OCD Hobbs HOBBS OCD MAY 16 2016 RECEIVED

ATS-16-498

Form 3160-3
(August 2007)

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMNM26394

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No. 316224

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

8. Lease Name and Well No. HARLEY 17 FEDERAL 1H

2. Name of Operator OXY USA INC. 16696 Contact: DAVID STEWART E-Mail: david_stewart@oxy.com

9. API Well No. 30-025-43256

3a. Address P.O. BOX 50250 MIDLAND, TX 79710

3b. Phone No. (include area code) Ph: 432-685-5717 Fx: 432-685-5742

10. Field and Pool, or Exploratory WC-025 G-09 S253309P; UPR WOLFCAMP (98180)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SESE 360FSL 550FEL 32.124205 N Lat, 103.587064 W Lon

At proposed prod. zone NENE 180FNL 550FEL 32.137233 N Lat, 103.587055 W Lon

11. Sec., T., R., M., or Blk. and Survey or Area Sec 17 T25S R33E Mer

14. Distance in miles and direction from nearest town or post office* 22 MILES WEST FROM JAL, NM

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) 360

16. No. of Acres in Lease 640.00

17. Spacing Unit dedicated to this well 160.00

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. NA

19. Proposed Depth 18062 MD 13630 TVD

20. BLM/BIA Bond No. on file ESB00226

21. Elevations (Show whether DF, KB, RT, GL, etc.) 3420 GL

22. Approximate date work will start 06/01/2016

23. Estimated duration 45

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall 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 shall 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 authorized officer.

25. Signature (Electronic Submission) | Name (Printed/Typed) DAVID STEWART Ph: 432-685-5717 | Date 11/23/2015

Title SR. REGULATORY ADVISOR

Approved by (Signature) /s/ Cody Layton | Name (Printed/Typed) | Date MAY 11 2016

Title FIELD MANAGER | Office CARLSBAD FIELD OFFICE

Application approval does not warrant or certify 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.

APPROVAL FOR TWO YEARS

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.

Additional Operator Remarks (see next page)

Electronic Submission #324467 verified by the BLM Well Information System
For OXY USA INC., sent to the Hobbs

Carlsbad Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

Additional Operator Remarks:

See attached for the following:

1. APD Drilling Plan
2. Surface Use Plan of Operations
3. Plats/surveys/diagrams
4. Directional Drilling Plan
5. BOP Diagrams
6. Choke Manifold Diagrams
7. Closed Loop Diagrams
8. Flex Hose Information
9. H2S Plan
10. Operator Certification
11. PBMOA Form

OPERATOR NAME / NUMBER: OXY USA INC. 16696

LEASE NAME / NUMBER: Harley 17 Federal #1H Federal Lease No. NMNM26394

STATE: NM COUNTY: LEA

POOL NAME/NUMBER: Draper Mill Wolfcamp 76115

SURFACE LOCATION: 360 FSL 550 FEL SESE (P) Sec 17 T25S R33E
SL: LAT: 32.1242046N LONG:103.5870638W X:731030.1 Y:409708.1 NAD: 27

TOP PERFORATION: 360 FSL 550 FEL SESE (P) Sec 17 T25S R33E
TP: LAT: 32.1242046N LONG:103.5870638W X: 731030.1 Y: 409708.1 NAD: 27

BOTTOM PERFORATION: 330 FNL 550 FEL NENE (A) Sec 17 T25S R33E
BP: LAT: 32.1368208N LONG:103.5870556W X:731000.8 Y:414297.6 NAD: 27

BOTTOM HOLE LOCATION: 180 FNL 550 FEL NENE (A) Sec 17 T25S R33E
BHL: LAT: 32.1372331N LONG:103.5870554W X:730999.8 Y:414447.6 NAD: 27

APPROX GR ELEV: 3420.6' EST KB ELEV: 3445.6' (25' KB-GL)

COMPANY PERSONNEL:

Name	Title	Office Phone	Mobile Phone
R. Chan Tysor	Drilling Engineer	713-513-6668	832-564-6454
Ryan Farrell	Drilling Engineer Supervisor	713-366-5058	832-291-4744
Roger Allen	Drilling Superintendent	713-215-7617	281-682-3919

1. Geologic Formations

TVD of target	13,630'	Pilot hole depth	14,350'
MD at TD:	18,062'	Deepest expected fresh water:	555'

Delaware Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Top Rustler	555	--	
Top Salado (top salt)	1070	--	
Base Salt (w/in Castile)	2690	--	
Top Delaware / Lamar	5005	--	
Top Bell Canyon	5040	Oil/Gas	Possible lost circulation
Top Brushy Canyon	7587	Oil/Gas	Possible lost circulation, possible saltwater influx
Top Bone Spring	9139	Oil/Gas	
Top 1st Bone Spring Sand	10112	Oil/Gas	
Top 2nd Bone Spring Lime	10332	Oil/Gas	
Top 2nd Bone Spring Sand	10674	Oil/Gas	
Top 3rd Bone Spring Lime	11178	Oil/Gas	
Top 3rd Bone Spring Sand	11843	**Oil/Gas**	
Wolfcamp	12297	Oil/Gas	

*H2S, water flows, loss of circulation, abnormal pressures, etc.

See COA

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
18.5"	0	~~600'~~ 1100'	16"	75	J55	BTC	3.82	1.67	6.24
14.75"	0	~~5050'~~ 4950'	10.75"	45.5	J55	BTC	1.45	1.24	2.4
9.875"	0	12450'	7.625"	29.7	L80	BTC	2.93	1.24	1.61
6.75"	0	18062'	5.5"	20	P-110	Ultra SF	2.13	1.31	2.21
BLM Minimum Safety Factor	1.125	1	1.6 Dry 1.8 Wet						

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N/A
Is well within the designated 4 string boundary.	N/A
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N/A
Is well located in R-111-P and SOPA?	Y
If yes, are the first three strings cemented to surface?	Y
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N/A
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N/A
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N/A

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	180	13.5	1.73	9.14	11:42	Premium Plus cement with 1 % Calcium Chloride - Flake (Accelerator)
	330	14.8	1.34	6.34	7:33	Premium Plus cement
Int 1.	3666	12.9	1.85	9.84	12:44	Halliburton Light Premium Plus Cement with 5% Salt (Salt), 0.25 % HR-800 (Retarder)
	1260	14.8	1.34	6.34	6:31	Premium Plus cement
Int 2.	800	10.2	3.45	16.05	16:43	Tuned Light System; 3 lbm/sk Kol-Seal (Lost Circulation Additive, 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive), 0.2 lbm/sk HR-800 (Retarder)
	1160	13.2	1.63	8.26	15:15	Super H Cement with 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.4 % CFR-3 (Dispersant), 3 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive), 0.1 % HR-601 (Retarder)
Prod.	100	13.2	1.63	8.26	15:15	Super H Cement with 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.4 % CFR-3 (Dispersant), 3 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive), 0.1 % HR-601 (Retarder)
	630	15.6	1.199	5.37	11:15	HALCEM System: 0.5% GasStop, 0.35% Halad (R) -322, 0.25 lbm D-AIR 5000, 0.20% HR-601

Casing String	TOC	% Excess (Tail/Lead)
Surface	0'	200%
Intermediate	0'	200%
Intermediate	0'	150%/40%
Production	11062'	50% / 100%

Include Pilot Hole Cementing specs:
Pilot hole depth: 14350
KOP: 12914

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft3/sack	Water gal/sk	Slurry Description and Cement Type
13750	14350	35	170	14.4	1.23	5.5	50/50 Poz Premium Cement with 0.3 % CFR-3 (Dispersant) and 0.3 % HR-601 (Retarder)
13150	13750	35	170	14.4	1.23	5.5	50/50 Poz Premium Cement with 0.3 % CFR-

							3 (Dispersant) and 0.3 % HR-601 (Retarder)
12450	13150	35	250	17.5	.94	3.37	H Cement with 0.75 % CFR-3 (Dispersant) and 0.25 % HR-601 (Retarder)

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	☐	Tested to:
14.75"	16"	2M	Annular	☐	70% of working pressure
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		
9.875"	13-3/8"	10M	Annular	☐	70% of working pressure (7000 psi)
			Blind Ram		250 psi Low/ 10,000 psi High
			Pipe Ram	☐	
			Double Ram	☐	
			Other		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other		

See COA

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.

See COA

See COA

	Y	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.	

5. Mud Program

See COA

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	~~600'~~ 1100'	FW Gel	8.4-8.8	28-38	N/C
~~600'~~	~~5050'~~ 4950'	Saturated Brine	10.0-10.2	28-32	N/C
~~5050'~~	12450'	Cut Brine	8.6-9.5	28-34	N/C
12450'	14350'	Brine	9.5-12.5	28-35	<10
12450'	18062'	OBM	12.0-13.5	35-45	NC

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Yes	GR while drilling from intermediate shoe to TD. Stated logs run will be in the Completion Report and submitted to the BLM.
No	No Logs are planned based on well control or offset log information.
No	Drill stem test? If yes, explain
Yes	Coring? If yes, explain
	Rotary Side wall cores in pilot hole

Additional logs planned		Interval
Yes	Resistivity	First Intermediate TD – Pilot Hole TD
Yes	Density	First Intermediate TD – Pilot Hole TD
Yes	CBL	First Intermediate TD – Pilot Hole TD
Yes	Mud log	Intermediate casing - TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8860 psi
Abnormal Temperature	No

See COA

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe.	No
Will more than one drilling rig be used for drilling operations? If yes, describe.	No

9. Attachments

_Y_ Directional Plan
_Y_ H2S Contingency Plan
_Y_ Flex III Attachments (Including BOPE Diagram, Flexible Choke line Certs)

Directional Svy - 1

Harley 17F 1H
Lea County, New Mexico
Northing: 409708.10
Easting: 731030.10
Plan #1

Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.78°

Magnetic Field
Strength: 48223.4snT
Dip Angle: 60.01°
Date: 10/6/2014
Model: IGRF2010

To convert Magnetic North to Grid: Add 6.78°
To convert True North to Grid: Subtract 0.40°

KB @ 3445.3usft
Gr @ 3420.3

WELL DETAILS Harley 17F 1H

Ground Level: 3420.3

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	409708.10	731030.10	32° 7' 27.136 N	103° 35' 13.429 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
12914.1	0.00	0.00	12914.1	0.0	0.0	0.00	0.00	0.0	
14039.1	90.00	359.63	13630.3	716.2	-4.6	8.00	359.63	718.2	
18062.5	90.00	359.63	13630.3	4739.5	-30.2	0.00	0.00	4739.8	17F 1H BHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
17F 1H BHL	13630.3	4739.5	-30.2	414447.60	730999.80
17F 1H FTP	13630.3	716.2	-4.6	410424.30	731025.50
17F 1H LTP	13630.3	4589.5	-29.3	414297.60	731000.80

SITE DETAILS:
Harley 17 Fed 1H
Site Centre Northing: 409708.10
Easting: 731030.10
Positional Uncertainty: 0.0
Convergence: 0.40
Local North: Grid

PROJECT DETAILS:
Lea County, New Mexico
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level