

District I
1625 N. French Dr., Hobbs, NM 88249
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 30-025-41810
⁴ Property Code 39678	⁵ Property Name Osprey 20 State Com ⁶ 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	20	21S	34E		190	North	1980	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
O	29	21S	34E		330	South	1980	East	Lea

⁹ Pool Information

Pool Name	Pool Code
WC-025 G07 S213430M: Bone Spring	97962

Additional Well Information

¹¹ Work Type New Well	¹² Well Type Oil	¹³ Cable/Rotary	¹⁴ Lease Type State	¹⁵ Ground Level Elevation 3752.1'
¹⁶ Multiple N	¹⁷ Proposed Depth 21672'	¹⁸ Formation Bone Spring	¹⁹ Contractor	²⁰ Spud Date 4/27/2014
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
Surface	17.5	13.375	54.5	1850'	1000	
Intrmd	12.25	9.625	40	5700'	1400	
Production	8.75	5.5	17	21672'	3000	5500

Casing/Cement Program: Additional Comments

Plan to drill a 17-1/2" hole to 1,850' with Fresh Water. Run 13-3/8", 54.5#, J-55 csg and cmt to surface. Drill 12-1/4" hole to 5,700' with Brine, and run 9-5/8", 40#, J-55/N80 and cement to surface. Drill 8-3/4" curve and lateral with cut brine to approx 21,672' MD. Run 5-1/2", 17#, P-110 csg and cement to 5,500'.

²² Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000	3000	Cameron

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 ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.
Signature: *Mayte Reyes*

Printed name: **Mayte Reyes**
Title: **Regulatory Analyst**
E-mail Address: **mreyes1@concho.com**

Date: **4/17/2014** Phone: **575-748-6945**

OIL CONSERVATION DIVISION

Approved By:

Title: **Petroleum Engineer**

Approved Date: **04/28/14** Expiration Date: **04/28/16**

Conditions of Approval Attached

APR 28 2014

K4

Osprey 20 State Com 2H

	Hole Size	Casing	Wt	Depth	Cmt	TOC
Surface	17.5	13.375	54.5	1,850'	1000	0
Intrmd	12.25	9.625	40	5,700'	1400	0
Prod	8.75	5.5	17	21,672'	3000	5,500'

Plan to drill a 17-1/2" hole to 1,850' with Fresh Water. Run 13-3/8", 54.5#, J-55 csg and cmt to surface. Drill 12-1/4" hole to 5,700' with Brine, and run 9-5/8", 40#, J-55/N80 and cement to surface. Drill 8-3/4" curve and lateral with cut brine to approx 21,672' MD. Run 5-1/2", 17#, P-110 csg and cement to 5,500'.

Well Control

Type	Pressure	Test	Manufacture
Double Ram	3000	3000	Cameron



**COG OPERATING LLC Pre-Drill Geological Prognosis
3rd Bone Spring Sand- 2 mile lateral - No PH
FIELD**

3BS	No PH
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Osprey 20 State Com #2H
API #

Rig: **Precision #590**

Target Zone: 3rd Bone Spring Sand

Regular section	FNL	FSL	FEL	FWL
§-T-R (SHL) 20-21S-34E	190		1980	
§-T-R (BHL) 29-21S-34E		330	1980	

GL:	3752	actual
KB:	3777	actual

PROPOSED WELL				REFERENCE WELL		
COG OPERATING LLC				COG OPERATING LLC		
Osprey 20 State Com #2H				Osprey 20 State Com #3H		
20-21S-34E				20-21S-34E		
Lea Co., NM				Lea Co., NM		
KB: 3777	Est. MD: 21700	VS 10042	Effective Lateral 9672	KB: 3741		

Formations	TVD	Subsea	Iso to Tgt	Lith	Hazards/Misc	TVD	Subsea	Iso
Rustler	1825	1952	10010	Mixed lithologies		1834	1907	108
TOS	1933	1844	9902	Salt		1942	1799	1606
BOS	3539	238	8296	Salt		3548	193	127
Yates	3686	111	8169	Sand, Anhydrite		3675	66	78
7 Rivers	3744	33	8091	Dol/LS/Sand		3753	-12	234
Reef	3978	-201	7857	Limestone		3987	-246	1713
Base of Reef	5691	-1914	6144	Limestone		5700	-1959	44
Delaware	5735	-1958	6100	Limestone & Sand		5744	-2003	1262
Brushy Canyon	7017	-3240	4818	Limestone & Sand		7026	-3285	1720
Bone Sprg (BSGL)	8737	-4960	3098	Limestone		8746	-5005	1232
FBSG	9969	-6192	1866	Fine Sand & Carb		9978	-6237	573
SBSG	10562	-6785	1273	Fine Sand & Carb		10551	-6810	1081
★ TBSG	11627	-7850	208	Fine Sand & Carb		11632	-7891	300
WFMP	11927	-8150		Silt, Shale & Carb		11932	-8191	
EOC target	11835	-8058						
EOL target	11880	-8203						

Comments

Wireline Evaluation

None

Coring and Testing

None

Mudlogging

Log out from intermediate casing to TD with a 2-man unit keeping 1 set of 10' samples & capturing 1' drill time.

Land (obligations and deadlines)

Version/Geologist

v1 David DeGlan

DATE: 2/19/2014

S:\Delaware Basin Team\Electronic Well Files\OPERATED\OSPREY 20 ST COM 2H\AFE-DRLG