Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.

HOBBS OCD

SUBMIT IN TRIPLICATE - Other instructions on page 2

OCT 21 2019

RECEIVED

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	5. Lease Serial No. NMNM43565
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA/Agreement, Name and/or No.
	8. Well Name and No. SQUINTS FEDERAL COM 8H
2. Name of Operator COG PRODUCTION LLC Contact: MAYTE X REYES E-Mail: mreyes1@concho.com	9. API Well No. 30-025-43168-00-X1
3a. Address 2208 W MAIN STREET ARTESIA, NM 88210 3b. Phone No. (include area code) Ph: 575-748-6945	10. Field and Pool or Exploratory Area OJO CHISO
4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)* Sec 27 T22S R34E SWSW 220FSL 690FWL	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.

COG Operating respectfully requests approval for the following changes to the originally approved APD.

~~BHL Change~~

From: 50' FNL & ~~660' FWL~~ Section 22. T22S. R34E
To: 50' FNL & 995' FWL Section 22. T22S. R34E.

C102 attached.
Directional plan attached.
Drilling changes attached.

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

Electronic Submission #485365 verified by the BLM Well Information System
For COG PRODUCTION LLC, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 09/26/2019 (19PP3300SE)

Name *(Printed/Typed)* MAYTE X REYES — Title SENIOR REGULATORY ANALYST

Signature (Electronic Submission) — Date 09/26/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By DYLAN ROSSMANGO — Title PETROLEUM ENGINEER — Date 10/17/2019

~~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 ****

Squints Federal Com 8H

The Operator respectfully requests the following changes to the originally approved APD.

Wellhead
The operator request to use multi-bowl wellhead assembly.

8.4 ppg FW Spud Mud

Surface
Drill 20" hole to 1,900'
Set 16" 84# J55 BTC casing @ 1,900'
Cement in one stage to surface:
Lead: 1700 sx of Class C + 6% gel (13.5 ppg / 1.75 cuft/ sx)
Tail: 250 sx of Class C + 1% CaCl2 (14.8 ppg/ 1.35 cuft/sx)

The Operator respectfully requests to preset the surface casing on the subject well.

Description of operations

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
    a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations)
    b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and the WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on the wing valve.
4. Spudder rig operations are expected to take 4-5 days.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
    a. The larger rig will move back onto the location with 90 days from the point at which the wells are secured and spudder rig is moved off location.
    b. The BLM will be contacted / notified 24 hours before the larger rig moves back on the pre-set locations
7. Operator will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, Operator will secure the wellhead area by placing a 1 inch steel plate over the cellar and wellhead.

Intermediate 1

10 ppg Sat. Brine

2M BOP System
Drill 14.75" hole to 3,600' with Saturated Brine
Set 11.75" 60# J55 BTC @ 3,600'
Cement in one stage to surface:
Lead: 1100 sx of 35:36:6 Class C (12.7 ppg / 1.98 cuft/ sx)
Tail: 250 sx of Class C + 2% CaCl2 (14.8 ppg/ 1.35 cuft/sx)

After cementing the 14.75" casing to surface, the 16" portion of the well head will be cut off and a multi-bowl wellhead will be attached to the 11.75" casing. A metal plate with a gauge will be welded on to the 16" casing to isolate the annulus

8.4 ppg FW

Intermediate 2
2M BOP System
Drill 10.625" hole to 5,500' with Fresh Water
Set 8.625" 32# HCL80 BTC @ ~~3,600'~~ 5,500'
Cement in two stages to surface with DV tool and ECP @ 3,900'
First Stage:
Lead: 700 sx of 35:36:6 Class C (12.7 ppg / 1.98 cuft/ sx)
Tail: 300 sx of Class H (16.4 ppg/ 1.10 cuft/sx)
Second Stage:
Lead: 350 sx of 35:36:6 Class C (12.7 ppg / 1.98 cuft/ sx)
Tail: 200 sx of Class C + 2% CaCl2 (14.8 ppg/ 1.35 cuft/sx)

8.8-9.2 ppg Cut brine

Production
3M BOP System
Drill 7.875" hole to 20,356'
Set 5.5" 17# P110 BTC @ 20,356' TVD = 10,360'
Cement in one stage to surface
Lead: 1200 sx of 36:65:6 Class H (11.0 ppg / 2.89 cuft/ sx)
Tail: 1700 sx of 50:50:2 Class H Blend (13.2 ppg / 1.44 cuft/sx)

NORTHERN DELAWARE BASIN

LEA COUNTY, NM
BULLDOG
SQUINTS FED COM 8H

OWB

Plan: PWP1

Standard Survey Report

24 September, 2019

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Site:	BULLDOG	**MD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	EDM_Users

Project	LEA COUNTY, NM		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	BULLDOG				
Site Position:		**Northing:**	398,637.10 usft	**Latitude:**	32° 5' 36.820 N
From:	Map	**Easting:**	741,887.40 usft	**Longitude:**	103° 33' 8.116 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.42 °

Well	SQUINTS FED COM 8H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	494,283.00 usft	**Latitude:**	32° 21' 21.246 N
	+E/-W	0.0 usft	**Easting:**	768,518.70 usft	**Longitude:**	103° 27' 49.565 W
Position Uncertainty		3.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,404.0 usft

Wellbore	OWB				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	7/15/2019	6.69	60.17	47,813.78872781

Design	PWP1				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	1.36	

Survey Tool Program **Date** 9/24/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	20,356.2	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00

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Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	EDM_Users

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Site:	BULLDOG	**MD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	EDM_Users

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
5,600.0	2.00	122.18	5,600.0	-0.9	1.5	-0.9	2.00	2.00	0.00
5,700.0	4.00	122.18	5,699.8	-3.7	5.9	-3.6	2.00	2.00	0.00
5,729.5	4.59	122.18	5,729.3	-4.9	7.8	-4.7	2.00	2.00	0.00
Start 3811.8 hold at 5729.5 MD									
5,800.0	4.59	122.18	5,799.5	-7.9	12.6	-7.6	0.00	0.00	0.00
5,900.0	4.59	122.18	5,899.2	-12.2	19.3	-11.7	0.00	0.00	0.00
6,000.0	4.59	122.18	5,998.9	-16.4	26.1	-15.8	0.00	0.00	0.00
6,100.0	4.59	122.18	6,098.6	-20.7	32.9	-19.9	0.00	0.00	0.00
6,200.0	4.59	122.18	6,198.2	-25.0	39.6	-24.0	0.00	0.00	0.00
6,300.0	4.59	122.18	6,297.9	-29.2	46.4	-28.1	0.00	0.00	0.00
6,400.0	4.59	122.18	6,397.6	-33.5	53.2	-32.2	0.00	0.00	0.00
6,500.0	4.59	122.18	6,497.3	-37.7	60.0	-36.3	0.00	0.00	0.00
6,600.0	4.59	122.18	6,597.0	-42.0	66.7	-40.4	0.00	0.00	0.00
6,700.0	4.59	122.18	6,696.6	-46.3	73.5	-44.5	0.00	0.00	0.00
6,800.0	4.59	122.18	6,796.3	-50.5	80.3	-48.6	0.00	0.00	0.00
6,900.0	4.59	122.18	6,896.0	-54.8	87.1	-52.7	0.00	0.00	0.00
7,000.0	4.59	122.18	6,995.7	-59.1	93.8	-56.8	0.00	0.00	0.00
7,100.0	4.59	122.18	7,095.4	-63.3	100.6	-60.9	0.00	0.00	0.00
7,200.0	4.59	122.18	7,195.0	-67.6	107.4	-65.0	0.00	0.00	0.00
7,300.0	4.59	122.18	7,294.7	-71.8	114.2	-69.1	0.00	0.00	0.00
7,400.0	4.59	122.18	7,394.4	-76.1	120.9	-73.2	0.00	0.00	0.00
7,500.0	4.59	122.18	7,494.1	-80.4	127.7	-77.3	0.00	0.00	0.00
7,600.0	4.59	122.18	7,593.8	-84.6	134.5	-81.4	0.00	0.00	0.00
7,700.0	4.59	122.18	7,693.4	-88.9	141.3	-85.5	0.00	0.00	0.00
7,800.0	4.59	122.18	7,793.1	-93.2	148.0	-89.6	0.00	0.00	0.00
7,900.0	4.59	122.18	7,892.8	-97.4	154.8	-93.7	0.00	0.00	0.00
8,000.0	4.59	122.18	7,992.5	-101.7	161.6	-97.8	0.00	0.00	0.00
8,100.0	4.59	122.18	8,092.1	-106.0	168.4	-101.9	0.00	0.00	0.00
8,200.0	4.59	122.18	8,191.8	-110.2	175.1	-106.0	0.00	0.00	0.00
8,300.0	4.59	122.18	8,291.5	-114.5	181.9	-110.1	0.00	0.00	0.00
8,400.0	4.59	122.18	8,391.2	-118.7	188.7	-114.2	0.00	0.00	0.00
8,500.0	4.59	122.18	8,490.9	-123.0	195.5	-118.3	0.00	0.00	0.00
8,600.0	4.59	122.18	8,590.5	-127.3	202.2	-122.4	0.00	0.00	0.00
8,700.0	4.59	122.18	8,690.2	-131.5	209.0	-126.5	0.00	0.00	0.00
8,800.0	4.59	122.18	8,789.9	-135.8	215.8	-130.6	0.00	0.00	0.00
8,900.0	4.59	122.18	8,889.6	-140.1	222.6	-134.7	0.00	0.00	0.00
9,000.0	4.59	122.18	8,989.3	-144.3	229.3	-138.8	0.00	0.00	0.00
9,100.0	4.59	122.18	9,088.9	-148.6	236.1	-142.9	0.00	0.00	0.00
9,200.0	4.59	122.18	9,188.6	-152.8	242.9	-147.0	0.00	0.00	0.00
9,300.0	4.59	122.18	9,288.3	-157.1	249.6	-151.2	0.00	0.00	0.00

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
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Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	EDM_Users

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.0	4.59	122.18	9,388.0	-161.4	256.4	-155.3	0.00	0.00	0.00
9,500.0	4.59	122.18	9,487.7	-165.6	263.2	-159.4	0.00	0.00	0.00
9,541.4	4.59	122.18	9,528.9	-167.4	266.0	-161.1	0.00	0.00	0.00
Start DLS 10.00 TFO -122.53									
9,600.0	5.14	48.29	9,587.4	-166.9	270.0	-160.5	10.00	0.94	-126.04
9,700.0	13.93	15.40	9,685.9	-152.3	276.5	-145.7	10.00	8.79	-32.90
9,800.0	23.69	8.44	9,780.5	-120.7	282.7	-114.0	10.00	9.76	-6.96
9,900.0	33.59	5.42	9,868.2	-73.2	288.2	-66.3	10.00	9.90	-3.02
10,000.0	43.53	3.65	9,946.3	-11.1	293.1	-4.2	10.00	9.94	-1.76
10,100.0	53.49	2.44	10,012.4	63.6	297.0	70.6	10.00	9.96	-1.21
10,200.0	63.46	1.51	10,064.7	148.7	299.9	155.7	10.00	9.97	-0.93
10,300.0	73.43	0.72	10,101.4	241.5	301.7	248.6	10.00	9.97	-0.78
10,400.0	83.41	0.02	10,121.4	339.4	302.3	346.4	10.00	9.98	-0.71
10,452.5	88.64	359.66	10,125.0	391.7	302.1	398.7	10.00	9.98	-0.68
Start 9903.8 hold at 10452.5 MD									
10,500.0	88.64	359.66	10,126.2	439.2	301.9	446.2	0.00	0.00	0.00
10,600.0	88.64	359.66	10,128.5	539.2	301.3	546.2	0.00	0.00	0.00
10,700.0	88.64	359.66	10,130.9	639.1	300.7	646.1	0.00	0.00	0.00
10,800.0	88.64	359.66	10,133.3	739.1	300.1	746.0	0.00	0.00	0.00
10,900.0	88.64	359.66	10,135.7	839.1	299.5	845.9	0.00	0.00	0.00
11,000.0	88.64	359.66	10,138.0	939.0	298.9	945.9	0.00	0.00	0.00
11,100.0	88.64	359.66	10,140.4	1,039.0	298.3	1,045.8	0.00	0.00	0.00
11,200.0	88.64	359.66	10,142.8	1,139.0	297.7	1,145.7	0.00	0.00	0.00
11,300.0	88.64	359.66	10,145.2	1,239.0	297.2	1,245.7	0.00	0.00	0.00
11,400.0	88.64	359.66	10,147.5	1,338.9	296.6	1,345.6	0.00	0.00	0.00
11,500.0	88.64	359.66	10,149.9	1,438.9	296.0	1,445.5	0.00	0.00	0.00
11,600.0	88.64	359.66	10,152.3	1,538.9	295.4	1,545.4	0.00	0.00	0.00
11,700.0	88.64	359.66	10,154.6	1,638.8	294.8	1,645.4	0.00	0.00	0.00
11,800.0	88.64	359.66	10,157.0	1,738.8	294.2	1,745.3	0.00	0.00	0.00
11,900.0	88.64	359.66	10,159.4	1,838.8	293.6	1,845.2	0.00	0.00	0.00
12,000.0	88.64	359.66	10,161.8	1,938.8	293.0	1,945.1	0.00	0.00	0.00
12,100.0	88.64	359.66	10,164.1	2,038.7	292.4	2,045.1	0.00	0.00	0.00
12,200.0	88.64	359.66	10,166.5	2,138.7	291.9	2,145.0	0.00	0.00	0.00
12,300.0	88.64	359.66	10,168.9	2,238.7	291.3	2,244.9	0.00	0.00	0.00
12,400.0	88.64	359.66	10,171.3	2,338.6	290.7	2,344.9	0.00	0.00	0.00
12,500.0	88.64	359.66	10,173.6	2,438.6	290.1	2,444.8	0.00	0.00	0.00
12,600.0	88.64	359.66	10,176.0	2,538.6	289.5	2,544.7	0.00	0.00	0.00
12,700.0	88.64	359.66	10,178.4	2,638.5	288.9	2,644.6	0.00	0.00	0.00
12,800.0	88.64	359.66	10,180.7	2,738.5	288.3	2,744.6	0.00	0.00	0.00
12,900.0	88.64	359.66	10,183.1	2,838.5	287.7	2,844.5	0.00	0.00	0.00
13,000.0	88.64	359.66	10,185.5	2,938.5	287.2	2,944.4	0.00	0.00	0.00
13,100.0	88.64	359.66	10,187.9	3,038.4	286.6	3,044.4	0.00	0.00	0.00
13,200.0	88.64	359.66	10,190.2	3,138.4	286.0	3,144.3	0.00	0.00	0.00
13,300.0	88.64	359.66	10,192.6	3,238.4	285.4	3,244.2	0.00	0.00	0.00

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Site:	BULLDOG	**MD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	EDM_Users

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,400.0	88.64	359.66	10,195.0	3,338.3	284.8	3,344.1	0.00	0.00	0.00
13,500.0	88.64	359.66	10,197.3	3,438.3	284.2	3,444.1	0.00	0.00	0.00
13,600.0	88.64	359.66	10,199.7	3,538.3	283.6	3,544.0	0.00	0.00	0.00
13,700.0	88.64	359.66	10,202.1	3,638.2	283.0	3,643.9	0.00	0.00	0.00
13,800.0	88.64	359.66	10,204.5	3,738.2	282.5	3,743.9	0.00	0.00	0.00
13,900.0	88.64	359.66	10,206.8	3,838.2	281.9	3,843.8	0.00	0.00	0.00
14,000.0	88.64	359.66	10,209.2	3,938.2	281.3	3,943.7	0.00	0.00	0.00
14,100.0	88.64	359.66	10,211.6	4,038.1	280.7	4,043.6	0.00	0.00	0.00
14,200.0	88.64	359.66	10,214.0	4,138.1	280.1	4,143.6	0.00	0.00	0.00
14,300.0	88.64	359.66	10,216.3	4,238.1	279.5	4,243.5	0.00	0.00	0.00
14,400.0	88.64	359.66	10,218.7	4,338.0	278.9	4,343.4	0.00	0.00	0.00
14,500.0	88.64	359.66	10,221.1	4,438.0	278.3	4,443.4	0.00	0.00	0.00
14,600.0	88.64	359.66	10,223.4	4,538.0	277.7	4,543.3	0.00	0.00	0.00
14,700.0	88.64	359.66	10,225.8	4,637.9	277.2	4,643.2	0.00	0.00	0.00
14,800.0	88.64	359.66	10,228.2	4,737.9	276.6	4,743.1	0.00	0.00	0.00
14,900.0	88.64	359.66	10,230.6	4,837.9	276.0	4,843.1	0.00	0.00	0.00
15,000.0	88.64	359.66	10,232.9	4,937.9	275.4	4,943.0	0.00	0.00	0.00
15,100.0	88.64	359.66	10,235.3	5,037.8	274.8	5,042.9	0.00	0.00	0.00
15,200.0	88.64	359.66	10,237.7	5,137.8	274.2	5,142.8	0.00	0.00	0.00
15,300.0	88.64	359.66	10,240.0	5,237.8	273.6	5,242.8	0.00	0.00	0.00
15,400.0	88.64	359.66	10,242.4	5,337.7	273.0	5,342.7	0.00	0.00	0.00
15,500.0	88.64	359.66	10,244.8	5,437.7	272.5	5,442.6	0.00	0.00	0.00
15,600.0	88.64	359.66	10,247.2	5,537.7	271.9	5,542.6	0.00	0.00	0.00
15,700.0	88.64	359.66	10,249.5	5,637.6	271.3	5,642.5	0.00	0.00	0.00
15,800.0	88.64	359.66	10,251.9	5,737.6	270.7	5,742.4	0.00	0.00	0.00
15,900.0	88.64	359.66	10,254.3	5,837.6	270.1	5,842.3	0.00	0.00	0.00
16,000.0	88.64	359.66	10,256.7	5,937.6	269.5	5,942.3	0.00	0.00	0.00
16,100.0	88.64	359.66	10,259.0	6,037.5	268.9	6,042.2	0.00	0.00	0.00
16,200.0	88.64	359.66	10,261.4	6,137.5	268.3	6,142.1	0.00	0.00	0.00
16,300.0	88.64	359.66	10,263.8	6,237.5	267.8	6,242.1	0.00	0.00	0.00
16,400.0	88.64	359.66	10,266.1	6,337.4	267.2	6,342.0	0.00	0.00	0.00
16,500.0	88.64	359.66	10,268.5	6,437.4	266.6	6,441.9	0.00	0.00	0.00
16,600.0	88.64	359.66	10,270.9	6,537.4	266.0	6,541.8	0.00	0.00	0.00
16,700.0	88.64	359.66	10,273.3	6,637.3	265.4	6,641.8	0.00	0.00	0.00
16,800.0	88.64	359.66	10,275.6	6,737.3	264.8	6,741.7	0.00	0.00	0.00
16,900.0	88.64	359.66	10,278.0	6,837.3	264.2	6,841.6	0.00	0.00	0.00
17,000.0	88.64	359.66	10,280.4	6,937.3	263.6	6,941.6	0.00	0.00	0.00
17,100.0	88.64	359.66	10,282.8	7,037.2	263.0	7,041.5	0.00	0.00	0.00
17,200.0	88.64	359.66	10,285.1	7,137.2	262.5	7,141.4	0.00	0.00	0.00
17,300.0	88.64	359.66	10,287.5	7,237.2	261.9	7,241.3	0.00	0.00	0.00
17,400.0	88.64	359.66	10,289.9	7,337.1	261.3	7,341.3	0.00	0.00	0.00
17,500.0	88.64	359.66	10,292.2	7,437.1	260.7	7,441.2	0.00	0.00	0.00
17,600.0	88.64	359.66	10,294.6	7,537.1	260.1	7,541.1	0.00	0.00	0.00

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Site:	BULLDOG	**MD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	EDM_Users

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,700.0	88.64	359.66	10,297.0	7,637.0	259.5	7,641.1	0.00	0.00	0.00
17,800.0	88.64	359.66	10,299.4	7,737.0	258.9	7,741.0	0.00	0.00	0.00
17,900.0	88.64	359.66	10,301.7	7,837.0	258.3	7,840.9	0.00	0.00	0.00
18,000.0	88.64	359.66	10,304.1	7,937.0	257.8	7,940.8	0.00	0.00	0.00
18,100.0	88.64	359.66	10,306.5	8,036.9	257.2	8,040.8	0.00	0.00	0.00
18,200.0	88.64	359.66	10,308.8	8,136.9	256.6	8,140.7	0.00	0.00	0.00
18,300.0	88.64	359.66	10,311.2	8,236.9	256.0	8,240.6	0.00	0.00	0.00
18,400.0	88.64	359.66	10,313.6	8,336.8	255.4	8,340.5	0.00	0.00	0.00
18,500.0	88.64	359.66	10,316.0	8,436.8	254.8	8,440.5	0.00	0.00	0.00
18,600.0	88.64	359.66	10,318.3	8,536.8	254.2	8,540.4	0.00	0.00	0.00
18,700.0	88.64	359.66	10,320.7	8,636.7	253.6	8,640.3	0.00	0.00	0.00
18,800.0	88.64	359.66	10,323.1	8,736.7	253.1	8,740.3	0.00	0.00	0.00
18,900.0	88.64	359.66	10,325.5	8,836.7	252.5	8,840.2	0.00	0.00	0.00
19,000.0	88.64	359.66	10,327.8	8,936.7	251.9	8,940.1	0.00	0.00	0.00
19,100.0	88.64	359.66	10,330.2	9,036.6	251.3	9,040.0	0.00	0.00	0.00
19,200.0	88.64	359.66	10,332.6	9,136.6	250.7	9,140.0	0.00	0.00	0.00
19,300.0	88.64	359.66	10,334.9	9,236.6	250.1	9,239.9	0.00	0.00	0.00
19,400.0	88.64	359.66	10,337.3	9,336.5	249.5	9,339.8	0.00	0.00	0.00
19,500.0	88.64	359.66	10,339.7	9,436.5	248.9	9,439.8	0.00	0.00	0.00
19,600.0	88.64	359.66	10,342.1	9,536.5	248.3	9,539.7	0.00	0.00	0.00
19,700.0	88.64	359.66	10,344.4	9,636.5	247.8	9,639.6	0.00	0.00	0.00
19,800.0	88.64	359.66	10,346.8	9,736.4	247.2	9,739.5	0.00	0.00	0.00
19,900.0	88.64	359.66	10,349.2	9,836.4	246.6	9,839.5	0.00	0.00	0.00
20,000.0	88.64	359.66	10,351.5	9,936.4	246.0	9,939.4	0.00	0.00	0.00
20,100.0	88.64	359.66	10,353.9	10,036.3	245.4	10,039.3	0.00	0.00	0.00
20,200.0	88.64	359.66	10,356.3	10,136.3	244.8	10,139.3	0.00	0.00	0.00
20,300.0	88.64	359.66	10,358.7	10,236.3	244.2	10,239.2	0.00	0.00	0.00
20,356.2	88.64	359.66	10,360.0	10,292.5	243.9	10,295.4	0.00	0.00	0.00
TD at 20356.2									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (SQUINTS FED (	0.00	0.00	10,125.0	-117.6	305.6	494,165.40	768,824.30	32° 21' 20.057 N	103° 27' 46.013 W
- plan misses target center by 202.6usft at 10039.3usft MD (9973.8 TVD, 16.9 N, 294.7 E)									
- Point									
LTP (SQUINTS FED (	0.00	0.00	10,358.8	10,242.5	244.2	504,525.50	768,762.90	32° 23' 2.576 N	103° 27' 45.746 W
- plan misses target center by 6.2usft at 20300.0usft MD (10358.7 TVD, 10236.3 N, 244.2 E)									
- Point									
PBHL (SQUINTS FEL	-1.36	179.66	10,360.0	10,292.5	243.9	504,575.50	768,762.60	32° 23' 3.070 N	103° 27' 45.745 W
- plan hits target center									
- Rectangle (sides W100.0 H10,460.0 D20.0)									

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Site:	BULLDOG	**MD Reference:**	KB=26' @ 3430.0usft (McVAY 8)
Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	EDM_Users

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5500	5500	0	0	Start Build 2.00
5730	5729	-5	8	Start 3811.8 hold at 5729.5 MD
9541	9529	-167	266	Start DLS 10.00 TFO -122.53
10,452	10,125	392	302	Start 9903.8 hold at 10452.5 MD
20,356	10,360	10,292	244	TD at 20356.2

Checked By: _____ Approved By: _____ Date: _____

[redacted]

Project: LEA COUNTY, NM
Site: BULLDOG
Well: SQUINTS FED COM 6H
Wellbore: OWB
Design: PWP1
GL: 3494.0
KB=25' @ 3430.0usft (SCVAY 6)

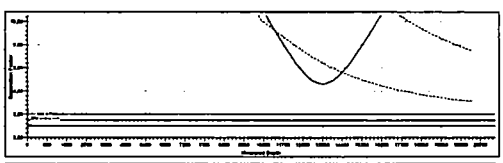
CONOCO

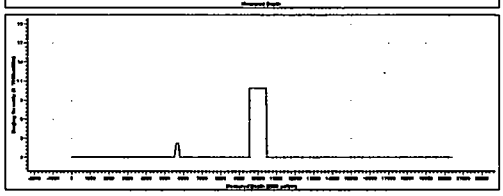
WELL DETAILS: SQUINTS FED COM 6H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	404260.00	766610.70	32° 21' 21.344 N	103° 27' 49.568 W

DESIGN TARGET DETAILS

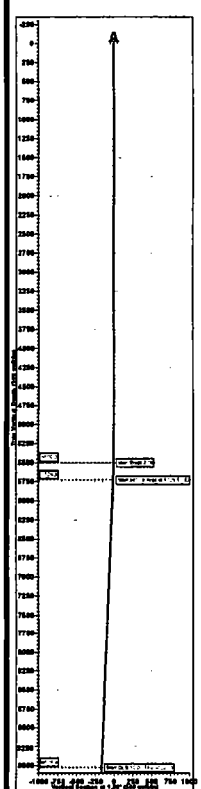
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (SQUINTS FED COM 6H)	10125.0	-117.8	365.6	404163.40	766824.30	32° 21' 20.057 N	103° 27' 46.013 W
LTP (SQUINTS FED COM 6H)	10358.8	10243.5	344.2	544125.50	755762.80	32° 22' 3.578 N	103° 27' 45.748 W
PBHL (SQUINTS FED COM 6H)	10360.0	10292.5	343.9	554375.50	755762.80	32° 22' 3.679 N	103° 27' 45.745 W

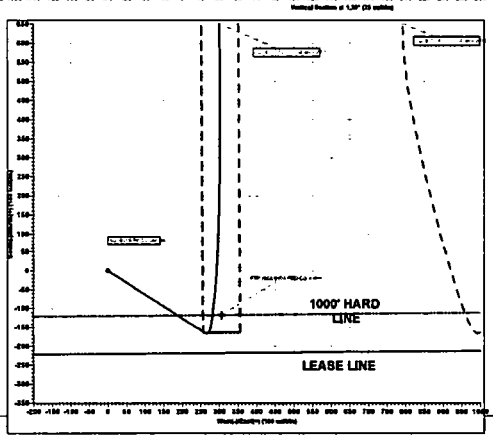


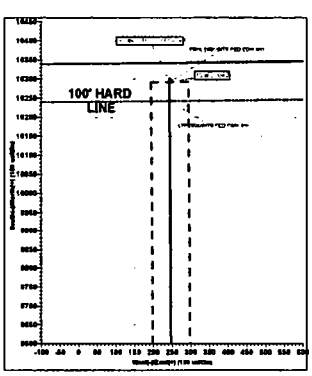


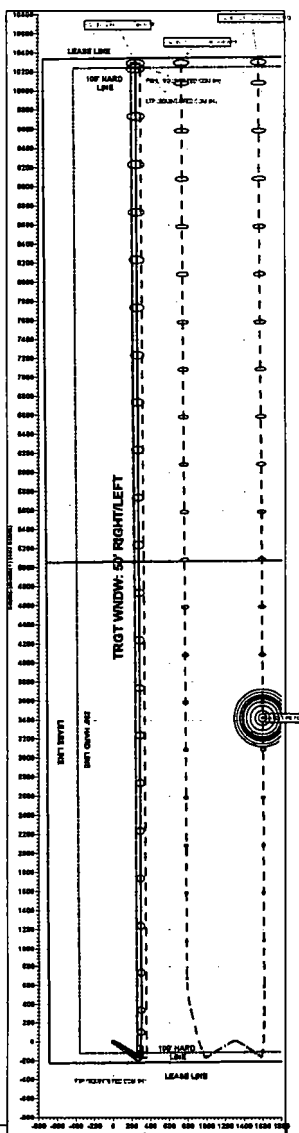
SQUINTS FED COM 6H

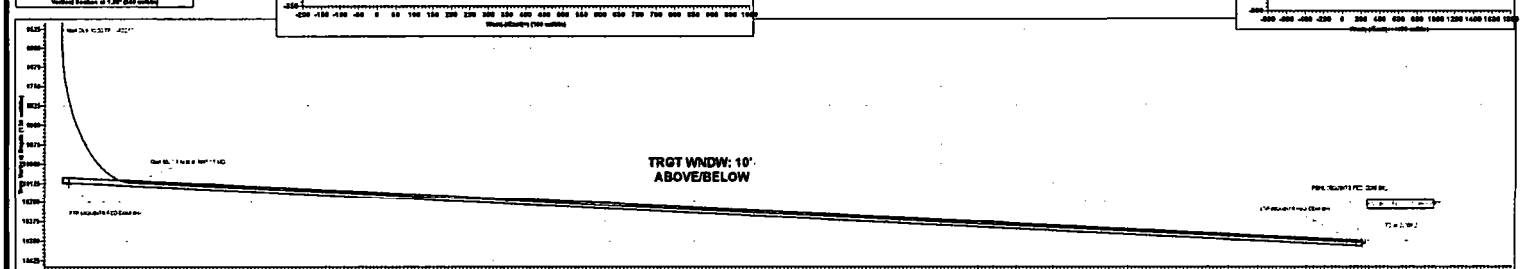
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
5200.0	0.00	0.00	5200.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
5728.5	4.59	122.10	5729.3	-4.8	7.8	2.00	122.10	-4.7	Start 3811.8 hold at 5728.5 MD
9541.4	4.59	122.10	9529.8	-167.4	266.8	0.00	0.00	-161.1	Start DLS 10.00 TFO -122.53
10452.5	89.84	359.68	10135.0	391.7	353.1	10.00	-122.53	339.7	Start 9903.8 hold at 10452.5 MD
20356.2	89.84	359.68	10360.0	10292.5	343.9	0.00	0.00	10295.4	TD at 20356.2











U. S. Steel Tubular Products

8.625" 32.00lbs/ft (0.352" Wall) L80 HC

10/7/2019 2:08:36 PM

MECHANICAL PROPERTIES	Pipe	BTC	LTC	STC	
Minimum Yield Strength	80,000	--	--	--	psi
Maximum Yield Strength	95,000	--	--	--	psi
Minimum Tensile Strength	95,000	--	--	--	psi
DIMENSIONS	**Pipe**	**BTC**	**LTC**	**STC**	
Outside Diameter	8.625	--	--	--	in.
Wall Thickness	0.352	--	--	--	in.
Inside Diameter	7.921	--	--	--	in.
Standard Drift	7.796	--	--	--	in.
Alternate Drift	7.875	--	--	--	in.
Nominal Linear Weight, T&C	32.00	--	--	--	lbs/ft
Plain End Weight	31.13	--	--	--	lbs/ft
PERFORMANCE	**Pipe**	**BTC**	**LTC**	**STC**	
Minimum Collapse Pressure	3,820	--	--	--	psi
Minimum Internal Yield Pressure	5,710	--	--	--	psi
Minimum Pipe Body Yield Strength	732	--	--	--	1,000 lbs
Joint Strength	--	--	--	--	1,000 lbs
Reference Length	--	--	--	--	ft
MAKE-UP DATA	**Pipe**	**BTC**	**LTC**	**STC**	
Make-Up Loss	--	--	--	--	in.
Minimum Make-Up Torque	--	--	--	--	ft-lbs
Maximum Make-Up Torque	--	--	--	--	ft-lbs

U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL for EC485365

OPERATOR'S NAME:	**COG Production LLC**
LEASE NO.:	**NMNM43565**
WELL NAME & NO.:	**Squints Federal Com 8H**
SURFACE HOLE FOOTAGE:	**220' FSL & 690' FWL**
BOTTOM HOLE FOOTAGE	**50' FNL & 995' FWL**
LOCATION:	**Section 27, T 22S, R 34E, NMPM**
COUNTY:	**Lea County, New Mexico**

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
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

1. 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 **16"** surface casing shall be set at approximately **1900'** (a minimum of 25' into the Rustler Anhydrite and above the salt) and cemented to surface.
   a. **If cement does not circulate to 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 **6 hours** after pumping cement, ideally between 8-10 hours after completing the cement job.
   b. WOC time for a primary cement job will be a minimum of **8 hours** or **500 psi** compressive strength, whichever is greater. This is to include the lead cement.
   c. If cement falls back, remedial cementing will be done prior to drilling out that string.
   d. WOC time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.

2. The **11-3/4"** intermediate casing shall be set below the salt zone in the Tansill or Yates formations and cemented to surface.
   a. **If cement does not circulate to surface,** see B.1.a, c & d.
3. The **8-5/8"** intermediate casing shall cemented to surface.
   a. **If cement does not circulate to surface,** see B.1.a, c & d.
   b. Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.
      i. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with the second stage.
      ii. Second stage via DV tool: Cement to surface. If cement does not circulate, contact the appropriate BLM office.
4. The **5-1/2"** production casing shall be cemented with at least 200' tie-back into the previous casing.

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 **2000 (2M)** psi.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the second intermediate casing shoe shall be **3000 (3M)** psi.

D. SPECIAL REQUIREMENTS

1. The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
2. The well sign on location shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be on the sign.</u>

DR 10/17/2019

GENERAL REQUIREMENTS

1. The BLM is to be notified in advance for a representative to witness:
   a. Spudding well (minimum of 24 hours)
   b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
   c. BOP/BOPE tests (minimum of 4 hours)

   ☒ Eddy County
   Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822
   ☒ Lea County
   Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig:
      i. Notify the BLM when moving in and removing the Spudder Rig.
      ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      iii. BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be available upon request. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or

if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification

matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
   a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
   b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
   c. Manufacturer representative shall install the test plug for the initial BOP test.
   d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
   e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
   a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
   b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
   c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.
   d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a

maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. All tests are required to be recorded on a calibrated test chart and shall be made available upon request.

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes. This test shall be performed prior to the test at full stack pressure.

g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

1. Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

1. All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.
2. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.