Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

OCD Artesia

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 page 2

5. Lease Serial No.
NMNM53229

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.
CEDAR CANYON 29 FEDERAL 26H

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

9. API Well No.
30-015-44523-00-X1

3a. Address
5 GREENWAY PLAZA SUITE 110
HOUSTON, TX 77046-0521

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

10. Field and Pool or Exploratory Area
PIERCE CROSSING

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 29 T24S R29E NWSW 1610FSL 420FWL
32.185562 N Lat, 104.013802 W Lon

11. County or Parish, State
EDDY COUNTY, NM

12. CHECK THE 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	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original APD
	☐ 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

OXY USA Inc. respectfully requests approval for the following changes from the approved permit:

1. Change in the Surface Casing Design - 10-3/4" 45.5# J55 BTC casing in 14-3/4" hole @ 620', cemented with 425sx CL C cmt w/ accelerator @ 14.2ppg, 1.68 yield w/ 100# excess. Verbal approval by Mustafa Haque-BLM 11/12/17.

2. Change in intermediate casing - 7-5/8" 29.7# L80 BTC from 0-7550' followed by 7-5/8" 29.7# HCL80 BTC from 7500-8024' w/ DV/ECP @ 2845'.

3. Change in the Intermediate Cement Program - 1st stage 362sx Pozzolan/C cmt w/ retarder @ 10.2ppg, 3.05 yield, 20% excess from 2845-7024' followed by 163sx Cl H cmt w/ retarder, dispersant, salt @ 13.2ppg, 1.65 yield, 20% excess from 7024-8024'. 2nd stage 663sx CL C cmt w/ accelerator,

All previous COAs still apply

NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 22 2017

Accepted for record - NMOCD 11-27-17

RECEIVED

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #394943 verified by the BLM Well Information System
For OXY USA INCORPORATED, sent to the Carlsbad
Committed to AFMSS for processing by CHARLES NIMMER on 11/14/2017 (18CN0003SE)

Name *(Printed/Typed)* DAVID STEWART — Title SR. REGULATORY ADVISOR

Signature (Electronic Submission) — Date 11/14/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHARLES NIMMER — Title PETROLEUM ENGINEER — Date 11/14/2017

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 Carlsbad

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)

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

Additional data for EC transaction #394943 that would not fit on the form

32. Additional remarks, continued

retarder @ 13.6ppg, 1.65 yield, 100% excess from 0-2845'.

4. Request a variance from the 0.422" clearance requirement on each side of the casing. Run 5-1/2" 17-20# P-110 DQX with a Connection OD of 6.05" inside of our 7-5/8" casing (Nominal ID: 6-7/8" and Drift ID: 6-3/4"). The 5-1/2" string will be used as a tie-back above the 4-1/2" liner and will remain un-cemented. The only cemented portion of the well will be the liner, which will be cemented a minimum of 100' back into the 7-5/8" casing.

5. Change in the Mud Program -

Depth	Fluid Type	Mud Weight
0-620'	WBM	8.4-8.6
620-2845'	Brine	9.8-10.0
2845-13501'	WBM	8.8-9.6

1. Geologic Formations

TVD of target	8625'	Pilot Hole Depth	N/A
MD at TD:	13501'	Deepest Expected fresh water:	280'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	280	Brine
Salado	725	Losses
Castile	1240	
Lamar/Delaware	2794	
Bell Canyon	2825	
Cherry Canyon	3581	Water
Brushy Canyon	4967	Oil/Gas
Bone Spring	6477	Oil/Gas
1st Bone Spring	7484	Oil/Gas
2nd Bone Spring	**7733**	**Oil/Gas**

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

2. Casing Program

Hole Size (in)	Casing Interval From (ft)	Casing Interval To (ft)	Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	Buoyant Body SF Tension	Buoyant Joint SF Tension
14.75	0	620	10.75	45.5	J55	BTC	1.125	1.2	1.4	1.4
9.875	0	7500	7.625	29.7	L80	BTC	1.125	1.2	1.4	1.4
9.875	7500	8024	7.625	29.7	HCL-80	BTC	1.125	1.2	1.4	1.4
6.75	7924	13501	4.5	11.6	P-110	DQX	1.125	1.2	1.4	1.4
Oxy requests a variance acception to run 5.5" 20# DQX in 7.625" 29.7# Casing. This equates to a 0.4125" clearance, 0.0095" below the Onshore Order 2 requirement.							SF Values will meet or Exceed			

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h
*Oxy requests the option to set casing shallower yet still below the salts if losses or hole conditions require this. Cement volumes may be adjusted if casing is set shallower and a DV tool may be run in case hole conditions merit pumping a second stage cement job to comply with permitted top of cement. If cement circulated to surface during first stage we will drop a cancelation cone and not pump the second stage.

	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?	
Is well within the designated 4 string boundary.	
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?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	425	14.2	1.68	6.53	6:50	Class C Cement, Accelerator
1st Stage Intermediate	362	10.2	3.05	15.63	15:07	Pozzolan Cement, Retarder
	163	13.2	1.65	8.45	12:57	Class H Cement, Retarder, Dispersant, Salt
DV/ECP Tool @ 2845' (We request the option to cancel the second stage if cement is circulated to surface during the first stage of cement operations)						
2nd Stage Int Casing	N/A	N/A	N/A	N/A	N/A	N/A
	663	13.6	1.65	8.656	7:20	Class C Cement
Production Liner	545	13.2	1.631	8.37	15:15	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top of Lead (ft)	Bottom of Lead (ft)	Top of Tail (ft)	Bottom of Tail (ft)	% Excess Lead	% Excess Tail
Surface	N/A	N/A	0	620	N/A	100%
1st Stage Intermediate Casing	2745	7024	7024	8024	20%	20%
2nd Stage Intermediate Casing	N/A	N/A	0	2845	N/A	100%
Production Liner	N/A	N/A	7924	13501	N/A	15%

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
9.875" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
			Blind Ram	✓	250/5000psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

*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.

	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.
	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.
	Y | Are anchors required by manufacturer?
	A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. 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. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015. See attached schematics.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	620	Water-Based Mud	8.4-8.6	40-60	N/C
620	2845	Brine	9.8-10.0	35-45	N/C
2845	8024	Water-Based Mud	8.8-9.6	38-50	N/C
8024	13501	Water-Based Mud	8.8-9.6	35-50	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

Oxy proposes to drill out the 10.75" surface casing shoe with a saturated brine system from 620' - 2845', which is the base of the salt system. At this point we will swap fluid systems to a high viscosity mixed metal hydroxide system. We will drill with this system to the intermediate TD @ 8024'.

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	Will run GR from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
No	Logs are planned based on well control or offset log information.
No	Drill stem test? If yes, explain
No	Coring? If yes, explain

Additional logs planned		Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4306 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	149°F

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. • We plan to drill the three well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. • Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Oxy would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

Total estimated cuttings volume: 1074.8 bbls.

9. Company Personnel

Name	Title	Office Phone	Mobile Phone
Philippe Haffner	Drilling Engineer	713-985-6379	832-767-9047
Diego Tellez	Drilling Engineer Supervisor	713-350-4602	713-303-4932
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
John Willis	Drilling Manager	713-366-5556	713-259-1417