless otherwise specified in the approved procedure, the cement plug shall consist of either **Neat Class "C"**, for up to 7,500 feet of depth or **Neat Class "H"**, for deeper than 7,500 feet plugs.

- 6. <u>Subsequent Plug back Reporting:</u> Within 30 days after plug back work is completed, file one original and three copies of the Subsequent Report, Form 3160-5 to BLM. The report should give in detail the manner in which the plug back work was carried out, the extent (by depths) of cement plugs placed, and the size and location (by depths) of casing left in the well. <u>Show date work was completed.</u>
- 7. <u>Trash:</u> All trash, junk and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.