

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

District II
211 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

Operator Name and Address COG Operating LLC 2208 West Main Street Artesia, NM 88210		OGRID Number 229137
		API Number 30025-42783
Property Code 315251	Property Name Viking Helmet State Com	Well No 2H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
B	29	24S	35E		190'	North	1980'	East	Lea

*** Proposed Bottom Hole Location**

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
EG	32	24S	35E		2310'	North	1980'	East	Lea

9. Pool Information

Wildcat: Bone Spring	Pool Name WG-025 G-09 5243532M; LWR BONE SPRING	Pool Code 96403 98098
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Additional Well Information

¹¹ Work Type New Well	¹² Well Type Oil	¹³ Cable/Rotary	¹⁴ Lease Type State	¹⁵ Ground Level Elevation 3320.4'
¹⁶ Multiple N	¹⁷ Proposed Depth 19602'	¹⁸ Formation Bone Spring	¹⁹ Contractor	²⁰ Spud Date 9/18/2015
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

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	20	16	65	875'	650	
Intnrd 1	14.75	10.75	45.5	5380'	1900	
Intnrd 2	9.825	7.625	29.7	12050'	1725	
Production	6.75	5.5 x 5	20 x 18	19602'	1250	11000'

Casing/Cement Program: Additional Comments

Plan to drill a 20" hole to 875' with Fresh Water. Run 16", 65# J-55 csg and cmt to surface. Drill 14-3/4" hole to 5,380' with Brine, and run 10-3/4", 45.5# HCN-80 csg and cement to surface. Drill 9-7/8" hole to 12,050' with cut brine, and run 7-5/8", 29.7# HCP-110 csg and cement to surface. Drill 6-3/4" pilot hole to 12,750'. Plug back with cement and drill 6-3/4" curve and lateral with WBM to approximately 19,602' MD. Run 5-1/2", 20#, HCP-110 x 5"18# HCP-110 tapered csg string and cement to 11,000'.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000	3000	Horn

²³ 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>Mayte Reyes</i>	OIL CONSERVATION DIVISION	
	Approved By: <i>[Signature]</i>	
Printed name: Mayte Reyes	Title: Petroleum Engineer	
Title: Regulatory Analyst	Approved Date: 09/11/15	Expiration Date: 09/11/17
E-mail Address: mrcyres1@concho.com		
Date: 9/11/2015	Phone: 575-748-6945	Conditions of Approval Attached

See Attached

Conditions of Approval

SEP 09 2015

CONDITIONS OF APPROVAL

API #	Operator	Well name & Number
30-025-42782	COG OPERATING LLC	VIKING HELMET STATE COM # 001H

Applicable conditions of approval marked with XXXXXX

Administrative Orders Required

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Other wells

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Drilling

XXXXXXX	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string

Casing

XXXXXXX	SURFACE & INTERNEMIATE(1) CASING - Cement must circulate to surface --
XXXXXXX	PRODUCTION CASING - Cement must tie back into intermediate casing --
XXXXXXX	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
	South Area
XXXXXXX	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water

Pits

XXXXXXX	If using a pit for drilling and completions, must have an approved pit form prior to spudding the well

Completion & Production

XXXXXXX	Will require a directional survey with the C-104

Viking Helmet State Com 2H

	Hole Size	Casing	Wt	Depth	Cmt	TOC
Surface	20	16	65	875'	650	0
Intrmd 1	14.75	10.75	45.5	5380'	1900	0
Intrmd 2	9.825	7.625	29.7	12,050'	1725	0
Prod	6.75	5.5 x 5	20 x 18	19,602'	1250	11000'

Plan to drill a 20" hole to 875' with Fresh Water. Run 16", 65# J-55 csg and cmt to surface. Drill 14-3/4" hole to 5,380' with Brine, and run 10-3/4", 45.5# HCN-80 csg and cement to surface. Drill 9-7/8" hole to 12,050' with cut brine, and run 7-5/8", 29.7# HCP-110 csg and cement to surface. Drill 6-3/4" pilot hole to 12,750'. Plug back with cement and drill 6-3/4" curve and lateral with WBM to approximately 19,602' MD. Run 5-1/2", 20#, HCP-110 x 5" 18# HCP-110 tapered csg string and cement to 11,000'.

Well Control

Type	Pressure	Test	Manufacture
Double Ram	3000	3000	Horn