

DATE IN <u>5.24.12</u>	SUSPENSE <u>7-11-12</u>	ENGINEER <u>DB</u>	LOGGED IN <u>5.24.12</u>	TYPE <u>NSL</u>	APP NO. <u>1214630247</u>
------------------------	-------------------------	--------------------	--------------------------	-----------------	---------------------------

ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



COG-229137

Hatefield State #6H

**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

**[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]**  
**[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]**  
**[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]**  
**[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]**  
**[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]**  
**[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]**

**[1] TYPE OF APPLICATION - Check Those Which Apply for [A]**

**[A] Location - Spacing Unit - Simultaneous Dedication**  
☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

**[B] Commingling - Storage - Measurement**  
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

**[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery**  
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

**[D] Other: Specify** \_\_\_\_\_

**[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☒ Does Not Apply** INTEREST ARE THE SAME

**[A] ☐ Working, Royalty or Overriding Royalty Interest Owners**

**[B] ☐ Offset Operators, Leaseholders or Surface Owner**

**[C] ☐ Application is One Which Requires Published Legal Notice**

**[D] ☐ Notification and/or Concurrent Approval by BLM or SLO**  
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

**[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,**

**[F] ☐ Waivers are Attached**

**[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

**[4] CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note: Statement must be completed by an individual with managerial and/or supervisory capacity.**

Kelly J. Holly  
 Print or Type Name

[Signature]  
 Signature

Permitting Tech  
 Title

5-23-12  
 Date

(432) 685-4384  
 Phone Number

kholly@concho.com  
 E-mail Address

J-8-175-29E  
 RECEIVED  
 MAY 24 2012

6655

**Hatfield State #6H  
Eddy County, NM**

COG proposes to drill a Horizontal 80-acre spacing  
Empire; Glorieta-Yeso, East Oil Well  
TVD of approximately 4917' and MD of approximately 7150'

**Non-Standard Location:**

SHL: 2310' FSL & 2560' FEL      Sec 8, T17S, R29E, Unit J  
BHL: 2310' FSL & 330' FWL      Sec 8, T17S, R29E, Unit L

**This well had to be drilled at a non-standard location due to  
Buried pipelines.**

This well is to be completed in the Empire; Glorieta-Yeso, East (96610) formation. We won't know the exact perms until we drill & log it, but it will be very similar to the Folk Federal #4 which was completed in October 2007 and is located 2310' FNL & 2110' FWL, Unit F in Sec 17, T17S, R29E.

Folk Federal #4 has Yeso open perms from: 4300' – 5160' overall, but broken up into 3 separate intervals, with 3 separate fracs:

1<sup>st</sup> interval: 4960' – 5160'  
acidized w/ 5000 gals,  
frac w/ 69,248 gals gel, & 61,172# 16/30 sand, & 5676# LiteProp

2<sup>nd</sup> interval: 4510' – 4710'  
acidized w/ 5000 gals,  
frac w/ 68,981 gals gel, & 61,488# 16/30 sand, & 5766# LiteProp

3<sup>rd</sup> interval: 4300' – 4440'  
acidized w/ 5000 gals,  
frac w/ 68,906 16/30 sand, & 4330# LiteProp

**Attachment 1  
Plat & Map**

**Attachment 2  
Map & legend of offset wells.**

**Attachment 3  
Updated land plat showing that COG Operating LLC owns offset acreage.  
The acreage we are encroaching on is Unit J of Section 8.**

All interests are the same.

COG Operating LLC respectfully requests permission to have this NSL approved.

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 & 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- 40430	Pool Code 96610	Pool Name Empire; Glorieta-Yeso, East
Property Code 37902	Property Name HATFIELD STATE	Well Number 6H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3618'



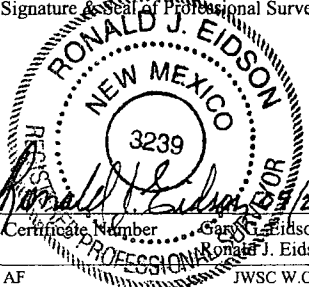
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	8	17-S	29-E		2310	SOUTH	2560	EAST	EDDY

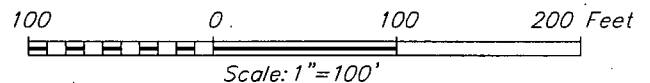
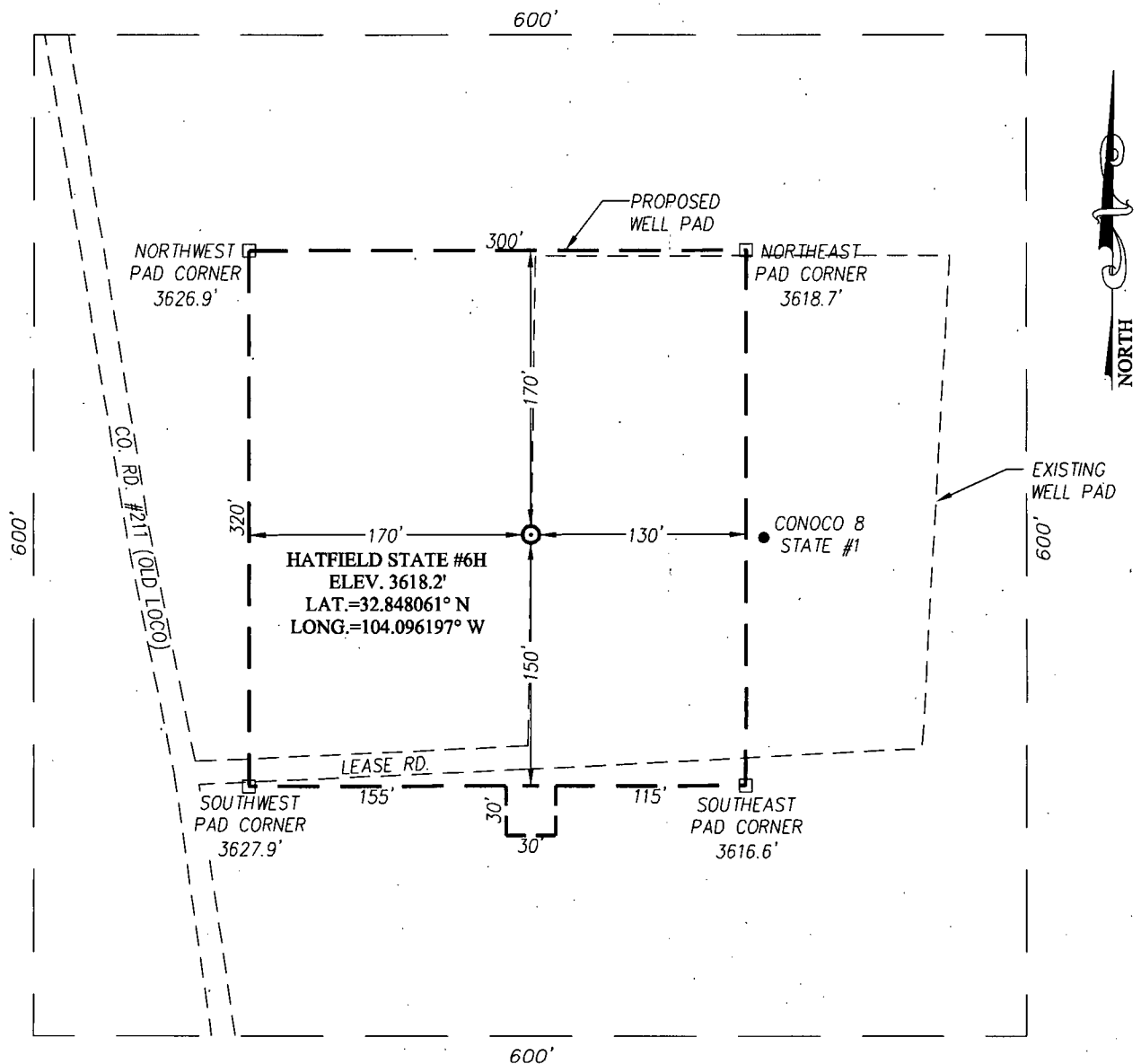
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	8	17-S	29-E		2310	SOUTH	330	WEST	EDDY
Dedicated Acres 80	Joint or Infill	Consolidation Code	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><b>CORNER COORDINATES TABLE</b></p> <p>Ⓐ - Y=672643.0 N, X=570092.3 E</p> <p>Ⓑ - Y=672649.8 N, X=575385.8 E</p> <p>Ⓒ - Y=671323.5 N, X=570096.2 E</p> <p>Ⓓ - Y=671330.0 N, X=575386.2 E</p> <p>Ⓔ - Y=672646.4 N, X=572735.4 E</p> <p>Ⓕ - Y=671326.8 N, X=572738.9 E</p> <p><b>GEODETIC COORDINATES</b> NAD 27 NME</p> <p><b>SURFACE LOCATION</b> Y=672317.7 N X=572826.5 E</p> <p>LAT.=32.848061° N LONG.=104.096197° W</p> <p><b>BOTTOM HOLE LOCATION</b> Y=672313.9 N X=570423.2 E</p> <p><b>Project Area</b> GRID. AZ.=269°54'26" HORIZ. DIST.=2403.9'</p> <p><b>Producing Area</b></p> <p><b>Estimated Completed Interval:</b> 2260 FSL+ 2890 FEL</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>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.</p> <p> 5-23-12 Signature Date</p> <p><b>Kelly J. Holly</b> Printed Name kholly@concho.com E-mail Address</p> <p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>APRIL 21, 2012 Date of Survey</p> <p> Ronald J. Eidson Signature of Professional Surveyor</p> <p></p> <p>Certificate Number 3239 Ronald J. Eidson 12641 AF JWSC W.O.: 12.11.0866</p>
--	---

**SECTION 8, TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.**  
**EDDY COUNTY** **NEW MEXICO**



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF U.S. HWY. #82 AND CO. RD. #211 (OLD LOCO) GO NORTH ON CO. RD. #211 APPROX. 2.5 MILES. THE LOCATION STAKE IS 237 FEET EAST OF THE LEASE ROAD.



PROVIDING SURVEYING SERVICES  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (575) 393-3117 www.jwsc.biz

**COG OPERATING, LLC**

**HATFIELD STATE 6H WELL**  
 LOCATED 2310 FEET FROM THE SOUTH LINE  
 AND 2560 FEET FROM THE EAST LINE OF SECTION 8,  
 TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO

Survey Date: 4/21/12	CAD Date: 4/25/12	Drawn By: AF
W.O. No.: 12110866	Rev: .	Rel. W.O.: Sheet 1 of 1

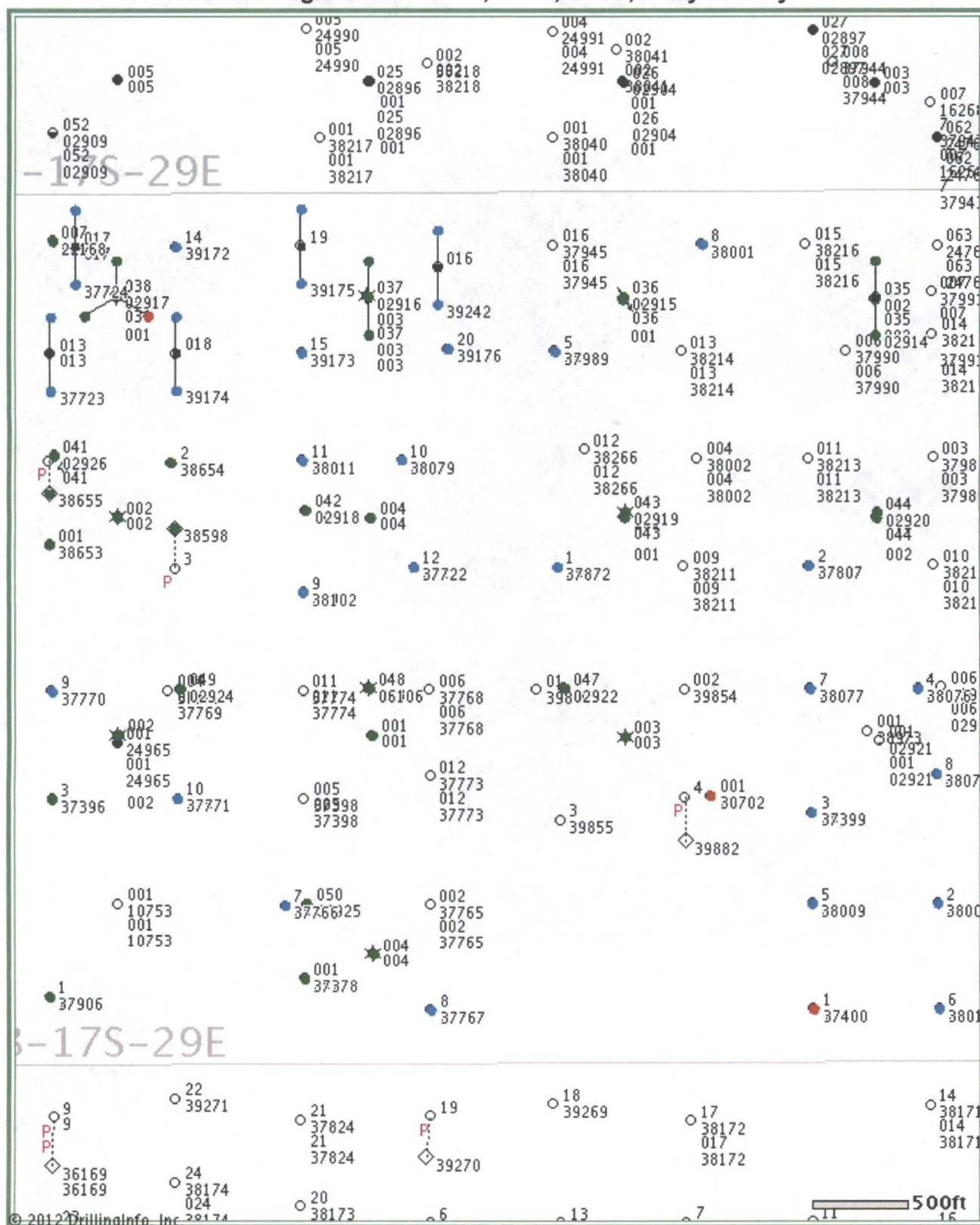
## Producing Wells in Sec 8, T17S, R29E, Eddy County

API#	Operator	Lease	Well#	County	Legal	Total Depth	Well Type	Well Status	First Prod.	Last Prod.	Avg. (BO/D)
30-015-02917		CAVE POOL UNIT	038	EDDY	S:8, T:17S, R:29E		O	Active	Jan 1963	Apr 1963	0.00
30-015-00000	KINCAID AND WATSON DRILLING CO	ATLANTIC STATE	001	EDDY	S:8, T:17S, R:29E		G	Active	Jan 1962	Dec 1962	0.03
30-015-02918		CAVE POOL UNIT	042	EDDY	S:8, T:17S, R:29E		O	Active	Jan 1963	Feb 1963	0.04
30-015-02914	MARKS AND GARNER PRODUCTION LTD CO	CAVE POOL UNIT	035	EDDY	S:8, T:17S, R:29E	0	O	Shut-in	Jan 1963	Jul 2010	0.06
30-015-00000	KINCAID & WATSON	HUMBLE STATE	004	EDDY	S:8, T:17S, R:29E		O	Active	Sep 1956	Dec 1962	0.06
30-015-00000	KINCAID AND WATSON DRILLIN CO	HUMBLE ST	003	EDDY	S:8, T:17S, R:29E		AP	Unknown	Jan 1962	Dec 1962	0.06
30-015-00000	KINCAID & WATSON	HUMBLE STATE	003	EDDY	S:8, T:17S, R:29E		O	Active	Aug 1956	Dec 1961	0.23
30-015-00000	GEN AMERICAN	HUMBLE ST	001	EDDY	S:8, T:17S, R:29E		G	Active	Jan 1958	Dec 1961	0.23
30-015-00000	CONTINENTAL OIL COMPANY	STATE T	001	EDDY	S:8, T:17S, R:29E		O	Active	Nov 1956	Dec 1962	0.39
30-015-00000	CONTINENTAL OIL COMPANY	STATE T-8	002	EDDY	S:8, T:17S, R:29E		O	Active	May 1957	Dec 1962	0.39
30-015-22168	FINNEY OIL COMPANY	HUMBLE 8	007	EDDY	S:8, T:17S, R:29E	0	O	Active	Jan 1987	Feb 2012	0.55
30-015-00000	KINCAID & WATSON	ATLANTIC STATE	001	EDDY	S:8, T:17S, R:29E		O	Active	Dec 1956	Dec 1962	0.61
30-015-00000	KINCAID & WATSON	ATLATIC ST.	002	EDDY	S:8, T:17S, R:29E		G	Active	Jun 1957	Dec 1962	0.61
30-015-00000	KINCAID & WATSON	ATLANTIC ST.	003	EDDY	S:8, T:17S, R:29E		G	Active	Mar 1957	Dec 1962	0.61
30-015-00000	KINCAID & WATSON	ATLANTIC ST.	004	EDDY	S:8, T:17S, R:29E		G	Active	Sep 1957	Dec 1962	0.61
30-015-00000	LEONARD OIL COMPANY	FED. POLK	002	EDDY	S:8, T:17S, R:29E		G	Active	Jul 1956	Mar 1962	0.68
30-015-00000	CONTINENTAL OIL COMPANY	STATE U-8	001	EDDY	S:8, T:17S, R:29E		O	Active	May 1957	Dec 1962	0.68
30-015-00000	CONTINENTAL OIL COMPANY	STATE U-8	002	EDDY	S:8, T:17S, R:29E		O	Active	Jun 1957	Dec 1962	0.68
30-015-02916	CONTINENTAL OIL CO	CAVE POOL	037	EDDY	S:8, T:17S, R:29E		G	Active	Jan 1963	Dec 1969	1.00
30-015-00000	KELLY JOHN M	HUMBLE ST	001	EDDY	S:8, T:17S, R:29E		G	Active	Jan 1959	Dec 1960	1.03
30-015-38653	CIMAREX ENERGY CO. OF COLORADO	BLUETAIL 8 FEDERAL	002	EDDY	S:8, T:17S, R:29E	4,700	O	Active Permit	Aug 2011	Feb 2012	1.52
30-015-30702	COG OPERATING LLC	CONOCO 8 STATE COM	001	EDDY	S:8, T:17S, R:29E	10,920	O	Flowing	Mar 2000	Feb 2012	1.86
					S:8, T:17S,						

30-015-02919	CONTINENTAL OIL CO	CAVE POOL	043	EDDY	R:29E	2,450	G	Active	Jan 1963	Dec 1969	2.00
30-015-02925		CAVE POOL UNIT	050	EDDY	S:8, T:17S, R:29E		O	Active	Jan 1963	Dec 1983	3.00
30-015-06106	CONTINENTAL OIL CO	CAVE POOL	048	EDDY	S:8, T:17S, R:29E		G	Active	Jan 1963	Dec 1969	3.00
30-015-02914	ARCHIE M. SPEIR	CAVE POOL UNIT	035	EDDY	S:8, T:17S, R:29E	0	O	Shut-in	Jan 1969	Dec 1969	3.00
30-015-39242	COG OPERATING LLC	MCCOY STATE	016	EDDY	S:8, T:17S, R:29E	5,420	U	Active	Nov 2011	Nov 2011	4.33
30-015-39175	COG OPERATING LLC	MCCOY STATE	19	EDDY	S:8, T:17S, R:29E	5,426	U	Active Permit	Oct 2011	Feb 2012	5.10
30-015-37766	COG OPERATING LLC	HATFIELD STATE	7	EDDY	S:8, T:17S, R:29E	5,528	O	Active Permit	Oct 2010	Feb 2012	5.17
30-015-02920		CAVE POOL UNIT	044	EDDY	S:8, T:17S, R:29E	2,450	O	Active	Jan 1963	Dec 1983	5.97
30-015-37906	NADEL AND GUSSMAN HEYCO, LLC	HILLBILLY CAVE 8 STATE	1	EDDY	S:8, T:17S, R:29E	5,373	U	Active Permit	Jul 2010	Feb 2012	7.14
30-015-39173	COG OPERATING LLC	MCCOY STATE	15	EDDY	S:8, T:17S, R:29E	5,450	U	Active Permit	Sep 2011	Feb 2012	8.21
30-015-38079	COG OPERATING LLC	MCCOY STATE	10	EDDY	S:8, T:17S, R:29E	5,475	O	Active Permit	Dec 2010	Feb 2012	8.79
30-015-02924		CAVE POOL UNIT	049	EDDY	S:8, T:17S, R:29E		O	Active	Jan 1963	Dec 1983	9.06
30-015-38010	COG OPERATING LLC	MCCOY STATE	6	EDDY	S:8, T:17S, R:29E	5,443	O	Active Permit	May 2011	Feb 2012	9.66
30-015-37771	COG OPERATING LLC	HATFIELD STATE	10	EDDY	S:8, T:17S, R:29E	5,590	O	Active Permit	Oct 2010	Feb 2012	9.72
30-015-37767	COG OPERATING LLC	HATFIELD STATE	8	EDDY	S:8, T:17S, R:29E	5,548	O	Active Permit	Oct 2010	Feb 2012	10.34
30-015-37722	COG OPERATING LLC	MCCOY STATE	12	EDDY	S:8, T:17S, R:29E	5,468	O	Active Permit	Aug 2011	Feb 2012	10.55
30-015-37399	COG OPERATING LLC	MCCOY STATE	3	EDDY	S:8, T:17S, R:29E	5,483	O	Active Permit	Oct 2010	Feb 2012	11.21
30-015-37378	COG OPERATING LLC	HATFIELD STATE	001	EDDY	S:8, T:17S, R:29E	5,475	O	Active Permit	May 2010	Feb 2012	11.24
30-015-37396	COG OPERATING LLC	HATFIELD STATE	3	EDDY	S:8, T:17S, R:29E	5,488	O	Active Permit	Jul 2010	Feb 2012	11.24
30-015-38009	COG OPERATING LLC	MCCOY STATE	5	EDDY	S:8, T:17S, R:29E	5,425	O	Active Permit	Feb 2011	Feb 2012	11.86
30-015-38598	CIMAREX ENERGY CO. OF COLORADO	BLUETAIL 8 FEDERAL	3	EDDY	S:8, T:17S, R:29E	4,700	O	Active Permit	Jul 2011	Feb 2012	11.93
30-015-38078	COG OPERATING LLC	MCCOY STATE	8	EDDY	S:8, T:17S, R:29E	5,440	O	Active Permit	Mar 2011	Feb 2012	12.17
30-015-37400	COG OPERATING LLC	MCCOY STATE	1	EDDY	S:8, T:17S, R:29E	5,466	O	Active Permit	May 2010	Feb 2012	12.31
30-015-38077	COG OPERATING LLC	MCCOY STATE	7	EDDY	S:8, T:17S, R:29E	5,370	O	Active Permit	Apr 2011	Feb 2012	12.66
30-015-38076	COG OPERATING LLC	MCCOY STATE	4	EDDY	S:8, T:17S, R:29E	5,406	O	Active Permit	Nov 2010	Feb 2012	12.69

30-015-38008	COG OPERATING LLC	MCCOY STATE	2	EDDY	S:8, T:17S, R:29E	5,408	O	Active Permit	Oct 2010	Feb 2012	13.48
30-015-38011	COG OPERATING LLC	MCCOY STATE	11	EDDY	S:8, T:17S, R:29E	5,510	O	Active Permit	Aug 2011	Feb 2012	14.66
30-015-38102	COG OPERATING LLC	MCCOY STATE	9	EDDY	S:8, T:17S, R:29E	5,540	O	Active Permit	Jul 2011	Feb 2012	15.28
30-015-39174	COG OPERATING LLC	MCCOY STATE	018	EDDY	S:8, T:17S, R:29E	5,421	U	Active Permit	Sep 2011	Feb 2012	15.86
30-015-37723	COG OPERATING LLC	MCCOY STATE	013	EDDY	S:8, T:17S, R:29E	5,470	U	Active Permit	Nov 2011	Feb 2012	15.86
30-015-39172	COG OPERATING LLC	MCCOY STATE	14	EDDY	S:8, T:17S, R:29E	5,433	U	Active Permit	Sep 2011	Feb 2012	16.45
30-015-37724	COG OPERATING LLC	MCCOY STATE	017	EDDY	S:8, T:17S, R:29E	5,455	U	Active Permit	Oct 2011	Feb 2012	18.21
30-015-37723	COG OPERATING LLC	MCCOY STATE	013	EDDY	S:8, T:17S, R:29E	5,470	U	Active Permit	Nov 2011	Nov 2011	20.90
30-015-37989	CIMAREX ENERGY CO. OF COLORADO	CHASER 8 STATE	5	EDDY	S:8, T:17S, R:29E	5,288	O	Active Permit	Jan 2011	Feb 2012	20.90
30-015-39175	COG OPERATING LLC	MCCOY STATE	19	EDDY	S:8, T:17S, R:29E	5,426	U	Active Permit	Oct 2011	Nov 2011	21.37
30-015-38654	CIMAREX ENERGY CO. OF COLORADO	BLUETAIL 8 FEDERAL	2	EDDY	S:8, T:17S, R:29E	4,700	O	Active Permit	Jun 2011	Feb 2012	21.97
30-015-37724	COG OPERATING LLC	MCCOY STATE	017	EDDY	S:8, T:17S, R:29E	5,455	U	Active Permit	Oct 2011	Oct 2011	23.42
30-015-39176	COG OPERATING LLC	MCCOY STATE	20	EDDY	S:8, T:17S, R:29E	5,440	U	Active Permit	Oct 2011	Feb 2012	26.41
30-015-37807	CIMAREX ENERGY CO. OF COLORADO	CHASER 8 STATE	2	EDDY	S:8, T:17S, R:29E	5,260	U	Active Permit	Sep 2010	Feb 2012	26.72
30-015-38001	CIMAREX ENERGY CO. OF COLORADO	CHASER 8 STATE	8	EDDY	S:8, T:17S, R:29E	5,307	U	Active Permit	Jun 2011	Feb 2012	28.31
30-015-37872	CIMAREX ENERGY CO. OF COLORADO	CHASER 8 STATE	1	EDDY	S:8, T:17S, R:29E	5,332	U	Active	Oct 2010	Feb 2012	31.34
30-015-37770	COG OPERATING LLC	HATFIELD STATE	9	EDDY	S:8, T:17S, R:29E	5,817	O	Active Permit	Oct 2010	Feb 2012	34.07
30-015-39174	COG OPERATING LLC	MCCOY STATE	018	EDDY	S:8, T:17S, R:29E	5,421	U	Active Permit	Sep 2011	Oct 2011	37.10
30-015-39242	COG OPERATING LLC	MCCOY STATE	016	EDDY	S:8, T:17S, R:29E	5,420	U	Active	Nov 2011	Feb 2012	45.21
30-015-38655	CIMAREX ENERGY CO. OF COLORADO	BLUETAIL 8 FEDERAL	4	EDDY	S:8, T:17S, R:29E	4,703	O	Active Permit	Aug 2011	Feb 2012	59.83
30-015-02922		CAVE POOL UNIT	047	EDDY	S:8, T:17S, R:29E		O	Active	Jan 1963	Dec 1983	133.26
30-015-02926	MARKS AND GARNER PRODUCTION LTD CO	CAVE POOL UNIT	041	EDDY	S:8, T:17S, R:29E	0	PO	Temporarily Abandoned	Jan 1964	Aug 2007	
30-015-02915	MARKS AND GARNER PRODUCTION LTD CO	CAVE POOL UNIT	036	EDDY	S:8, T:17S, R:29E	2,450	D	Salt Water Disposal	Jan 1963	Aug 1963	

### Producing Wells in Sec 8, T17S, R29E, Eddy County



© 2012 Drilling Info, Inc. All rights reserved. All data and information is provided "As Is" and subject to the [DI subscription agreement](#).





Well name: Hatfield State #6H  
Operator: COG Operating LLC  
SEC8 T17S-R29E UL-J

Non Standard Location  
Operator: COG Operating  
LLC

# **COG Operating LLC**

**Eddy County, NM**

**Hatfield State 6H**

**Hatfield State 6H**

**Lower Lateral**

**Plan: LL Plan #1**

Surface: 2310' FSL, 2560' FEL, Sec 8, T17S, R29E, Unit J

BHL: 2310' FSL, 330' FWL, Sec 8, T17S, R29E, Unit L

PP: 2260' FSL, 2890' FEL, Sec 8, T17S, R29E, Unit J

## **Standard Planning Report**

**09 May, 2012**



# Crescent Directional Drilling

## Planning Report

Database:	R5000 Houston DB	Local Co-ordinate Reference:	Site Hatfield State 6H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3636.00ft (Original Well Elev)
Project:	Eddy County, NM	MD Reference:	WELL @ 3636.00ft (Original Well Elev)
Site:	Hatfield State 6H	North Reference:	Grid
Well:	Hatfield State 6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lower Lateral		
Design:	LL Plan #1		

Project:	Eddy County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Hatfield State 6H		
Site Position:		Northing:	672,317.70 ft
From:	Map	Easting:	572,826.50 ft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Grid Convergence:	0.13 °

Well	Hatfield State 6H					
Well Position	+N/-S	0.00 ft	Northing:	672,317.70 ft	Latitude:	32.848058
	+E/-W	0.00 ft	Easting:	572,826.50 ft	Longitude:	-104.096201
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	3,618.00 ft

Wellbore:		Lower Lateral			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/8/2012	7.77	60.65	48,842

Design	LL Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	269.91

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N-S	+E-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,470.21	0.00	0.00	4,470.21	0.00	0.00	0.00	0.00	0.00	0.00	
5,053.54	70.00	262.56	4,918.88	-40.68	-311.52	12.00	12.00	0.00	262.56	
5,242.86	91.00	271.39	4,950.00	-50.03	-496.77	12.00	11.10	4.66	23.41	
7,150.25	91.00	271.39	4,916.55	-3.80	-2,403.30	0.00	0.00	0.00	0.00	PBHL (Hatfield State I

# Crescent Directional Drilling

## Planning Report

Database:	R5000 Houston DB	Local Co-ordinate Reference:	Site Hatfield State 6H.
Company:	C.O.G. Operating LLC	TVD Reference:	WELL @ 3636.00ft (Original Well Elev)
Project:	Eddy County, NM	MD Reference:	WELL @ 3636.00ft (Original Well Elev)
Site:	Hatfield State 6H	North Reference:	Grid
Well:	Hatfield State 6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lower Lateral		
Design:	LL Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,470.21	0.00	0.00	4,470.21	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Start Build @ 12.00°/100'									
4,500.00	3.57	262.56	4,499.98	-0.12	-0.92	0.92	12.00	12.00	0.00
4,600.00	15.57	262.56	4,598.41	-2.27	-17.38	17.39	12.00	12.00	0.00
4,700.00	27.57	262.56	4,691.23	-7.02	-53.78	53.79	12.00	12.00	0.00
4,800.00	39.57	262.56	4,774.40	-14.17	-108.52	108.54	12.00	12.00	0.00
4,900.00	51.57	262.56	4,844.27	-23.40	-179.20	179.24	12.00	12.00	0.00
5,000.00	63.57	262.56	4,897.79	-34.31	-262.75	262.80	12.00	12.00	0.00
5,053.54	70.00	262.56	4,918.88	-40.68	-311.52	311.58	12.00	12.00	0.00
Continue Build & Turn @ 12.00°/100'									
5,100.00	75.13	264.85	4,932.80	-45.53	-355.56	355.63	12.00	11.04	4.93
5,166.89	82.55	267.97	4,945.74	-49.61	-421.00	421.08	12.00	11.10	4.66
PP @ 5166.89 MD, 4945.74 TVD, 82.55 INC, 267.97 AZ, 421.08 VS									
5,200.00	86.23	269.47	4,948.97	-50.35	-453.94	454.01	12.00	11.12	4.53
5,242.86	91.00	271.39	4,950.00	-50.03	-496.77	496.85	12.00	11.13	4.49
Landing Point - Hold @ 91.00° INC, 271.39° AZ									
5,300.00	91.00	271.39	4,949.00	-48.64	-553.88	553.96	0.00	0.00	0.00
5,400.00	91.00	271.39	4,947.25	-46.22	-653.84	653.91	0.00	0.00	0.00
5,500.00	91.00	271.39	4,945.49	-43.79	-753.79	753.86	0.00	0.00	0.00
5,600.00	91.00	271.39	4,943.74	-41.37	-853.75	853.81	0.00	0.00	0.00
5,700.00	91.00	271.39	4,941.99	-38.95	-953.70	953.76	0.00	0.00	0.00
5,800.00	91.00	271.39	4,940.23	-36.52	-1,053.66	1,053.71	0.00	0.00	0.00
5,900.00	91.00	271.39	4,938.48	-34.10	-1,153.61	1,153.67	0.00	0.00	0.00
6,000.00	91.00	271.39	4,936.72	-31.68	-1,253.57	1,253.62	0.00	0.00	0.00
6,100.00	91.00	271.39	4,934.97	-29.25	-1,353.52	1,353.57	0.00	0.00	0.00
6,200.00	91.00	271.39	4,933.22	-26.83	-1,453.48	1,453.52	0.00	0.00	0.00
6,300.00	91.00	271.39	4,931.46	-24.41	-1,553.43	1,553.47	0.00	0.00	0.00
6,400.00	91.00	271.39	4,929.71	-21.98	-1,653.39	1,653.42	0.00	0.00	0.00
6,500.00	91.00	271.39	4,927.95	-19.56	-1,753.34	1,753.37	0.00	0.00	0.00
6,600.00	91.00	271.39	4,926.20	-17.14	-1,853.30	1,853.32	0.00	0.00	0.00
6,700.00	91.00	271.39	4,924.45	-14.71	-1,953.26	1,953.28	0.00	0.00	0.00
6,800.00	91.00	271.39	4,922.69	-12.29	-2,053.21	2,053.23	0.00	0.00	0.00
6,900.00	91.00	271.39	4,920.94	-9.86	-2,153.17	2,153.18	0.00	0.00	0.00
7,000.00	91.00	271.39	4,919.19	-7.44	-2,253.12	2,253.13	0.00	0.00	0.00
7,100.00	91.00	271.39	4,917.43	-5.02	-2,353.08	2,353.08	0.00	0.00	0.00
7,150.25	91.00	271.39	4,916.55	-3.80	-2,403.30	2,403.30	0.00	0.00	0.00
TD @ 7150.25' MD, 4916.55' TVD - PBHL (Hatfield State 6H LL Plan 1)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL (Hatfield State 6H	0.00	0.00	4,916.55	-3.80	-2,403.30	672,313.90	570,423.20	32.848062	-104.104026
- plan hits target center									
- Point									

# Crescent Directional Drilling

## Planning Report

Database:	R5000 Houston DB	Local Co-ordinate Reference:	Site Hatfield State 6H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3636.00ft (Original Well Elev)
Project:	Eddy County, NM	MD Reference:	WELL @ 3636.00ft (Original Well Elev)
Site:	Hatfield State 6H	North Reference:	Grid
Well:	Hatfield State 6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lower Lateral		
Design:	LL Plan #1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,470.21	4,470.21	0.00	0.00	KOP - Start Build @ 12.00°/100'
5,053.54	4,918.88	-40.68	-311.52	Continue Build & Turn @ 12.00°/100'
5,166.89	4,945.74	-49.61	-421.00	PP @ 5166.89 MD, 4945.74 TVD, 82.55 INC, 267.97 AZ, 421.08 VS
5,242.86	4,950.00	-50.03	-496.77	Landing Point - Hold @ 91.00° INC, 271.39° AZ
7,150.25	4,916.55	-3.80	-2,403.30	TD @ 7150.25' MD, 4916.55' TVD



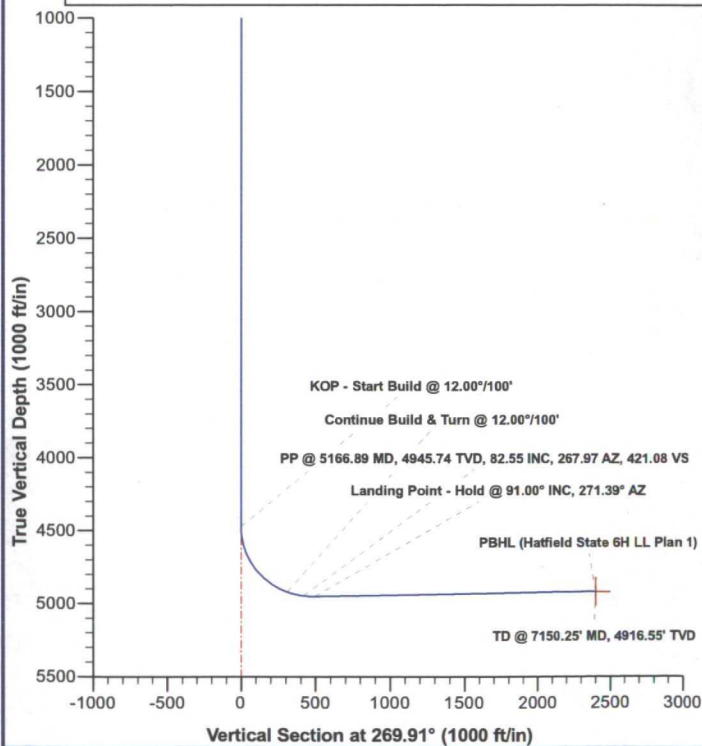
COG Operating LLC  
Hatfield State 6H  
Eddy County, NM  
LL Plan #1



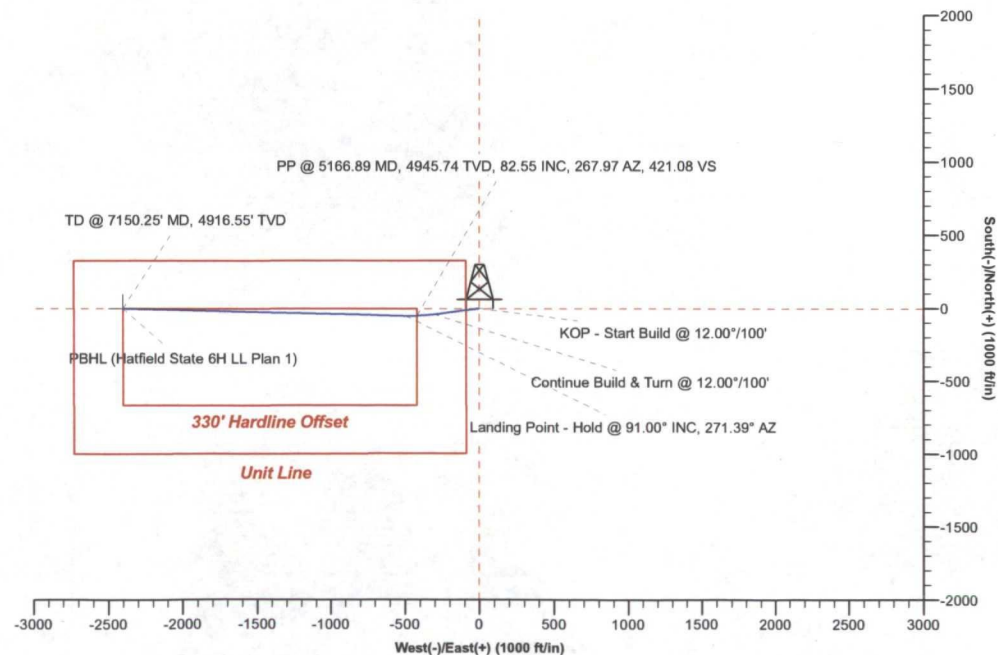
Surface Location		Ground Elev: 3618.00 WELL @ 3636.00ft (Original Well Elev)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	672317.70	572826.50	32.848058	-104.096201

TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (Hatfield State 6H LL Plan 1)	4916.55	-3.80	-2403.30	672313.90	570423.20	32.848062	-104.104026

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4470.21	0.00	0.00	4470.21	0.00	0.00	0.00	0.00	0.00	KOP - Start Build @ 12.00°/100'
3	5053.54	70.00	262.56	4918.88	-40.68	-311.52	12.00	262.56	311.58	Continue Build & Turn @ 12.00°/100'
4	5242.86	91.00	271.39	4950.00	-50.03	-496.77	12.00	23.41	496.85	Landing Point - Hold @ 91.00° INC, 271.39° AZ
5	7150.25	91.00	271.39	4916.55	-3.80	-2403.30	0.00	0.00	2403.30	TD @ 7150.25' MD, 4916.55' TVD



Azimuths to Grid North  
True North: -0.13°  
Magnetic North: 7.64°  
  
Magnetic Field  
Strength: 48842.3nT  
Dip Angle: 60.65°  
Date: 5/8/2012  
Model: IGRF2010



**Brooks, David K., EMNRD**

---

**From:** Brooks, David K., EMNRD  
**Sent:** Monday, June 04, 2012 4:50 PM  
**To:** kholly@concho.com  
**Subject:** Hatfield State #6H; NSL Applications

Dear Ms. Holly

You have indicated that this location encroaches toward Unit J of Section 8-17S-29E, and that COG owns 100% of the working interest in that unit. Based on the footages you have provided for the beginning of the completed interval, however, it appears that it also encroaches diagonally toward Unit G.

Please advise concerning ownership of Unit G of Section 8.

Sincerely

David K. Brooks

## Brooks, David K., EMNRD

---

**From:** Brooks, David K., EMNRD  
**Sent:** Wednesday, June 20, 2012 1:31 PM  
**To:** 'Kelly Holly'  
**Subject:** RE: Hatfield State #6H; NSL Applications

Dear Ms. Holly

It is not necessary to confirm Exxon Mobil's receipt of the notice. However, please send me a copy of your cover letter, or otherwise advise me of the date notice was sent, and that you complied with the requirements of 19.15.15.13D concerning the content of the notice.]

Sincerely

David K. Brooks

---

**From:** Kelly Holly [<mailto:kholly@concho.com>]  
**Sent:** Wednesday, June 20, 2012 12:41 PM  
**To:** Brooks, David K., EMNRD  
**Subject:** RE: Hatfield State #6H; NSL Applications

Hello Mr Brooks,

We had to order take-offs in order to determine that the Operator for Unit G is EXXON MOBILE.

I will send EXXON MOBILE Notification. Do you want me to send you the confirmation when I receive it?

Please advise.

**Kelly Holly | Permitting Tech-NM | Concho Resources**  
550 W Texas Avenue, Suite 100| Midland, TX 79701| p: 432.685.4384| [kholly@concho.com](mailto:kholly@concho.com)



**CONFIDENTIALITY NOTICE:** The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you

---

**From:** Brooks, David K., EMNRD [<mailto:david.brooks@state.nm.us>]  
**Sent:** Monday, June 04, 2012 5:50 PM  
**To:** Kelly Holly  
**Subject:** Hatfield State #6H; NSL Applications

Dear Ms. Holly

You have indicated that this location encroaches toward Unit J of Section 8-17S-29E, and that COG owns 100% of the working interest in that unit. Based on the footages you have provided for the beginning of the completed interval, however, it appears that it also encroaches diagonally toward Unit G.



Please advise concerning ownership of Unit G of Section 8.

Sincerely

David K. Brooks

**CONFIDENTIALITY NOTICE:** The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

## Brooks, David K., EMNRD

---

**From:** Kelly Holly <kholly@concho.com>  
**Sent:** Wednesday, June 20, 2012 2:00 PM  
**To:** Brooks, David K., EMNRD  
**Subject:** RE: Hatfield State #6H; NSL Applications  
**Attachments:** Exxon Cover Letter.pdf

Ok great! I am sending the letter today, 6/20/2012.

I attached a copy of the cover letter.

**Kelly Holly | Permitting Tech-NM | Concho Resources**

550 W Texas Avenue, Suite 100 | Midland, TX 79701 | p: 432.685.4384 | [kholly@concho.com](mailto:kholly@concho.com)



**CONFIDENTIALITY NOTICE:** The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you

---

**From:** Brooks, David K., EMNRD [<mailto:david.brooks@state.nm.us>]  
**Sent:** Wednesday, June 20, 2012 2:31 PM  
**To:** Kelly Holly  
**Subject:** RE: Hatfield State #6H; NSL Applications

Dear Ms. Holly

It is not necessary to confirm Exxon Mobil's receipt of the notice. However, please send me a copy of your cover letter, or otherwise advise me of the date notice was sent, and that you complied with the requirements of 19.15.15.13D concerning the content of the notice.]

Sincerely

David K. Brooks

---

**From:** Kelly Holly [<mailto:kholly@concho.com>]  
**Sent:** Wednesday, June 20, 2012 12:41 PM  
**To:** Brooks, David K., EMNRD  
**Subject:** RE: Hatfield State #6H; NSL Applications

Hello Mr Brooks,

We had to order take-offs in order to determine that the Operator for Unit G is EXXON MOBILE.

I will send EXXON MOBILE Notification. Do you want me to send you the confirmation when I receive it?

Please advise.



**CONFIDENTIALITY NOTICE:** The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you

---

**From:** Brooks, David K., EMNRD [<mailto:david.brooks@state.nm.us>]

**Sent:** Monday, June 04, 2012 5:50 PM

**To:** Kelly Holly

**Subject:** Hatfield State #6H; NSL Applications

Dear Ms. Holly

You have indicated that this location encroaches toward Unit J of Section 8-17S-29E, and that COG owns 100% of the working interest in that unit. Based on the footages you have provided for the beginning of the completed interval, however, it appears that it also encroaches diagonally toward Unit G.

Please advise concerning ownership of Unit G of Section 8.

Sincerely

David K. Brooks

**CONFIDENTIALITY NOTICE:** The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

**CONFIDENTIALITY NOTICE:** The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

**COG OPERATING LLC  
550 W. TEXAS, SUITE 100  
MIDLAND, TX 79701**

June 20, 2012

Exxon Mobile Corp  
PO Box 4358  
Houston, TX 77210-4358

Re: Request for Unorthodox Well Location

To Whom It May Concern:

This letter will serve as notice under Rule 104.F (3) that COG Operating LLC has requested administrative approval from the Oil Conservation Division in Santa Fe, NM for an unorthodox Empire: Glorieta-Yeso, East oil well.

**Hatfield State #6H  
Eddy County, NM**

**Non-Standard Location:**

SHL: 2310' FSL & 2560' FEL	Sec 8, T17S, R29E, Unit J
BHL: 2310' FSL & 330' FWL	Sec 8, T17S, R29E, Unit L

Should your company have any objection, it must be filed in writing within twenty (20) days from the date of this notice. The Division Director may allow COG to produce from the unorthodox location after the well is drilled, if no objection has been made within the 20 days after the application has been received.

Sincerely,

COG Operating LLC



Kelly J. Holly  
Permitting Tech

432-685-4384  
[kholly@concho.com](mailto:kholly@concho.com)