

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-8161 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 Rd., Aztec, NM 87410
Phone:(505) 334-8178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

Form C-101
August 1, 2011
Permit 191291

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

1. Operator Name and Address COG OPERATING LLC One Concho Center Midland, TX 79701		2. OGRID Number 229137
4. Property Code 39915		3. API Number 30-025-42061
5. Property Name GREY HAWK STATE		6. Well No. 002H

7. Surface Location

UL - Lot	O	Section	31	Township	21S	Range	34E	Lot Idn	Feet From	190	N/S Line	S	Feet From	2310	E/W Line	E	County	Lea
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8. Proposed Bottom Hole Location

UL - Lot	B	Section	31	Township	21S	Range	34E	Lot Idn	B	Feet From	330	N/S Line	N	Feet From	2260	E/W Line	E	County	Lea
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9. Pool Information

WC-025 G-07 S213430M;BONE SPRING	97962
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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 3631
16. Multiple N	17. Proposed Depth 15520	18. Formation Bone Spring	19. Contractor	20. Spud Date 8/30/2014
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
Surf	17.5	13.375	54.5	1790	1055	
Int1	12.25	9.625	40	5190	1880	
Prod	8.75	5.5	17	15520	2350	4890

Casing/Cement Program: Additional Comments

Drill 17-1/2" hole to ~1790' w/ fresh water spud mud. Run 13-3/8" 54.5# J55 STC casing to TD and cement to surface in one stage. Will use 1" tubing and Class C w/ 2% CaCl2 to cement to surface, if necessary. Drill 12-1/4" hole to ~5190' with saturated brine water. If losses occur in the Reef, will switch to fresh water to interval TD. Run 9-5/8" 40# L80 BTC casing to TD with a DV tool placed ~ 100' above the Reef. Plan to circulate cement on both stages. Drill 8-3/4" vertical hole, curve, and lateral to 15520' with cut brine. Run 5-1/2" 17# P110 LTC casing to TD and cement to 4890' (300' overlap) in one stage.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000	3000	Shaeffer

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify 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:	OIL CONSERVATION DIVISION
Printed Name: Electronically filed by Diane Kuykendall	Approved By: Paul Kautz
Title: Production Reporting Mgr	Title: Geologist
Email Address: dkuykendall@conchoresources.com	Approved Date: 8/22/2014 Expiration Date: 8/22/2016
Date: 8/21/2014 Phone: 432-683-7443	Conditions of Approval Attached

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Form C-102
August 1, 2011
Permit 191291

WELL LOCATION AND ACREAGE DEDICATION PLAT

1. API Number 30-025-42061	2. Pool Code 97962	3. Pool Name WC-025 G-07 S213430M;BONE SPRING
4. Property Code 39915	5. Property Name GREY HAWK STATE	6. Well No. 002H
7. OGRID No. 229137	8. Operator Name COG OPERATING LLC	9. Elevation 3631

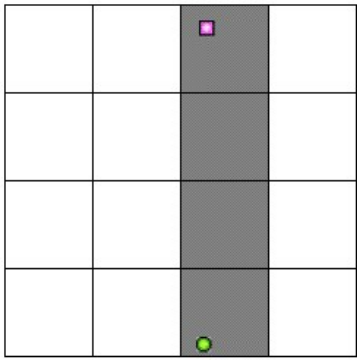
10. Surface Location

UL - Lot O	Section 31	Township 21S	Range 34E	Lot Idn	Feet From 190	N/S Line S	Feet From 2310	E/W Line E	County Lea
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11. Bottom Hole Location If Different From Surface

UL - Lot B	Section 31	Township 21S	Range 34E	Lot Idn	Feet From 330	N/S Line N	Feet From 2260	E/W Line E	County Lea
12. Dedicated Acres 160.00	13. Joint or Infill	14. Consolidation Code	15. Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p style="text-align: center;">OPERATOR CERTIFICATION</p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location(s) or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p>E-Signed By: Diane Kuykendall Title: Production Reporting Mgr Date: 8/21/2014</p> <hr/> <p style="text-align: center;">SURVEYOR CERTIFICATION</p> <p><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i></p> <p>Surveyed By: Chad Harcrow Date of Survey: 3/26/2013 Certificate Number: 17777</p>
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Form APD Comments

Permit 191291

PERMIT COMMENTS

Operator Name and Address: COG OPERATING LLC [229137] One Concho Center Midland, TX 79701		API Number: 30-025-42061
		Well: GREY HAWK STATE #002H
Created By	Comment	Comment Date
mreyes1	OIL: COG Operating has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore we do not believe that an H2S Contingency Plan would be necessary.	8/21/2014

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Form APD Conditions

Permit 191291

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: COG OPERATING LLC [229137] One Concho Center Midland, TX 79701	API Number: 30-025-42061
	Well: GREY HAWK STATE #002H

OCD Reviewer	Condition
DMULL	Will require a directional survey with the C-104
DMULL	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
pkautz	If using a pit for drilling and completion operations, must have an approved pit from prior to spudding the well.
pkautz	1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing --
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water