

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

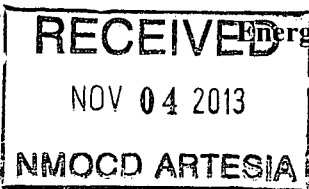
**District II**  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

**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

Form C-101  
Revised July 18, 2013



## Energy Minerals and Natural Resources

### Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

#### 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. Property Code 40112		4. Property Name SRO State Com
		5. Well No 48H

#### 7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
B	7	26S	28E	B	190	North	2080	East	Eddy

#### 8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
O	18	26S	28E	O	330	South	1980	East	Eddy

#### 9. Pool Information

Pool Name	Pool Code
Hay Hollow; Bone Spring	30215

#### Additional Well Information

11. Work Type New Well	12. Well Type Oil	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3065.4
16. Multiple N	17. Proposed Depth 17763	18. Formation Bone Spring	19. Contractor	20. Spud Date 11/15/2013
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	48	350	365	
Intrmd	12.25	9.625	36	2320	800	
Pilot Hole Plug1	7.875	-	-	9400	200	8900
Pilot Hole Plug2	7.875	-	-	8100	340	7200
Production	7.875	5.5	17	17994	3010	2020

#### Casing/Cement Program: Additional Comments

Drill 17-1/2" hole to ~350' w/ fresh water spud mud. Run 13-3/8" 48# H40 STC casing to TD and cement to surface in one stage. Will use 1" tubing and Class C w/ 2% CaCl<sub>2</sub> to cement to surface, if necessary.  
Drill 12-1/4" hole to ~2320' with saturated brine water. Run 9-5/8" 36# J55 LTC casing to TD and cement to surface in one stage.  
Drill 7-7/8" pilot hole to 9400', log and plug back with 200 sx cement plug f/ 8900' - 9400' and 340 sx cement plug f/ 7200' - 8100'.  
Drill 7-7/8" curve and lateral to 17763' with cut brine. Run 5-1/2" 17# P110 LTC casing to TD and cement in one stage bringing TOC to 2020' (300' overlap).

#### 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: 10/29/2013

Phone: 575-748-6945

#### OIL CONSERVATION DIVISION

Approved By:

*T. C. Shapard*

Title:

**"Geologist"**

Approved Date: 11/4/2013

Expiration Date: 11/4/2015

Conditions of Approval Attached

RECEIVED

NOV 04 2013

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State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015 - 41779	Pool Code 30215	Pool Name Hay Hollow; Bone Spring
Property Code 40112	Property Name SRO STATE COM	Well Number 48H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3065.4'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	7	26-S	28-E		190	NORTH	2080	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	18	26-S	28-E		330	SOUTH	1980	EAST	EDDY

Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
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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>NAD 27 SURFACE LOCATION Y=386965.9 N X=564751.0 E LAT.=32.063712° N LONG.=104.124311° W</p>	<p>LOT 1 Y=387151.5 N X=564207.6 E</p>		<p>190' S.L. 2080'</p>	<p>Y=387162.3 N X=565519.2 E</p>	
	<p>39.98 Ac LOT 2</p>				
	<p>40.13 Ac LOT 3</p>				
	<p>40.28 Ac LOT 4</p>				
	<p>40.43 Ac LOT 1</p>			SECTION 07	
	<p>40.49 Ac LOT 2</p>			SECTION 18	
	<p>40.57 Ac LOT 3</p>				
	<p>40.66 Ac Y=376546.4 N X=564212.8 E</p>				
<p>NAD 27 PROPOSED BOTTOM HOLE LOCATION Y=376889.4 N X=564870.7 E LAT.=32.036011° N LONG.=104.123988° W</p>	<p>LOT 4 40.75 Ac</p>		<p>B.H. 1980'</p>	<p>Y=376572.4 N X=565532.5 E</p>	

**OPERATOR CERTIFICATION**

I hereby certify that the information 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 or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *Melanie Parker* Date: 10/30/13

Printed Name: Melanie Parker

E-mail Address: m.parker@concho.com


**SURVEYOR CERTIFICATION**

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.

OCTOBER 16, 2013

Date of Survey

Signature & Seal of Professional Surveyor



Chad L. Harcrow 10/28/13

Certificate No. CHAD HARCROW 17777

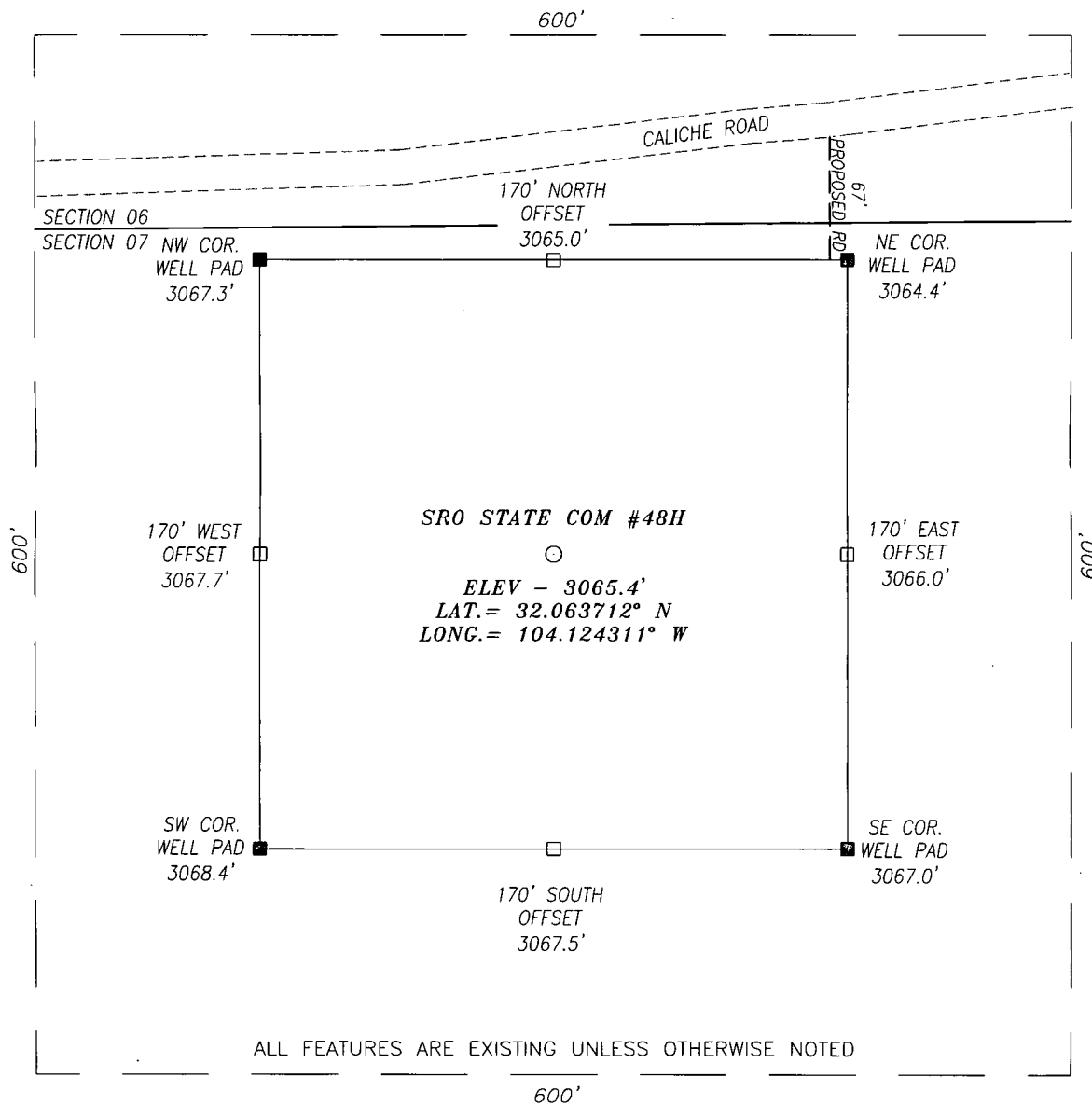
W.O. # 13-735 DRAWN BY: TL

37435 P  
37422 A

# SECTION 7, TOWNSHIP 26 SOUTH, RANGE 28 EAST, N.M.P.M.,

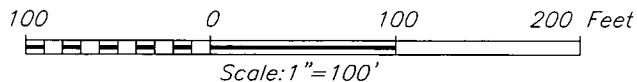
EDDY COUNTY

NEW MEXICO



## DIRECTIONS TO LOCATION:

HEADING SOUTH ON HWY 285 TURN RIGHT (WEST) ONTO CR #724 (WHITE CITY RD) AND GO APPROX. 3.5 MILES; THEN PROPOSED WELL IS APPROX. 295 FEET SOUTHWEST.



## HARCROW SURVEYING, LLC

2314 W. MAIN ST, ARTESIA, N.M. 88210  
PH: (575) 513-2570 FAX: (575) 746-2158  
chad\_harcrow77@yahoo.com



## CONCHO COG OPERATING, LLC

SRO STATE COM #48H WELL  
LOCATED 190 FEET FROM THE NORTH LINE  
AND 2080 FEET FROM THE EAST LINE OF SECTION 7,  
TOWNSHIP 26 SOUTH, RANGE 28 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO

SURVEY DATE: 10/16/2013

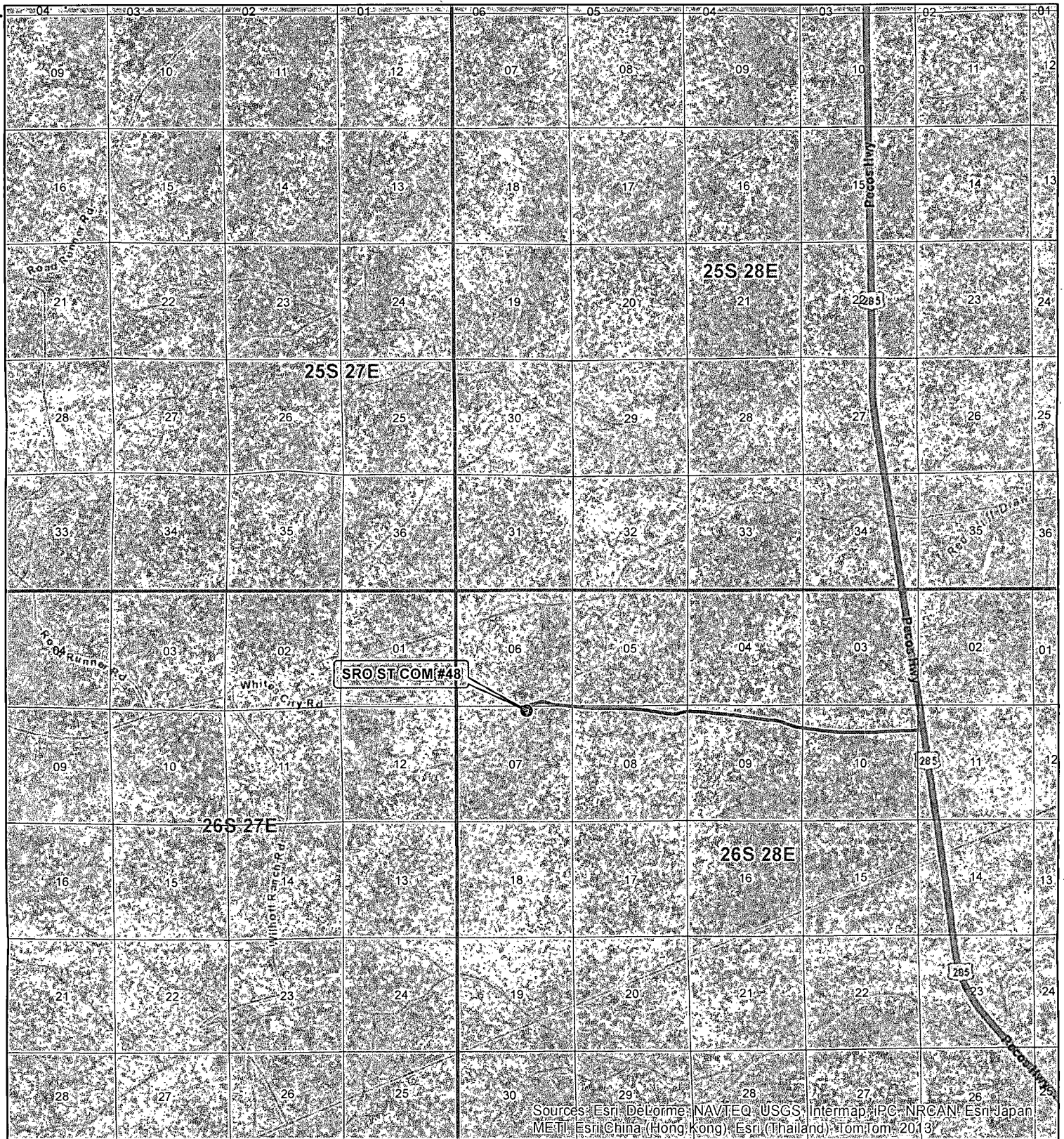
PAGE: 1 OF 1

DRAFTING DATE: 10/18/2013

APPROVED BY: CH

DRAWN BY: TL

FILE: 13-735



## LEGEND

- WELL
- MAIN ROAD

**WELL NAME: SRO ST COM #48H**

**SEC: 7 TWP: 26 S. RGE: 28 E. ELEVATION: 3065.4'**

**STATE: NEW MEXICO COUNTY: EDDY 190' FNL, 2080' FEL**

**W.O. # 13-735 LEASE: SRO ST COM SURVEY: N.M.P.M**

0 2,500 5,000 7,500 10,000 12,500 15,000 FEET

0 0.4 0.8 1.6 Miles

1 IN = 6,000 FT

VICINITY MAP

10/13/2013

K.H.

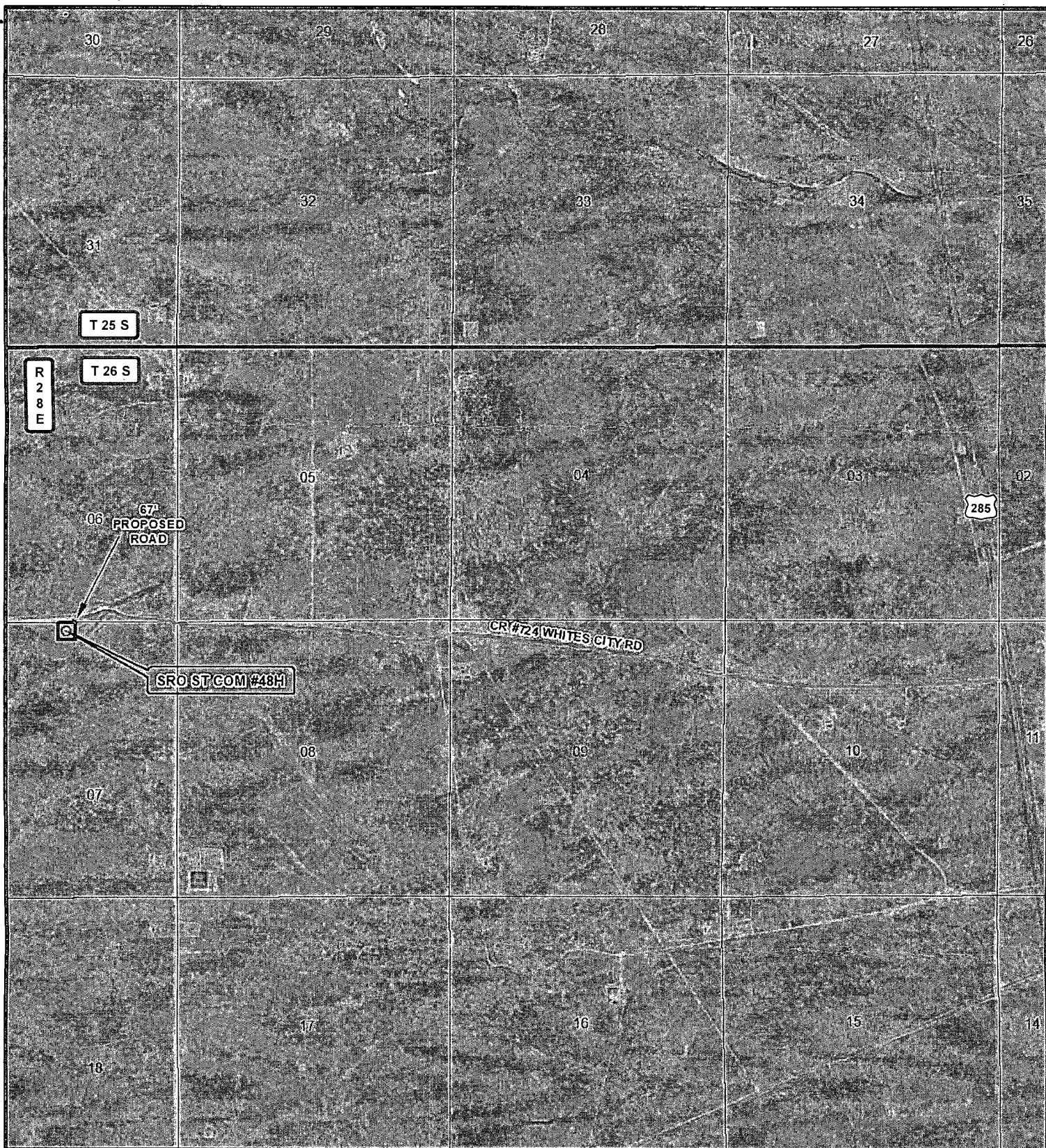
**CONCHO**  
COG OPERATING, LLC

HARCROW SURVEYING, LLC  
1107 WATSON, ARTESIA N.M. 88210  
PH: (575) 513-2570 FAX: (575) 746-2158  
chad\_harcrow77@yahoo.com









# LEGEND

- WELL
- WELL PAD
- MAIN ROAD
- PROPOSED ROAD

WELL NAME: SRO ST COM #48H

SEC: 7 TWP: 26 S. RGE: 28 E. ELEVATION: 3065.4'

STATE: NEW MEXICO COUNTY: EDDY 190' FNL, 2080' FEL

W.O. # 13-735 LEASE: SRO ST COM SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.15 0.3 0.6 Miles

1 IN = 2,500 FT

LOCATION MAP IMAGERY 10/18/2013 K.H.



COG OPERATING, LLC

HARCROW SURVEYING, LLC  
1107 WATSON, ARTESIA N.M. 88210  
PH: (575) 313-2570 FAX: (575) 746-2158  
chad\_harcrow77@yahoo.com







**COG OPERATING LLC Pre-Drill Geological Prognosis**  
**2nd Bone Spring Sand Single Lateral w/ Pilot Hole**  
**Field: Hay Hollow**

<b>2BS</b>	<b>+PH</b>
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<b>SRO State Com #48H</b>
<b>Enter API#</b>

<b>Rig:</b>	<b>December Rig</b>
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<b>Target Zone: 2nd Bone Spring Sand</b>
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Regular section		FNL	FSL	FEL	FWL	Unit
S-T-R (SHL)	7-26S-28E	190		2080		7-B
S-T-R (BHL)	18-26S-28E		330	1980		18-O

GL:	3065	actual
KB:	3091	actual

PROPOSED WELL				REFERENCE WELL	
COG OPERATING LLC		5990		COG Operating LLC	
SRO State Com #48H		Est. VS:	10077	Chicken:	No
7-26S-28E		Trt. Lat:	9725	Potash:	No
Eddy Co., NM		PH-TD:	9400	Lizard:	No
KB:	3091	Est. MD:	17800	AFE type:	State Line BSS PH
				KB:	3142

Formations	TVD	Subsea	Iso to Tgt	Lith	Hazards/Misc	TVD	Subsea	Iso
Rustler	np	np		np		np	np	np
TOS	523	2568		Salt		603	2539	336
BOS	859	2232		Salt		939	2203	1445
Delaware (Lamar)	2304	787		Limestone & Sand		2384	758	3722
Bone Sprg (BSGL)	6026	-2935		Limestone		6106	2964	345
U Avalon Sh	6371	-3280	1519	Silt, Shale & Carb		6451	3309	208
L Avalon Sh	6579	-3488	1311	Silt, Shale & Carb		6659	3517	384
FBSG sand	6963	-3872	927	Fine Sand & Carb		7043	3901	759
★ SBSG sand	7722	-4631	168	Fine Sand & Carb		7802	4660	1000
TBSG sand	8722	-5631		Fine Sand & Carb		8802	5660	348
WFMP	9070	-5979		Silt, Shale & Carb		9150	6008	
EOC target	7890	-4799						
EOL target	7810	-4719		Est. incl	90.45			

**Comments**

Drill up dip 80' over the last 4000' of the lateral. Update after drilling Down South State Com #1H.

**Wireline Evaluation**

Quad Combo/CMR/ECS/ADT from PH TVD to intermediate casing.

**Coring and Testing**

None

**Mudlogging**

Log out from intermediate casing to TD with a 2-man unit keeping 1 set of 20' samples & capturing 1' drill time.

**Land** (obligations and deadlines)

**Version/Geologist**

v1 Henry Zollinger

**DATE:** 10/28/2013

S:\Delaware Basin Team\Electronic Well Files\OPERATED\SRO STATE COM 48H\AFE-DRLG

## Permit Conditions of Approval

API: 30-015-40112

OCD Reviewer	Condition
CSHAPARD	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

*Please provide proposed directional survey*