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Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

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.

5. Lease Serial No.
NMNM06531A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NM70976B

1. Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
Lea Unit #31H

2. Name of Operator
Legacy Reserves Operating

9. API Well No.
30-025-40699

3a. Address
P.O. Box 10848, Midland, TX, 79702

3b. Phone No. *(include area code)*
432-689-5200

10. Field and Pool, or Exploratory Area
Lea; Bone Spring

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sect 13 T20S R34E
SHL: 330' FNL & 1916' FWL
BHL: 330' FSL & 1916' FWL

11. County or Parish, State
Lea

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☑ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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 recomplete 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 recompletion 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.)

Legacy Reserves is requesting to change the casing design on the 9-5/8" casing. It is proposed to run a DV tool and packer due to lost circulation. The lost circulation started with partial losses at 3940' MD. The proposed depth of the DV tool is 3823'-3826'MD and the packer 3826'-3851'MD. The cement will be run in two stages. The first stage will be run from casing TD - 3851'MD. The plug will then be dropped and the annulus above the packer will be circulated for 1.5x casing capacity. Then the second stage of cement will be done from 3823'MD - Surface.

9 5/8" INTERMEDIATE CASING STAGE 1: DV TOOL @ 3823' & PACKER @ 3826'. LEAD WITH 350 SX 35:65:4 POZ "C" (WT. 12.50 PPG, YIELD 2.13 CF/SX). TAIL WITH 200 SX "C" (WT. 14.80 PPG, YIELD 1.33 CF/SX). CEMENT DESIGNED WITH 66% EXCESS.
9 5/8" INTERMEDIATE CASING STAGE 2: LEAD WITH 830 SX 35:65:4 POZ "C" (WT. 12.50 PPG, YIELD 2.13 CF/SX). TAIL WITH 125 SX "C" (WT. 15.00 PPG, YIELD 1.29 CF/SX). CEMENT DESIGNED WITH 100% EXCESS.

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Accepted for record
NMOCD
7/11/2013

14. I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)* BLAIN LEWIS
Title SENIOR ENGINEER
Signature Blain Lewis
Date 07/03/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

APPROVED
JUL 3 2013
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Approved by
Title
Date
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

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)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

CONDITIONS OF APPROVAL

Sundry dated 07/03/2013

OPERATOR'S NAME:	LEGACY RESERVES OPERAING
LEASE NO.:	NM053434
WELL NAME & NO.:	31H-LEA UNIT 30-025-40699
SURFACE HOLE FOOTAGE:	46'/N. & 1916'/W. sec. 12, T.20 S., R.34 E.,
BOTTOM HOLE FOOTAGE	330'/S. & 1916'/W. Sec.13, T. 20 S., R. 34 E., NMPM
COUNTY:	Lea County, New Mexico

Original COA still applies with the following changes

1. The minimum required fill of cement behind the **9-5/8** inch casing is:
   (Ensure casing is set at approximately 5475 to 5525')

   Operator has proposed DV tool at depth at approximately 3823-3826' and ECP at 3826-3851. Note: DV Tools and ECP are required to be set at a minimum of 50' below the previous casing shoe to provide cement across the shoe

   a. First stage to DV tool:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

   b. Second stage above DV tool:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

If operator is not able to establish cement circulation in either stage, then the operator shall run a CBL and submit to BLM. The operator shall also submit a copy of the service company cement report.

2. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at **4100'**). Operator shall provide method of verification. **Additional cement shall be required as excess calculates to 5%.**

EGF 070313

JOB AT A GLANCE

Depth (TVD)	5,449 ft
Depth (MD)	5,449 ft
Hole Size	12.25 in
Casing Size/Weight	9 5/8 in, 40 lbs/ft
Pump Via	9 5/8" O.D. (8.835" .I.D) 40
Total Mix Water Required	13,126 gals

Stage No: 1 **Float/Landing Collar set @** 5,409 ft

Pre-Flush

Fresh Water	20 bbls

1st Lead Slurry

35:65:4 Class C + Additives	350 sacks
Density	12.5 ppg
Yield	2.13 cf/sack

1st Tail Slurry

Class C Cement	200 sacks
Density	14.8 ppg
Yield	1.33 cf/sack

Displacement

Displacement	414 bbls

JOB AT A GLANCE (Continued)

Stage No: 2	**Stage Collar set @**	3,823 ft
Pre-Flush		
Fresh Water		20 bbls
2nd Lead Slurry		
(35:65:4) Class C		830 sacks
Density		12.5 ppg
Yield		2.13 cf/sack
2nd Tail Slurry		
Class C		125 sacks
Density		15.0 ppg
Yield		1.29 cf/sack
Displacement		
Fresh Water		265 bbls

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
12.715 CASING	1,750	1,750
12.250 HOLE	5,449	5,449

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
9.625	8.835	40	5,449	5,449

STAGE: 1

Float/Landing Collar set @	5,409 ft
Mud Density	9.00 ppg
Est. Static Temp.	108 ° F
Est. Circ. Temp.	105 ° F

VOLUME CALCULATIONS

1,471 ft	x	0.3132 cf/ft	with	66 %	excess	=	765.6 cf
529 ft	x	0.3132 cf/ft	with	50 %	excess	=	248.1 cf
40 ft	x	0.4257 cf/ft	with	0 %	excess	=	17.0 cf (inside pipe)
			TOTAL SLURRY VOLUME			=	1030.8 cf
						=	180 bbls

STAGE: 2

Stage Collar set @	3,823 ft
Mud Density	9.00 ppg
Est. Static Temp.	98 ° F
Est. Circ. Temp.	95 ° F

VOLUME CALCULATIONS

1,750 ft	x	0.3765 cf/ft	with	0 %	excess	=	658.9 cf
1,662 ft	x	0.3132 cf/ft	with	100 %	excess	=	1109.4 cf
411 ft	x	0.3132 cf/ft	with	25 %	excess	=	160.7 cf
			TOTAL SLURRY VOLUME			=	1929 cf
						=	343 bbls

Operator Name:	LEGACY RESERVES OPERATING LP
Well Name:	LEA UNIT #31H
Job Description:	Option 2: 9-5/8" Intermediate Casing @ 5,449'
Date:	July 3, 2013

Proposal No: 817150404D

FLUID SPECIFICATIONS

STAGE NO. 1

Pre-Flush — 20.0 bbls Fresh Water

FLUID	VOLUME CU-FT		VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
1st Lead Slurry	766	/	2.13	= 350 sacks (35:65) Poz (Fly Ash):Class C Cement + 0.005 lbs/sack Static Free + 5% bwow Sodium Chloride + 0.13 lbs/sack Cello Flake + 5 lbs/sack LCM-1 + 0.005 gps FP-6L + 4% bwoc Bentonite + 1% bwoc Sodium Metasilicate + 0.25% bwoc FL-52A + 5% bwoc MPA-5 + 107% Fresh Water.
1st Tail Slurry	265	/	1.33	= 200 sacks Class C Cement + 0.005 gps FP-6L + 0.005% bwoc Static Free + 56.1% Fresh Water

Displacement — 414.0 bbls Displacement

CEMENT PROPERTIES

	SLURRY NO.1	SLURRY NO.2
Slurry Weight (ppg)	12.50	14.80
Slurry Yield (cf/sack)	2.13	1.33
Amount of Mix Water (gps)	11.16	6.32
Amount of Mix Fluid (gps)	11.17	6.33

FLUID SPECIFICATIONS (Continued)

STAGE NO. 2

Pre-Flush — 20.0 bbls Fresh Water

FLUID	VOLUME CU-FT		VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
2nd Lead Slurry	1768	/	2.13	= 830 sacks (35:65) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.13 lbs/sack Cello Flake + 5 lbs/sack LCM-1 + 4% bwoc Bentonite + 1% bwoc Sodium Metasilicate + 0.25% bwoc FL-52A + 5% bwoc MPA-5 + 0.005 gps FP-6L + 0.005 lbs/sack Static Free + 107% Fresh Water
2nd Tail Slurry	161	/	1.29	= 125 sacks Class C Cement + 0.005 gps FP-6L + 0.005 lbs/sack Static Free + 53.4% Fresh Water

Displacement — 265.4 bbls Fresh Water

CEMENT PROPERTIES

	SLURRY NO.1	SLURRY NO.2
Slurry Weight (ppg)	12.50	15.00
Slurry Yield (cf/sack)	2.13	1.29
Amount of Mix Water (gps)	11.16	6.02
Amount of Mix Fluid (gps)	11.17	6.03

Legacy Reserves Operating LP, P.O. Box 10848, Midland, Texas 79702

July 3, 2013

United States Department of Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, New Mexico 88220
ATTN: Mr. Ed Fernandez

RE: Sundry Notice – Amended 9-5/8" Intermediate Casing Program
Lea Unit #31H
Surface location: 474' FSL, 2004' FEL, Section 6, T20S, R34E
Lea County, New Mexico

Dear Mr. Fernandez:

Attached are the original and three copies of the referenced sundry notice and attachments. Legacy Reserves Operating LP is requesting to change the casing design on the 9-5/8" intermediate string casing. It is proposed to install a stage tool (DV tool) and external open hole packer due to lost circulation. The lost circulation began with partial losses at 3940' MD. The proposed depth of the DV tool is 3823'-3826' MD with the packer set at 3826'-3851' MD. The cement will be run in two stages, with the first stage from the casing TD to 3851' MD. The plug will then be dropped and the annulus above the packer will be circulated with 1.5 times casing capacity. The second stage cementing will be done from 3823' MD to surface. Also attached are the planned cementing procedure/volumes.

If any additional information is needed, please contact me at 432/689-5201 or by email at blewis@legacylp.com. Thank you.

Sincerely,

Blain K. Lewis
Senior Engineer

BKL

Attachments

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Sundry dated 07/03/2013

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