16-381

Form 3160-3
(June 2015)

HOBBS OCD
MAY 19 2016
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FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM27506/ NMNM125653

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

1c. Type of Completion: ☑ ~~Hydraulic Fracturing~~ ☑ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No. (316250)
SD EA 29 FED COM P8 #10H

2. Name of Operator (4323)
CHEVRON USA INC.

9. API Well No.
30-025-43269

3a. Address
1616 W. BENDER BLVD HOBBS, NM 88240

3b. Phone No. *(include area code)*
575-263-0431

10. Field and Pool, or Exploratory (97955)
WC 025G06S263319;BONE SPRING

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 136' FNL & 1657' FEL
At proposed prod. zone 180' FSL & 1651'FEL

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 29 T26S,R33E, UL B (SHL)

14. Distance in miles and direction from nearest town or post office*
50 MILES SOUTH OF JAL, NEW MEXICO

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)	16. No of acres in lease	17. Spacing Unit dedicated to this well
136' FNL	1,517 acres	240 ACRES
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. in file**
	TD 10,520' MD 17,686'	CA 0329
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3250' GL	10/01/2016	30 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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 must 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 requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
Cindy Herrera-Murillo	CINDY HERRERA-MURILLO	11/10/2015

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Title: FIELD MANAGER	Office: CARLSBAD FIELD OFFICE	

Application approval 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.
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.

5/12/16?

Carlsbad Controlled Water Basin

KZ 05/23/16

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

(Continued on page 2)

*(Instructions on page 2)

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Rustler	2502	740	
Castile	242	3000	
Lamar	-1588	4830	
Bell Canyon	-1628	4870	
Cherry Canyon	-2633	5875	
Brushy Canyon	-4398	7640	
Bone Spring	-5835	9077	
Upr. Avalon	-5873	9115	
Lower Avalon	-6408	9650	
1st Bone Spring Sand	-6758	10000	
1st Bone Spring Shale	-7043	10285	
Lateral TD (Upper Avalon)	-7278	10520	17686

2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Deepest Expected Base of Fresh Water		820
Water	Rustler	740
Water	Bell Canyon	4870
Water	Cherry Canyon	5875
Oil/Gas	Brushy Canyon	7640
Oil/Gas	Bone Spring Limestone	9077
Oil/Gas	Upr. Avalon	9115
Oil/Gas	Lower Avalon	9650
Oil/Gas	1st Bone Spring Sand	10000
Oil/Gas	1st Bone Spring Shale	10285

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT

Will have a minimum of a 5000 psi rig stack (see proposed schematic) for drill out below surface casing. Stack will be tested as specified in the attached testing requirements.

Chevron requests a variance to use a FMC UH-2 Unihead WH, which will be run through the rig foor on surface casing. BOPE will be nippled up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The field report fromFMC and BOP test information will be provided in a subsequent report at the end of the well. Please see the attached wellhead schematic. An installation manual has been placed on file with the BLM office and remains unchanged from previous submittal.

4. **CASING PROGRAM**

a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	850'	17-1/2"	13-3/8"	48 #	H-40	STC	New
Intermediate	0'	4,800'	12-1/4"	9-5/8"	40 #	HCK-55	LTC	New
Production	0'	17,686'	8-3/4"	5-1/2"	20.0 #	HCP-110	TXP BTC S	New

b. Casing design subject to revision based on geologic conditions encountered.

c. *****A "Worst Case" casing design for wells in a particular area is used below to calculate the Casing Safety Factors. If for any reason the casing design for a particular well requires setting casing deeper than the following "worst case" design, then the Casing Safety Factors will be recalcuated & sent to the BLM prior to drilling.**

d. **Chevron will fill casing at a minimum of every 20 jts (840') while running for intermediate and production casing in order to maintain collapse SF.**

SF Calculations based on the following "Worst Case" casing design:

Surface Casing: 1000'
Intermediate Casing: 5000'
Production Casing: 15,000' MD/9,135' TVD (6400' VS @ 90 deg inc)

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.42	1.63	2.29	1.8
Intermediate	1.2	1.44	2.09	1.44
Production	1.26	1.71	2.2	1.46

Min SF is the smallest of a group of safety factors that include the following considerations:

	Surf	Int	Prod
Burst Design			
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	X	X	X
Displace to Gas- Surf Csg P external: Water P internal: Dry Gas from Next Csg Point	X		
Frac at Shoe, Gas to Surf- Int Csg P external: Water P internal: Dry Gas, 15 ppg Frac Gradient		X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid			X
Tubing leak- Prod Csg (packer at KOP) P external: Water P internal: Leak just below surf, 8.7 ppg packer fluid			X
Collapse Design			
Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X
Tension Design			
100k lb overpull	X	X	X

5. **CEMENTING PROGRAM**

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks	Water
Surface				(ppg)	(sx/cu ft)	Open Hole		gal/sk
Tail	Class C+2%CaCl	0'	850'	14.8	1.35	125	1011	6.57
Intermediate								
Lead	EconoCem C + 3 lb/sk Kol-Seal + 0.125 lb/sk PolyFlake + 0.1% HR-601 + 0.25% D-Air 5000	0'	3,800'	11.9	2.46	150	1069	14.21
Tail	HalCem C	3,800'	4,800'	14.8	1.33	85	464	6.37
Production								
1st Lead	VariCem-PB1 + 0.1% FWCA + 3 lb/sk Kol-Seal + 0.1% HR-601	3,950'	9,944'	11.3	2.54	50	855	15.51
2nd Lead	VariCem-PB2 + 0.5% Halad-344 + 0.3% CFR-3 + 3 lb/sk KolSeal + 0.05% FE-2 + 0.1% HR-601	9,944'	16,686'	12.5	1.79	35	1288	9.64
Tail	SoluCem H + 0.25 lb/sk D-Air 5000	16,686'	17,686'	15	2.63	0	96	11.42

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. Production casing will have one horizontal type centralizer on every joint for the first 1000' from TD, then every other joint to EOB, and then every third joint to KOP. Bowspring type centralizers will be run from KOP to intermediate casing.

6. MUD PROGRAM

From	To	Type	Weight	F. Vis	Filtrate
0'	850'	Spud Mud	8.3 - 8.7	32 - 34	NC - NC
850'	4,800'	Brine	9.5 - 10.1	28 - 30	NC - NC
4,800'	9,944'	FW/Cut Brine	8.3 - 9.6	28 - 30	NC - NC
9,944'	10,687'	Cut Brine	8.3 - 9.6	28 - 30	15 - 25
10,687'	17,686'	FW/Cut Brine	8.3 - 9.6	28 - 30	15 - 25

A closed system will by utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated -- a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume.

A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

7. TESTING, LOGGING, AND CORING

The anticipated type and amount of testing, logging, and coring are as follows:

a. Drill stem tests are not planned.
b. The logging program will be as follows:

TYPE	Logs	Interval	Timing	Vendor
Mudlogs	2 man mudlog	Int Csg to TD	Drillout of Int Csg	TBD
LWD	MWD Gamma	Int. and Prod. Hole	While Drilling	TBD

c. Conventional whole core samples are not planned.
d. A Directional Survey will be run.

8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

a. No abnormal pressures or temperatures are expected. Estimated BHP is: 5150 psi
b. Hydrogen sulfide gas is not anticipated. An H2S Contingency plan is attached with this APD in the event that H2S is encountered