

DATE IN 3.21.12	SUSPENSE	DB	LOGGED IN 3.21.12	TYPE NSL	APP NO. 1208156815
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ABOVE THIS LINE FOR DIVISION USE ONLY

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



COG 229127

Spence Federal #3

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

6592

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]

K-25-175-27E

[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

Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

RECEIVED OGD
 MAR 21 2012

Eddy/Fed

[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

Permitting Tech
 Title

3-19-12
 Date

(432) 685-4384
 Phone Number

kholly@concho.com
 E-mail Address

**Spruce Federal #3
Eddy County, NM**

COG proposes to drill a **VERTICAL** NE/4 SW/4, 40 acre spacing
Red Lake; Glorieta Yeso, Northeast oil well
TD of approximately 4700'

Location:

SHL: 1328' FSL & 1501' FWL Sec 25, T17S, R27E, Unit K
BHL: 1650' FSL & 1650' FWL Sec 25, T17S, R27E, Unit K

This well had to be drilled at a non-standard location due to buried pipelines, an electric line and a road being too close to original location.

The plan for this well is to complete it in the Yeso formation.
We won't know the exact perms until we drill & log it, but this is how we anticipate completing this well.

1st interval: 4250' – 4500',
acidized w/ 3500 gals,
frac'd w/ 121,616 gals gel, 148,759# 16/30 Ottawa sand & 29,927# 16/30 CRC.

2nd interval: 4190' – 3965',
acidized w/ 3500 gals,
frac'd w/ 115,358 gals gel, 145,867# 16/30 Ottawa sand & 33,867# 16/30 CRC.

3rd interval: 3905' – 3680',
acidized w/ 3500 gals,
frac'd w/ 112,712 gals gel, 143,362# 16/30 Ottawa sand & 30,017# 16/30 CRC.

4th interval: 3230' – 3480',
acidized w/ 3000 gals,
frac'd w/ 94,592 gals gel, 100,582# 16/30 Ottawa sand & 13,341# 16/30 CRC.

Attachment 1

Plat & map

Attachment 2

Map & legend of offset wells.

Attachment 3

Updated land plat showing COG Operating LLC acreage.
The acreage we are encroaching is the NW/4 SW/4, SW/4 SW/4 and SE/4 SW/4
of Section 25.

Offset acreage is owned by 100% COG.

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

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210
DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
DISTRICT IV
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505

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 July 16, 2010
Submit to Appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-	Pool Code 96836	Pool Name RED LAKE; GLORIETA-YESO, NORTHEAST
Property Code 302565	Property Name SPRUCE FEDERAL	Well Number 3
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3596'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	25	17-S	27-E		1328	SOUTH	1501	WEST	EDDY

Bottom Hole Location If Different From Surface

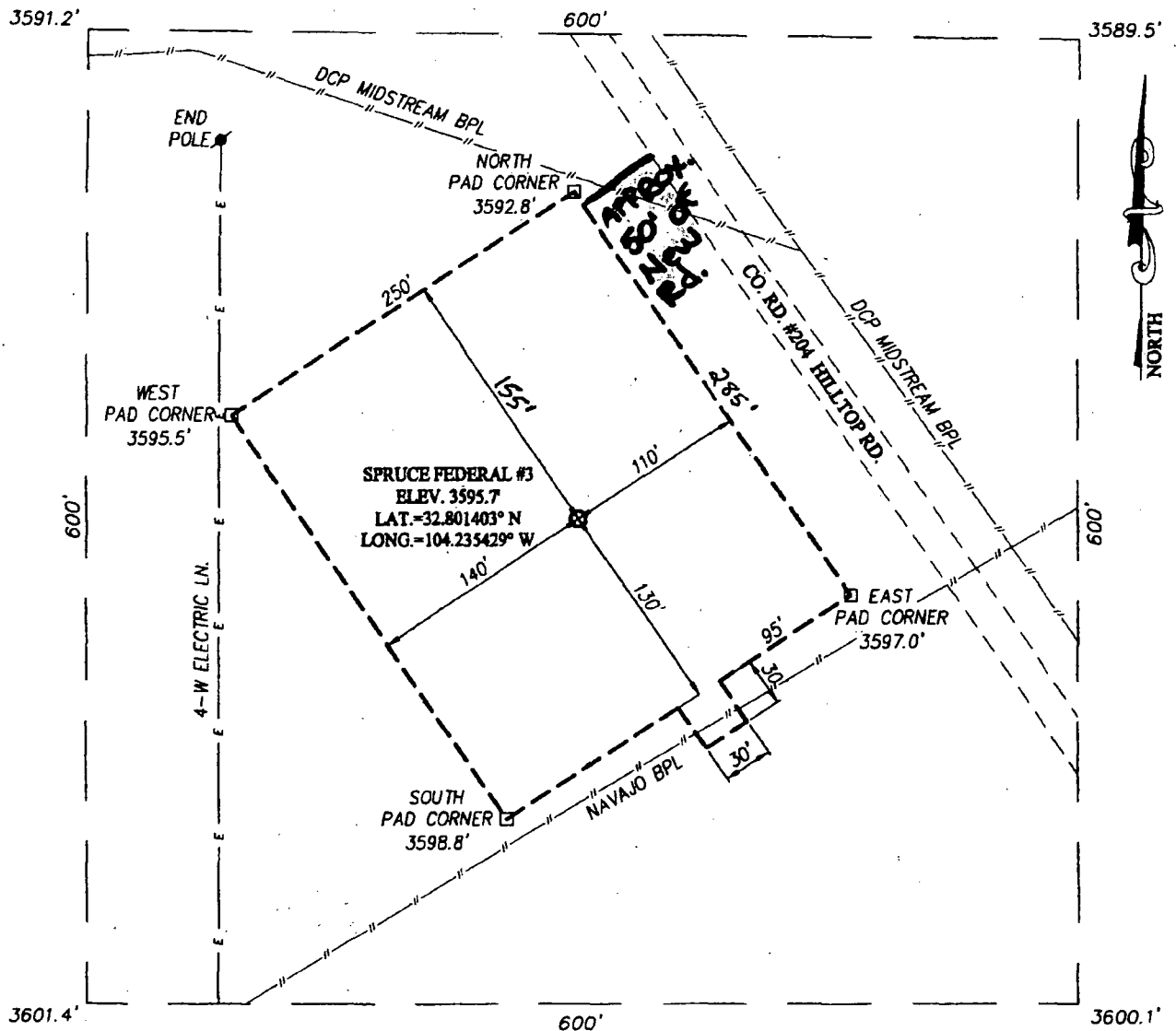
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	25	17-S	27-E		1650	SOUTH	1650	WEST	EDDY

Dedicated Acres 40	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

DETAIL 3591.2' 3589.5' 600' 3601.4' 3600.1' Y=656584.8 N X=529901.1 E Y=656577.2 N X=531221.8 E Estimated Completed Interval: 1520 FSL + 1593 FWL Y=655258.5 N X=531226.9 E Y=655267.1 N X=529904.6 E Y=653949.1 N X=529908.0 E Y=653939.2 N X=531231.9 E GRID AZ.=24°50'20" HORZ. DIST.=353.6' 1650' 1501' 1328' 1650' S.L. OB.H. SEE DETAIL	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=655275.5 N X=530082.9 E LAT.=32.801403° N LONG.=104.235429° W BOTTOM HOLE LOCATION Y=655596.3 N X=530231.4 E	OPERATOR CERTIFICATION <i>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.</i> Signature 2/2/2012 Date Kelly J. Holly Printed Name Kholly@concho.com E-mail Address SURVEYOR CERTIFICATION <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> JUNE 8, 2011 Date of Survey Signature & Seal of Professional Surveyor: Certificate Number Gary G. Eidson 12641 Ronald F. Eidson 3239 DSS WSC W.O.: 11.11.0800
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SECTION 25, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY NEW MEXICO

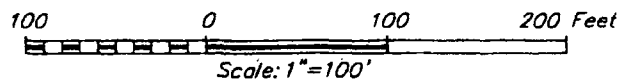


DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. #82 AND CO. RD. #204 (HILLTOP), GO SOUTHEAST ON CO. RD. #204 APPROX. 0.6 MILES. THIS LOCATION STAKE IS APPROX. 175 FEET WEST OF ROAD.



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



COG OPERATING, LLC

SPRUCE FEDERAL #3 WELL
LOCATED 1328 FEET FROM THE SOUTH LINE
AND 1501 FEET FROM THE WEST LINE OF SECTION 25,
TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

Survey Date: 6/8/11	Sheet 1 of 1 Sheets
W.O. Number: 11.11.0800	Dr. By: DSS
Date: 6/11/11	Rel. W.O.: 11110800
	Scale: 1"=100'

Producing Wells in Sec 25, T17S, R27E

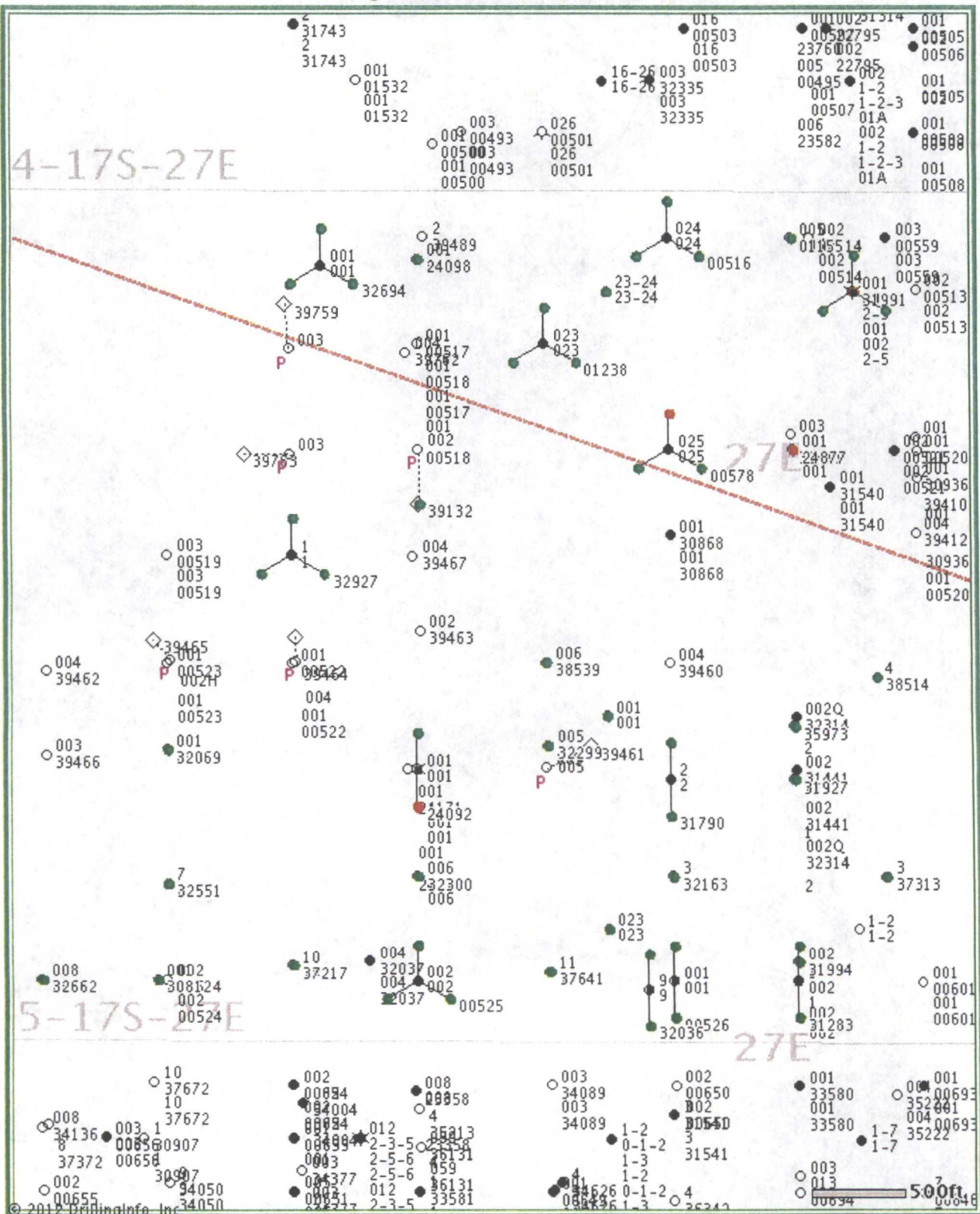
API#	Operator	Lease	Well#	County	Legal	Total Depth	Well Type	Well Status	First Prod.	Last Prod.	Avg. (BO/D)
30-015-00525	GEORGE A CHASE JR DBA G AND C SERVICE	BRAINARD	002	EDDY	S:25, T:17S, R:27E	0	O	Temporarily Abandoned	Apr 1950	Oct 2011	0.03
30-015-01238	SDX RESOURCES INC	BERRY B	023	EDDY	S:25, T:17S, R:27E	0	O	Shut-in	Jan 1969	Jan 2000	0.03
30-015-24877	C&D MANAGEMENT COMPANY DBA FREEDOM VENTURES	MICHAEL STATE	001	EDDY	S:25, T:17S, R:27E	2,038	PG	Active	Oct 1984	Sep 2010	0.03
30-015-32694	COG OPERATING LLC	REDBUD FEDERAL	001	EDDY	S:25, T:17S, R:27E	7,130	O	Active	Dec 2003	Oct 2011	0.03
30-015-00526	ASPEN OIL INC	BRAINARD	001	EDDY	S:25, T:17S, R:27E		PO	Temporarily Abandoned	Feb 1949	Jan 1996	0.10
30-015-32927	MACK ENERGY CORP	DOGWOOD FEDERAL	1	EDDY	S:25, T:17S, R:27E	7,331	O	Active	Dec 2003	Jan 2008	0.16
30-015-32927	COG OPERATING LLC	DOGWOOD FEDERAL	1	EDDY	S:25, T:17S, R:27E	7,331	O	Active	Jan 2008	Jan 2008	0.16
30-015-00526	BEDINGFIELD, J. E.	BRAINARD	001	EDDY	S:25, T:17S, R:27E		PO	Temporarily Abandoned	Jan 1948	Dec 1955	0.26
30-015-00525	BEDINGFIELD, J. E.	BRAINARD	002	EDDY	S:25, T:17S, R:27E	0	O	Temporarily Abandoned	Jan 1953	Dec 1955	0.29
30-015-00516	ALAMO PERMIAN RESOURCES, LLC	BERRY B	024	EDDY	S:25, T:17S, R:27E	0	PO	Active	Jan 1964	Oct 2010	0.32
30-015-24098	MWJ PRODUCING CO	ROPER FEDERAL	001	EDDY	S:25, T:17S, R:27E	0	PO	Pumping	May 1982	Jan 1991	0.32
30-015-32299	LIME ROCK RESOURCES A, L.P.	ENRON FEDERAL	005	EDDY	S:25, T:17S, R:27E	3,185	O	Active	Aug 2002	Oct 2011	0.32
30-015-32694	MACK ENERGY CORP	REDBUD FEDERAL	001	EDDY	S:25, T:17S, R:27E	7,130	O	Active	Oct 2003	Dec 2003	0.35
30-015-00525	MANN F FEDERAL	BRAINARD	002	EDDY	S:25, T:17S, R:27E	0	O	Temporarily Abandoned	Jan 1958	Dec 1971	0.42
30-015-00578	LATCH, LEONARD	BERRY	025	EDDY	S:25, T:17S, R:27E	0	O	Pumping	Nov 1955	Dec 1965	0.45
					S:25,						

30-015-00000	NIX & CURTIS	DELHI STATE	002	EDDY	T:17S, R:27E		O	Active	Jan 1953	Jul 1953	0.45
30-015-00000	NIX & CURTIS	DELHI STATE	'2-5	EDDY	S:25, T:17S, R:27E		O	Active	Jan 1956	Nov 1957	0.47
30-015-01238	LEONARD LATCH	BERRY B	023	EDDY	S:25, T:17S, R:27E	0	O	Shut-in	Jan 1958	Dec 1971	0.48
30-015-00578	LEONARD LATCH	BERRY B	025	EDDY	S:25, T:17S, R:27E	0	O	Pumping	Jan 1956	Dec 1971	0.48
30-015-32694	MACK ENERGY CORP	REDBUD FEDERAL	001	EDDY	S:25, T:17S, R:27E	7,130	O	Active	May 2003	Oct 2003	0.61
30-015-00000	DEAN WHITE OIL CO.	BERRY	023	EDDY	S:25, T:17S, R:27E		O	Active	Nov 1951	Dec 1952	0.65
30-015-30812	COG OPERATING LLC	BEECH FEDERAL	001	EDDY	S:25, T:17S, R:27E	7,244	O	Pumping	Jan 2000	Oct 2011	1.13
30-015-00516	LEONARD LATCH	BERRY B	024	EDDY	S:25, T:17S, R:27E	0	PO	Active	Jan 1959	Dec 1971	1.29
30-015-00000	LATCHE, LEONARD	BERRY	'23-24	EDDY	S:25, T:17S, R:27E		O	Active	Jan 1956	Dec 1957	1.61
30-015-00516	LATCH, LEONARD	BERRY	024	EDDY	S:25, T:17S, R:27E	0	PO	Active	Jan 1955	Dec 1965	1.61
30-015-01155		DELHI STATE	005	EDDY	S:25, T:17S, R:27E		O	Active	Jan 1959	Jun 1966	1.67
30-015-00000	BEDINGFIELD J.E.	BRAINARD	001	EDDY	S:25, T:17S, R:27E		O	Active	Apr 1947	Nov 1947	1.80
30-015-00000		DELHI STATE	002	EDDY	S:25, T:17S, R:27E		O	Active	Mar 1952	Feb 1964	2.00
30-015-01238	LATCH, LEONARD	BERRY	023	EDDY	S:25, T:17S, R:27E	0	O	Shut-in	Jan 1953	Dec 1955	2.16
30-015-32300	LIME ROCK RESOURCES A, L.P.	ENRON FEDERAL	006	EDDY	S:25, T:17S, R:27E	3,180	O	Active	Dec 2002	Oct 2011	2.71
30-015-32551	LIME ROCK RESOURCES A, L.P.	ENRON FEDERAL	7	EDDY	S:25, T:17S, R:27E	3,223	O	Active	Apr 2009	Oct 2011	2.71
30-015-31994	APACHE CORP	STATE 25	002	EDDY	S:25, T:17S, R:27E	8,150	O	Flowing	Nov 2001	Oct 2011	2.97
					S:25,						

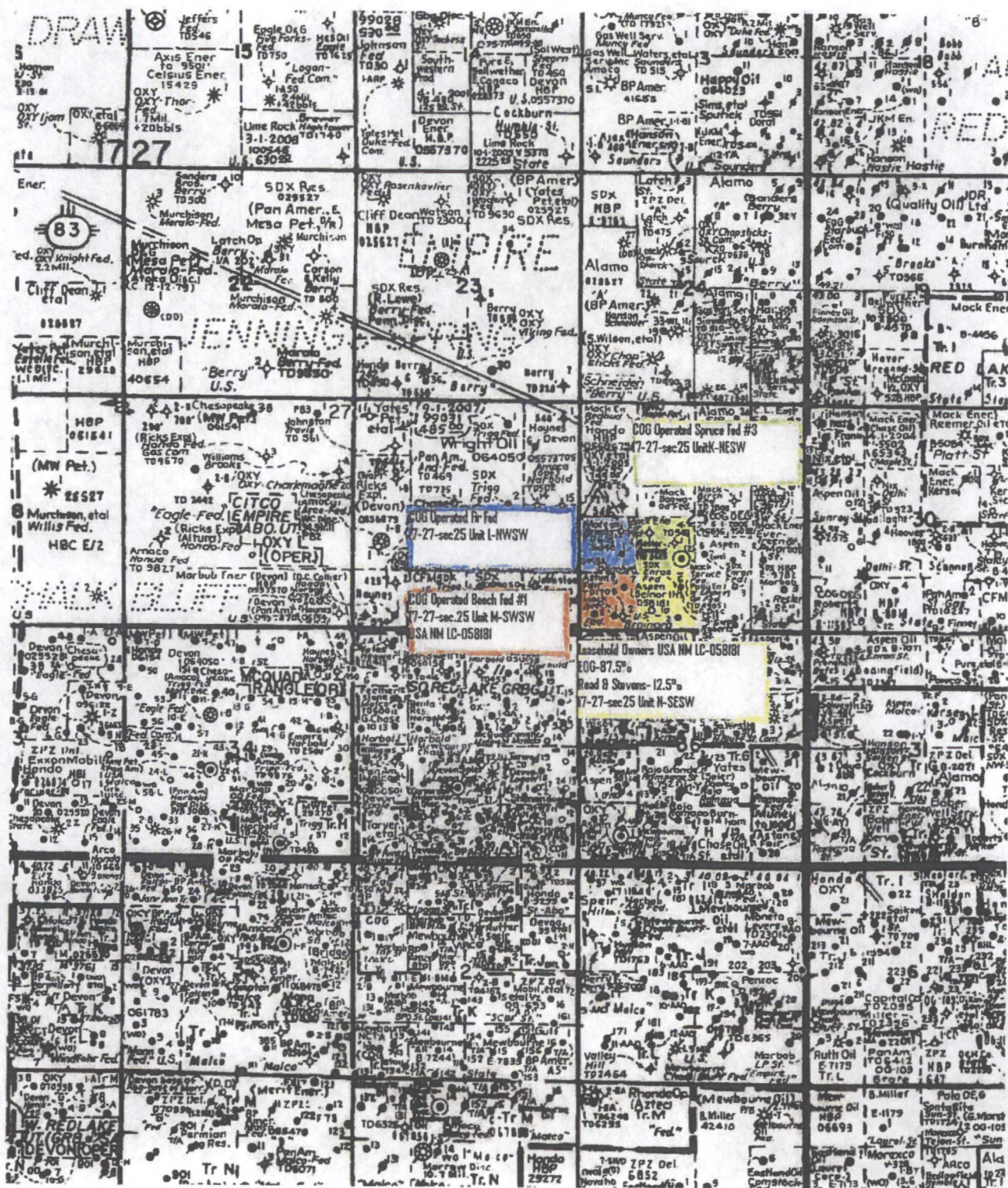
30-015-31927	APACHE CORP	STATE 25	1	EDDY	T:17S, R:27E	8,130	O	Flowing	Sep 2001	Oct 2011	3.00
30-015-32927	COG OPERATING LLC	DOGWOOD FEDERAL	1	EDDY	S:25, T:17S, R:27E	7,331	O	Active	Feb 2008	Oct 2011	3.03
30-015-31283	LIME ROCK RESOURCES A, L.P.	RESLER STATE	1	EDDY	S:25, T:17S, R:27E	3,600	O	Pumping	Nov 2002	Oct 2011	3.06
30-015-32662	LIME ROCK RESOURCES A, L.P.	ENRON FEDERAL	008	EDDY	S:25, T:17S, R:27E	3,220	O	Active	May 2003	Oct 2011	3.58
30-015-32163	LIME ROCK RESOURCES A, L.P.	ENRON FEDERAL	3	EDDY	S:25, T:17S, R:27E	3,177	O	Pumping	Mar 2002	Oct 2011	4.48
30-015-32036	LIME ROCK RESOURCES A, L.P.	ENRON FEDERAL	9	EDDY	S:25, T:17S, R:27E	7,950	PO	Active	Sep 2006	Oct 2011	5.35
30-015-38514	LIME ROCK RESOURCES A, L.P.	RESLER STATE	4	EDDY	S:25, T:17S, R:27E	3,862	U	Active Permit	May 2011	Oct 2011	8.29
30-015-37313	LIME ROCK RESOURCES A, L.P.	RESLER STATE	3	EDDY	S:25, T:17S, R:27E	3,855	O	Active Permit	Feb 2010	Oct 2011	9.81
30-015-31283	SDX RESOURCES INC	RESLER STATE	1	EDDY	S:25, T:17S, R:27E	3,600	O	Pumping	Oct 2000	Oct 2002	10.35
30-015-35973	LIME ROCK RESOURCES A, L.P.	RESLER STATE	2	EDDY	S:25, T:17S, R:27E	3,830	U	Active Permit	Jan 2009	Oct 2011	10.55
30-015-37641	LIME ROCK RESOURCES A, L.P.	ENRON FEDERAL	11	EDDY	S:25, T:17S, R:27E	3,258	O	Active Permit	May 2010	Oct 2011	16.10
30-015-24092	COG OPERATING LLC	SPRUCE FEDERAL	001	EDDY	S:25, T:17S, R:27E	9,985	G	Pumping	Jan 2010	Oct 2011	16.77
30-015-32036	SDX RESOURCES INC	ENRON FEDERAL	9	EDDY	S:25, T:17S, R:27E	7,950	PO	Active	Sep 2006	Dec 2006	17.55
30-015-31790	COG OPERATING LLC	BEECH FEDERAL	2	EDDY	S:25, T:17S, R:27E	7,800	PO	Pumping	Jul 2010	Oct 2011	21.10
30-015-37217	LIME ROCK RESOURCES A, L.P.	ENRON FEDERAL	10	EDDY	S:25, T:17S, R:27E	3,233	O	Active Permit	Apr 2010	Oct 2011	25.03
30-015-39132	COG OPERATING LLC	DOGWOOD FEDERAL	002	EDDY	S:25, T:17S, R:27E	4,757	O	Active Permit	Sep 2011	Oct 2011	42.68
30-015-38539	COG OPERATING LLC	BEECH FEDERAL	006	EDDY	S:25, T:17S, R:27E	4,800	PO	Active Permit	Oct 2011	Oct 2011	56.19
					S:25,						

30-015-31790	COG OPERATING LLC	BEECH FEDERAL	2	EDDY	T:17S, R:27E	7,800	PO	Pumping	Jul 2001	Jul 2010	62.77
30-015-00578	ALAMO PERMIAN RESOURCES, LLC	BERRY B	025	EDDY	S:25, T:17S, R:27E	0	O	Pumping	Jan 1964	Mar 2011	
30-015-24092	COG OPERATING LLC	SPRUCE FEDERAL	001	EDDY	S:25, T:17S, R:27E	9,985	G	Pumping	Jul 1999	Dec 2009	
30-015-31991	OXY USA WTP LIMITED PARTNERSHIP	OXY MEARBALL STATE	001	EDDY	S:25, T:17S, R:27E	9,810	G	Pumping	Dec 2001	Oct 2011	
30-015-32069	COG OPERATING LLC	FIR FEDERAL	001	EDDY	S:25, T:17S, R:27E	7,208	O	Pumping	Feb 2002	Oct 2011	

Producing Wells in Sec 25, T17S, R27E



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COG Operating LLC

Eddy County, NM (NAN27 NME)

Spruce Federal #3

Spruce Federal #3

OH

Plan: Plan #1 7-7/8" Hole

SHL = 1328' FSL & 1501' FWL

BHL = 1660' FSL & 1660' FWL

Top of Paddock = 193' North of Surface & 93' East of Surface @ 3200' TVD

Standard Planning Report

11 July, 2011



Scientific Drilling
Directional Drilling Operations



Scientific Drilling Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Spruce Federal #3
Company:	COG Operating LLC	TVD Reference:	GL Elev. @ 3596.00usft
Project:	Eddy County, NM (NAN27-NME)	MD Reference:	GL Elev. @ 3596.00usft
Site:	Spruce Federal #3	North Reference:	Grid
Well:	Spruce Federal #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7-7/8" Hole		

Project:	Eddy County, NM (NAN27 NME)		
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:	Spruce Federal #3				
Site Position:		Northing:	655,275.50 usft	Latitude:	32° 48' 5.052 N
From:	Map	Easting:	530,082.90 usft	Longitude:	104° 14' 7.544 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.05 °

Well:	Spruce Federal #3					
Well Position	+N/-S	0.00 usft	Northing:	655,275.50 usft	Latitude:	32° 48' 5.052 N
	+E/-W	0.00 usft	Easting:	530,082.90 usft	Longitude:	104° 14' 7.544 W
Position Uncertainty	0.00 usft	Wellhead Elevation:		Ground Level:	3,596.00 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	2011/07/08	7.93	60.60	48,882

Design:	Plan #1 7-7/8" Hole			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	25.60

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,240.53	5.81	25.60	1,240.03	13.27	6.36	2.00	2.00	8.81	25.60	
4,718.37	5.81	25.60	4,700.00	330.80	158.50	0.00	0.00	0.00	0.00	PBHL-Spruce #3



Scientific Drilling Planning Report



Database: EDM-Julio
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Spruce Federal #3
Well: Spruce Federal #3
Wellbore: OH
Design: Plan #1 7-7/8" Hole

Local Co-ordinate Reference:
TVD Reference: GL Elev. @ 3596.00usft
MD Reference: GL Elev. @ 3596.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
West HL: Spruce #3 - South HL: Spruce #3									
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00
8-5/8" Casing									
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start DLS 2.00°/100'									
1,000.00	1.00	25.60	1,000.00	0.39	0.19	0.44	2.00	2.00	0.00
1,100.00	3.00	25.60	1,099.93	3.54	1.70	3.93	2.00	2.00	0.00
1,200.00	5.00	25.60	1,199.68	9.83	4.71	10.90	2.00	2.00	0.00
1,240.53	5.81	25.60	1,240.03	13.27	6.36	14.72	2.00	2.00	0.00
EOC hold 5.81°									
1,300.00	5.81	25.60	1,299.20	18.70	8.96	20.74	0.00	0.00	0.00
1,400.00	5.81	25.60	1,398.68	27.83	13.34	30.86	0.00	0.00	0.00
1,500.00	5.81	25.60	1,498.17	36.96	17.71	40.99	0.00	0.00	0.00
1,600.00	5.81	25.60	1,597.66	46.09	22.09	51.11	0.00	0.00	0.00
1,700.00	5.81	25.60	1,697.14	55.22	26.46	61.24	0.00	0.00	0.00
1,800.00	5.81	25.60	1,796.63	64.35	30.83	71.36	0.00	0.00	0.00
1,900.00	5.81	25.60	1,896.11	73.48	35.21	81.48	0.00	0.00	0.00
2,000.00	5.81	25.60	1,995.60	82.61	39.58	91.61	0.00	0.00	0.00
2,100.00	5.81	25.60	2,095.09	91.74	43.96	101.73	0.00	0.00	0.00
2,200.00	5.81	25.60	2,194.57	100.87	48.33	111.86	0.00	0.00	0.00
2,300.00	5.81	25.60	2,294.06	110.00	52.71	121.98	0.00	0.00	0.00
2,400.00	5.81	25.60	2,393.55	119.13	57.08	132.10	0.00	0.00	0.00
2,500.00	5.81	25.60	2,493.03	128.26	61.46	142.23	0.00	0.00	0.00
2,600.00	5.81	25.60	2,592.52	137.39	65.83	152.35	0.00	0.00	0.00
2,700.00	5.81	25.60	2,692.00	146.52	70.21	162.47	0.00	0.00	0.00
2,800.00	5.81	25.60	2,791.49	155.65	74.58	172.60	0.00	0.00	0.00
2,900.00	5.81	25.60	2,890.98	164.78	78.95	182.72	0.00	0.00	0.00
3,000.00	5.81	25.60	2,990.46	173.91	83.33	192.85	0.00	0.00	0.00
3,100.00	5.81	25.60	3,089.95	183.04	87.70	202.97	0.00	0.00	0.00
3,200.00	5.81	25.60	3,189.43	192.17	92.08	213.09	0.00	0.00	0.00
3,210.62	5.81	25.60	3,200.00	193.14	92.54	214.17	0.00	0.00	0.00
Top of Paddock									
3,300.00	5.81	25.60	3,288.92	201.30	96.45	223.22	0.00	0.00	0.00
3,400.00	5.81	25.60	3,388.41	210.43	100.83	233.34	0.00	0.00	0.00
3,500.00	5.81	25.60	3,487.89	219.56	105.20	243.47	0.00	0.00	0.00
3,600.00	5.81	25.60	3,587.38	228.69	109.58	253.59	0.00	0.00	0.00
3,700.00	5.81	25.60	3,686.87	237.82	113.95	263.71	0.00	0.00	0.00
3,800.00	5.81	25.60	3,786.35	246.95	118.33	273.84	0.00	0.00	0.00
3,900.00	5.81	25.60	3,885.84	256.08	122.70	283.96	0.00	0.00	0.00
4,000.00	5.81	25.60	3,985.32	265.21	127.07	294.09	0.00	0.00	0.00
4,100.00	5.81	25.60	4,084.81	274.34	131.45	304.21	0.00	0.00	0.00
4,200.00	5.81	25.60	4,184.30	283.47	135.82	314.33	0.00	0.00	0.00
4,300.00	5.81	25.60	4,283.78	292.60	140.20	324.46	0.00	0.00	0.00
4,400.00	5.81	25.60	4,383.27	301.73	144.57	334.58	0.00	0.00	0.00
4,500.00	5.81	25.60	4,482.76	310.86	148.95	344.70	0.00	0.00	0.00
4,600.00	5.81	25.60	4,582.24	319.99	153.32	354.83	0.00	0.00	0.00
4,700.00	5.81	25.60	4,681.73	329.12	157.70	364.95	0.00	0.00	0.00
4,718.37	5.81	25.60	4,700.00	330.80	158.50	366.81	0.00	0.00	0.00

PBHL-Spruce #3



Scientific Drilling Planning Report



Database: EDM-Julio
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Spruce Federal #3
Well: Spruce Federal #3
Wellbore: OH
Design: Plan #1 7-7/8" Hole

Local Co-ordinate Reference: Site Spruce Federal #3
TVD Reference: GL Elev. @ 3596.00usft
MD Reference: GL Elev. @ 3596.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets

Target Name	-hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Shape		(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
West HL-Spruce #3		0.00	0.00	0.00	320.80	148.50	655,596.30	530,231.40	32° 48' 8.225 N	104° 14' 5.801 W
	- plan misses target center by 353.50usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
	- Rectangle (sides W0.00 H100.00 D0.00)									
South HL-Spruce #3		0.00	0.00	0.00	320.80	148.50	655,596.30	530,231.40	32° 48' 8.225 N	104° 14' 5.801 W
	- plan misses target center by 353.50usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
	- Rectangle (sides W100.00 H0.00 D0.00)									
PBHL-Spruce #3		0.00	0.01	4,700.00	330.80	158.50	655,606.30	530,241.40	32° 48' 8.324 N	104° 14' 5.684 W
	- plan hits target center									
	- Circle (radius 10.00)									

Casing Points

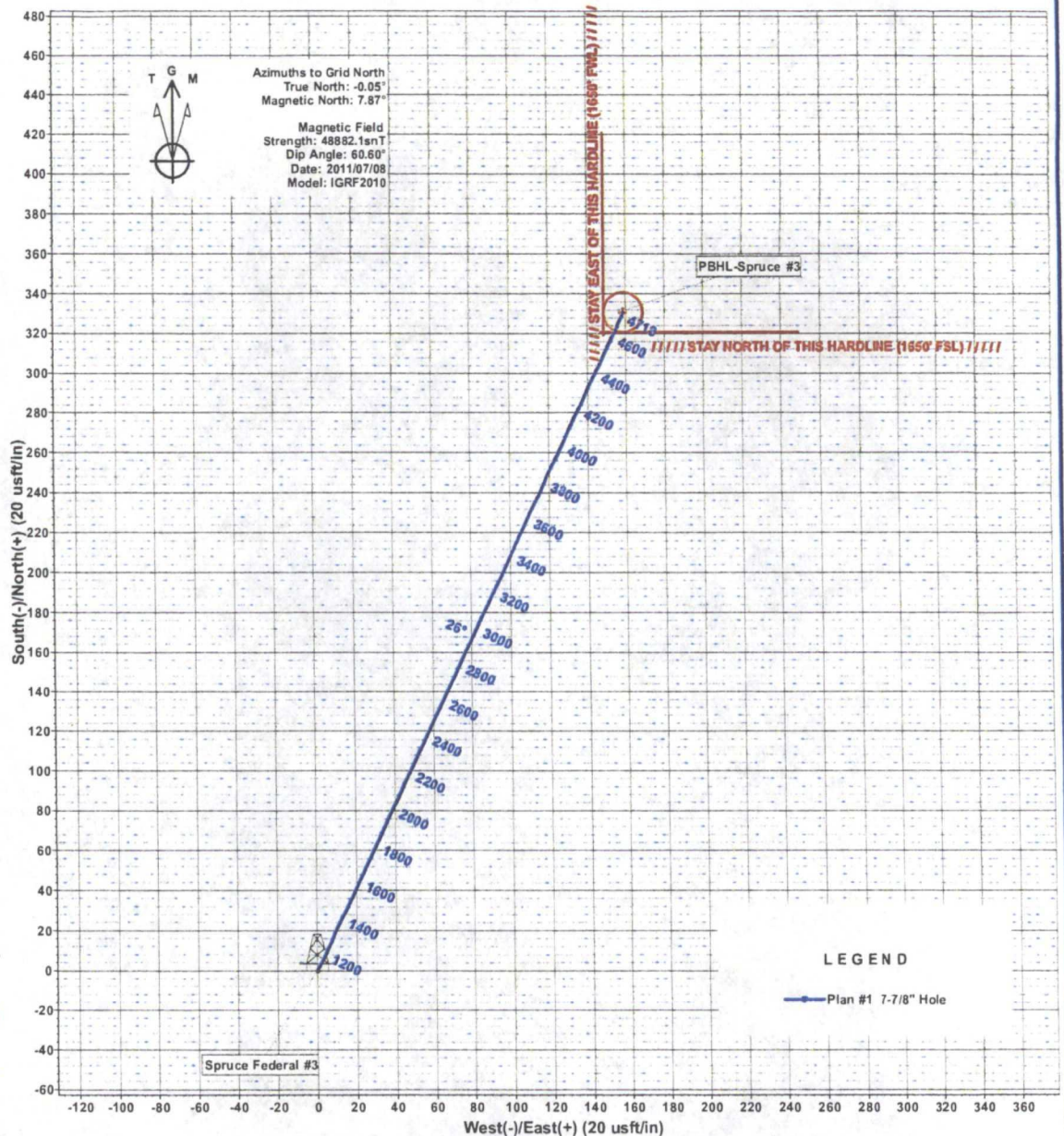
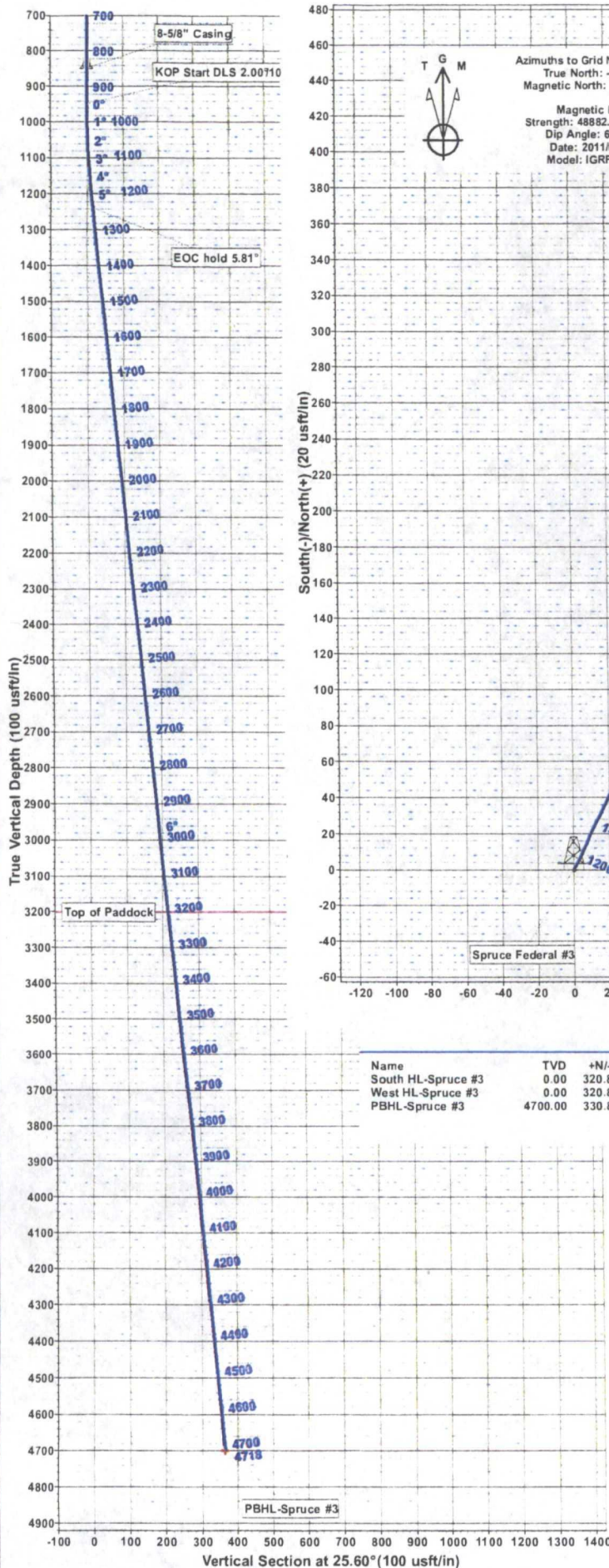
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(")	(")
850.00	850.00	8-5/8" Casing	8-5/8	12-1/4

Formations

Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
3,210.62	3,200.00	Top of Paddock		0.00	

Plan Annotations

Measured Depth	Vertical Depth	Local Coordinates	Comment
(usft)	(usft)	+N/-S (+usft) +E/-W (+usft)	
950.00	950.00	0.00 0.00	KOP Start DLS 2.00°/100'
1,240.53	1,240.03	13.27 6.36	EOC hold 5.81°



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
South HL-Spruce #3	0.00	320.80	148.50	655596.30	530231.40	32° 48' 8.225 N	104° 14' 5.801 W	Rectangle (Sides: L 0.00 W100.00)
West HL-Spruce #3	0.00	320.80	148.50	655596.30	530231.40	32° 48' 8.225 N	104° 14' 5.801 W	Rectangle (Sides: L 1 00.00 W0.00)
PBHL-Spruce #3	4700.00	330.80	158.50	655606.30	530241.40	32° 48' 8.324 N	104° 14' 5.684 W	Circle (Radius: 10 0 0)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VFace	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	
3	1240.53	5.81	25.60	1240.03	13.27	6.36	2.00	25.60	14.72	
4	4718.37	5.81	25.60	4700.00	330.80	158.50	0.00	0.00	366.81	PBHL-Spruce #3

WELL DETAILS: Spruce Federal #3

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	655275.50	530082.90	32° 48' 5.052 N	104° 14' 7.544 W	

PROJECT DETAILS: Eddy County, NM (NAN27 NME)

Plan: Plan #1 7-7/8" Hole (Spruce Federal #3/OH)

Geodetic System: US State Plane 1927 (Exact solution)	Created By: Julio Pina	Date: 08-Jul-11
Datum: NAD 1927 (NADCON CONUS)		
Ellipsoid: Clarke 1866	Checked: _____	Date: _____
Zone: New Mexico East 3001	Reviewed: _____	Date: _____
System Datum: Mean Sea Level	Approved: _____	Date: _____

**COG OPERATING LLC
550 W. TEXAS, SUITE 1300
MIDLAND, TX 79701**

03/06/2012

Read & Stevens Inc
PO Box 1518
Roswell, NM 88202

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 Maljamar: GLORIETA-YESO oil well.

**Spruce Federal #3
Eddy County, NM**

SHL: 1328' FSL & 1501' FWL Sec 25, T17S, R27E, Unit K
BHL: 1650' FSL & 1650' FWL Sec 25, T17S, R27E, Unit K

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

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Read + Stevens
PO Box 1518
Roswell NM 88202

2. Article Number
(Transfer from service label)

91 7199 9991 7030 4014 4238

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X A. Thompson

☐ Agent

☐ Addressee

B. Received by (Printed Name)

A. THOMPSON

C. Date of Delivery

3/9/2012

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail

☐ Express Mail

☐ Registered

☐ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

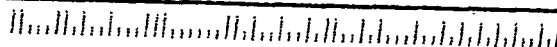
UNITED STATES POSTAL SERVICE



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

COG Operating
Attn: Kelly Holly
550 W Texas Suite 100
Midland TX 79701



**COG OPERATING LLC
550 W. TEXAS, SUITE 1300
MIDLAND, TX 79701**

03/06/2012

EOG Resources, Inc.
PO Box 2267
Midland, TX 79702

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 Maljamar: GLORIETA-YESO oil well.

**Spruce Federal #3
Eddy County, NM**

SHL: 1328' FSL & 1501' FWL Sec 25, T17S, R27E, Unit K
BHL: 1650' FSL & 1650' FWL Sec 25, T17S, R27E, Unit K

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

A handwritten signature in black ink, appearing to be 'KJ Holly', with a large circular flourish at the end.

Kelly J. Holly
Permitting Tech

432-685-4384
kholly@concho.com

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

EOG Resources
Po Box 2267
Midland TX 79702

2. Article Number

(Transfer from service label)

91 7199 9991 7030 4014 4221

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☒ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1?

☐ Yes

If YES, enter delivery address below:

☐ No

3. Service Type

☐ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

UNITED STATES POSTAL SERVICE

MIDLAND TX 79701
14 MAR 2012 PM 11First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

- Sender: Please print your name, address, and ZIP+4 in this box •

COG Operating
550 W Texas Suite 100
Attn: Kelly Holly
Midland TX 79701