

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised July 18, 2013

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address COG Operating LLC 2208 West Main Street Artesia, NM 88210		² OGRID Number 229137
		³ API Number 30-025-43779
⁴ Property Code 315251	⁵ Property Name Viking Helmet State Com	
		⁶ Well No 24H

⁷ Surface Location									
UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
O	20	24S	35E		210'	South	2230	East	Lea

⁸ Proposed Bottom Hole Location									
UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
G	32	24S	35E		2440'	North	2310'	East	Lea

⁹ Pool Information	
Wildcat, Wolfcamp	¹⁰ Pool Name WC-025 G-09 5243532M; WOLF BONE ¹¹ Pool Code 98098

¹² Additional Well Information				
¹³ Work Type New Well	¹⁴ Well Type Oil	¹⁵ Cable/Rotary	¹⁶ Lease Type State	¹⁷ Ground Level Elevation 3318.7'
¹⁸ Multiple N	¹⁹ Proposed Depth 20200'	²⁰ Formation Wolfcamp	²¹ Contractor	²² Spud Date 5/15/2017
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

²³ Proposed Casing and Cement Program						
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	13-1/2"	10-3/4"	45.5	900'	700	
Intermd 1	9-7/8"	7-5/8"	29.7	11875'	1600	
PROD Intermd 2	6-3/4"	5-1/2"	23	0' - 11375'		
Production	6-3/4"	5	18	11375' - 20200'	1500	11000'

Casing/Cement Program: Additional Comments

Drill 13-1/2" hole to ~900' w/ fresh water spud mud. Run 10-3/4" 45.5# HCN80 BTC casing to TD and cement to surface in one stage. Drill 9-7/8" hole to ~11,875' with brine diesel emulsion WBM. Run 7-5/8" 29.7# HCP110 BTC casing to TD and cement to surface in one stage. Drill 6-3/4" vertical hole, curve & lateral to 20,200' with OBM. Run 5-1/2" 23# P110 BTC casing from 0' - 11,375' and 5" 18# HCP110 BTC from 11,375 to TD and cement to 11,000' in one stage.

²⁴ Proposed Blowout Prevention Program			
Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5000	5000	Cameron

²⁵ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable. Signature: <i>M. Reyes</i>		OIL CONSERVATION DIVISION	
Printed name: Mayte Reyes		Approved By: <i>[Signature]</i>	Petroleum Engineer
Title: Regulatory Analyst		Title:	
E-mail Address: mreyes1@concho.com		Approved Date: 05/02/17	Expiration Date: 05/02/19
Date: 5/1/2017	Phone: 575-748-6945	Conditions of Approval Attached	

Viking Helmet State Com #24H

Casing and Cement

<u>String</u>	<u>Hole Size</u>	<u>Csg OD</u>	<u>PPF</u>	<u>Depth</u>	<u>Sx Cement</u>	<u>TOC</u>
Surface	13-1/2"	10-3/4"	45.5#	900'	700	0'
Intermediate	9-7/8"	7-5/8"	29.7#	11,875'	1600	0'
Production	6-3/4"	5-1/2"	23#	0'-11,375'		
Production	6-3/4"	5"	18#	11,375'-20,200'	1500	11,000'

Well Plan

Drill 13-1/2" hole to ~900' w/ fresh water spud mud. Run 10-3/4" 45.5# HCN80 BTC casing to TD and cement to surface in one stage.

Drill 9-7/8" hole to ~11,875' with brine diesel emulsion WBM. Run 7-5/8" 29.7# HCP110 BTC casing to TD and cement to surface in one stage.

Drill 6-3/4" vertical hole, curve & lateral to 20,200' with OBM. Run 5-1/2" 23# P110 BTC casing from 0' – 11,375' and 5" 18# HCP110 BTC from 11,375 to TD and cement to 11,000' in one stage.

Well Control

<u>Type</u>	<u>Working Pressure</u>	<u>Test Pressure</u>	<u>Manufacture</u>
Double Ram	5000 psi	5000 psi	Cameron