Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD
JUN 10 2019
RECEIVED
Carlsbad Field Office
OCD Hobbs

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

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.
NMNM27506

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.
SD EA 18 19 FED P14 14H

2. Name of Operator
CHEVRON USA INCORPORATED
Contact: LAURA BECERRA
E-Mail: LBECERRA@CHEVRON.COM

9. API Well No.
30-025-44139-00-X1

3a. Address
6301 DEAUVILLE BLVD
MIDLAND, TX 79706

3b. Phone No. (include area code)
Ph: 432-687-7655

10. Field and Pool or Exploratory Area
WC025G09S263327G-UP WOLFCAMP

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 18 T26S R33E NWNE 455FNL 2555FEL
32.049534 N Lat, 103.611084 W Lon

11. County or Parish, State
LEA 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.

Chevron respectfully requests to change the casing design on this well to a 4-string design. The 9-Point drilling plan is attached with the following updates:

- Casing design factors have been updated to reflect new casing design

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

- Annular clearance variance for the 5.5" production string in the 7-5/8" intermediate 2 liner. The crossover on the 5"x5.5" tapered production string will be located approximately 500' above the 7-5/8" shoe. Planned TOC will be above this crossover fulfilling BLM cementing requirement.

- Cement program updated to reflect changes in the casing design

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #466866 verified by the BLM Well Information System
For CHEVRON USA INCORPORATED, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 05/29/2019 (19PP2027SE)

Name *(Printed/Typed)* LAURA BECERRA — Title REGULATORY SPECIALIST

Signature (Electronic Submission) — Date 05/29/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ZOTA STEVENS — Title PETROLEUM ENGINEER — Date 05/31/2019

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 Hobbs

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 #466866 that would not fit on the form

32. Additional remarks, continued

- Formations tops in the 9-point plan have been updated utilizing data from pilot holes Chevron has drilled in the area.

Delaware Basin
Changes to APD/COA for Federal Well

Chevron

Well Name:

SD EA 18 19 FED P14	14H	30-025-44139

Rig: Nabors X30

CVX CONTACT:

Jason Hannen
MCBU D&C Engineer – Nabors X30
Chevron North America Exploration and Production Co.
MidContinent Business Unit
Office: (713) 372-1169
Cell: (432) 238-3004
Email: Jason.Hannen@chevron.com

Summary of Changes to APD Submission

Chevron respectfully requests to update the original 9-point plan submitted for this well. The following changes were made to the 9-point plan:

- The well will be a 4 string design as outlined in the following table

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	850'	17-1/2"	13-3/8"	54.5 #	J55	BTC	New
Intermediate 1	0'	4900'	12-1/4"	9-5/8"	43.5#	L-80IC	LTC	New
Intermediate 2 (Liner)	4,400'	11,500'	8-1/2"	7-5/8"	29.7 #	L-80IC	W-513	New
Production (Taper String)	0'	11,000'	6-3/4"	5.5"	20#	P-110-ICY	TXP BTC	New
	11,000'	23,000'	6-3/4"	5"	18#	P-110 IC	W-521	New

- Casing design factors have been updated to reflect new casing design
- Annular clearance variance for the 5.5" production string in the 7-5/8" intermediate 2 liner. The crossover on the 5"x5.5" tapered production string will be located approximately 500' above the 7-5/8" shoe. Planned TOC will be above this crossover fulfilling BLM cementing requirement.
- Cement program updated to reflect changes in the casing design
- Formations tops in the 9-point plan have been updated utilizing data from pilot holes Chevron has drilled in the area.

Please see attached, updated 9-point plan. Design factors have also been updated for both designs.

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Rustler		748	
Castile		2938	
Lamar		4750	
Bell Canyon		4782	
Cherry Canyon		5842	
Brushy Canyon		7393	
Bone Spring Limestone		8938	
Upr. Avalon		9018	
Top Bone Spring 1		9875	
Top Bone Spring 2		10440	
Top Bone Spring 3		11593	
Wolfcamp		12001	
Wolfcamp A1		12187	
Lateral TD (Wolfcamp A1)		12,187	22,300

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		700
Water	Rustler	748
Water	Bell Canyon	4782
Water	Cherry Canyon	5842
Oil/Gas	Brushy Canyon	7393
Oil/Gas	Bone Spring Limestone	8938
Oil/Gas	Upr. Avalon	9018
Oil/Gas	Top Bone Spring 1	9875
Oil/Gas	Top Bone Spring 2	10440
Oil/Gas	Top Bone Spring 3	11593
Oil/Gas	Wolfcamp	12001
Oil/Gas	Wolfcamp A1	12187
Oil/Gas		

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

3. BOP EQUIPMENT

Will have a minimum of a 10000 psi rig stack (see proposed schematic) for drill out below surface (Wolfcamp is not exposed until drillout of the intermediate casing). Could possibly utilize the 5000 psi rig stack (see proposed schematic) for drill out below surface casing due to the availabity of 10 M annular. (Wolfcamp is not exposed until drillout of the intermediate casing) Stack will be tested as specified in the attached testing requirements. Batch drilling of the surface, intermediate, and production will take place. A full BOP test will be performed unless approval from BLM is received otherwise. Flex choke hose will be used for all wells on the pad (see attached specs) BOP test will be conducted by a third party.

Chevron requests a variance to use a FMC UH2 Multibowl wellhead, 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 from FMC 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"	54.5 #	J55	BTC	New
Intermediate 1	0'	4900'	12-1/4"	9-5/8"	43.5#	L-80IC	LTC	New
Intermediate 2 (Liner)	4,400'	11,500'	8-1/2"	7-5/8"	29.7 #	L-80IC	W-513	New
Production	0'	11,000'	6-3/4"	5.5"	20#	P-110-ICY	TXP BTC	New
(Taper String)	11,000'	23,000'	6-3/4"	5"	18#	P-110 IC	W-521	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: 1150' TVD
Intermediate Casing: 5132' TVD
Intermediate Liner: 11,650' TVD
Production Casing: 23,000' MD/12,852' TVD (10,300' VS @ 90 deg inc)

4 String Design

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.48	2.10	4.91	1.80
Intermediate	1.52	1.87	2.79	1.83
Liner	1.33	2.59	1.60	1.66
Production	1.10	1.39	1.61	1.32

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

	Surf	Int (1)	Int 2 (Liner)	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	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, 16 ppg Frac Gradient		X	X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid				X
Tubing leak- Prod Csg 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	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X	X
Tension Design				
100k lb overpull	X	X	X	X

5. **CEMENTING PROGRAM**

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks	Water	Additives
Surface				(ppg)	(sx/cu ft)	Open Hole		gal/sk	
Tail	Class C	0'	850'	14.8	1.33	50	650	6.57	Extender Antifoam Retarder
Intermediate									
Lead	Class C	0'	4600	11.9	2.56	110	3704	14.69	Antifoam Extender Salt Retarder Viscosifier
Tail	Class C	4600	4900	14.8	1.33	110	576	6.29	Antifoam Retarder Viscosifier
Liner									
Lead	Class C	4,600'	11,150'	11.9	2.56	140	462	14.69	Antifoam Extender Salt Retarder Viscosifier
Tail	Class C	11,150'	11,650'	14.8	1.33	50	59	6.29	Antifoam Extender Salt Retarder Viscosifier
Production									
Lead	Class H	8,000'	21,500'	15.6	1.184	35	1558	5.18	Antifoam Dispersent Fluid Loss Retarder Viscosifier
Tail	Class H	21,500'	23,000'	16.0	1.903	20	110	7.45	Dispersent

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'	4,900'	Brine	9.4-10.6	28 - 30	25-30
4,900'	11,500'	Cut Brine	8.8-10.0	70 - 75	25 - 30
11,500'	22,300'	Oil Based Mud	12.0-14.8	70 - 75	25 - 30

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 at Intermediate TD is: 5750 psi
No abnormal pressures or temperatures are expected. Estimated BHP at production TD is: 8650 psi
b. Hydrogen sulfide gas is not anticipated. An H2S Contingency plan is attached with this APD in the event that H2S is encountered

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Chevron USA Inc**
LEASE NO.:	**NM27506**
WELL NAME & NO.:	**SD EA 18 19 Fed P14 – 14H**
SURFACE HOLE FOOTAGE:	**455'/N & 2555'/E**
BOTTOM HOLE FOOTAGE	**180'/S & 2374'/E, sec. 19**
LOCATION:	**Sec. 18, T. 26 S, R. 33 E**
COUNTY:	**Lea County**

COA

All previous COAs still apply expect the following:

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

A. Hydrogen Sulfide

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **870 feet** (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

- The minimum required fill of cement behind the **9-5/8** inch intermediate casing is: Cement to surface. If cement does not circulate, contact the appropriate BLM office.

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings , the cement on the 3rd casing string must come to surface.

Operator shall filled 1/3rd casing with fluild while running intermediate casing to maintain collapse safety factor.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate liner is:
   - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

Variance is approved for annular spacing between 7 5/8" x 5 ½".

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **10,000 (10M)** psi.

ZS 053119