

Submit 1 Copy To Appropriate District
Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised August 1, 2011

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-39950
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		5. Indicate Type of Lease STATE ☒ FEE ☐
2. Name of Operator COG Operating LLC		6. State Oil & Gas Lease No.
3. Address of Operator One Concho Center - 600 W Illinois Ave Midland, TX 79701		7. Lease Name or Unit Agreement Name Burkett 16 State
4. Well Location Unit Letter B : 990 feet from the NORTH line and 1650 feet from the EAST line Section 16 Township 17S Range 31E NMPM County EDDY		8. Well Number 16 → 16 H
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3849'		9. OGRID Number 229137
		10. Pool name or Wildcat Fren; Glorieta-Yeso 26770

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: **Add BHL**



OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

COG respectfully requests to change the name of this well to **BURKETT 16 STATE #16H**.

COG Operating submitted APD for this well at this location:
SHL: 990 FNL 1650 FEL, Unit B

COG Operating respectfully requests permission to add BHL to this well and change from a vertical well to a horizontal well:
SHL: 990 FNL 1650 FEL, Unit B
BHL: 990 FNL 330 FWL, Unit D

A revised C-102 and Directional Plan is attached for your review.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE [Signature] TITLE **Permitting Tech** DATE **09/24/2012**
Type or print name **Kelly J. Holly** E-mail address: **kholly@concho.com** PHONE: **432-685-4384**
For State Use Only
APPROVED BY: [Signature] TITLE **Geologist** DATE **9/24/2012**
Conditions of Approval (if any):

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1625 N. French Dr., Hobbs, NM 88240
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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 30-015-39950	Pool Code 26770	Pool Name Fren; Glorieta Yeso
Property Code 39075	Property Name BURKETT 16 STATE	Well Number 16H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3849'

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	16	17-S	31-E		990	NORTH	1650	EAST	EDDY

Bottom Hole Location If Different From Surface

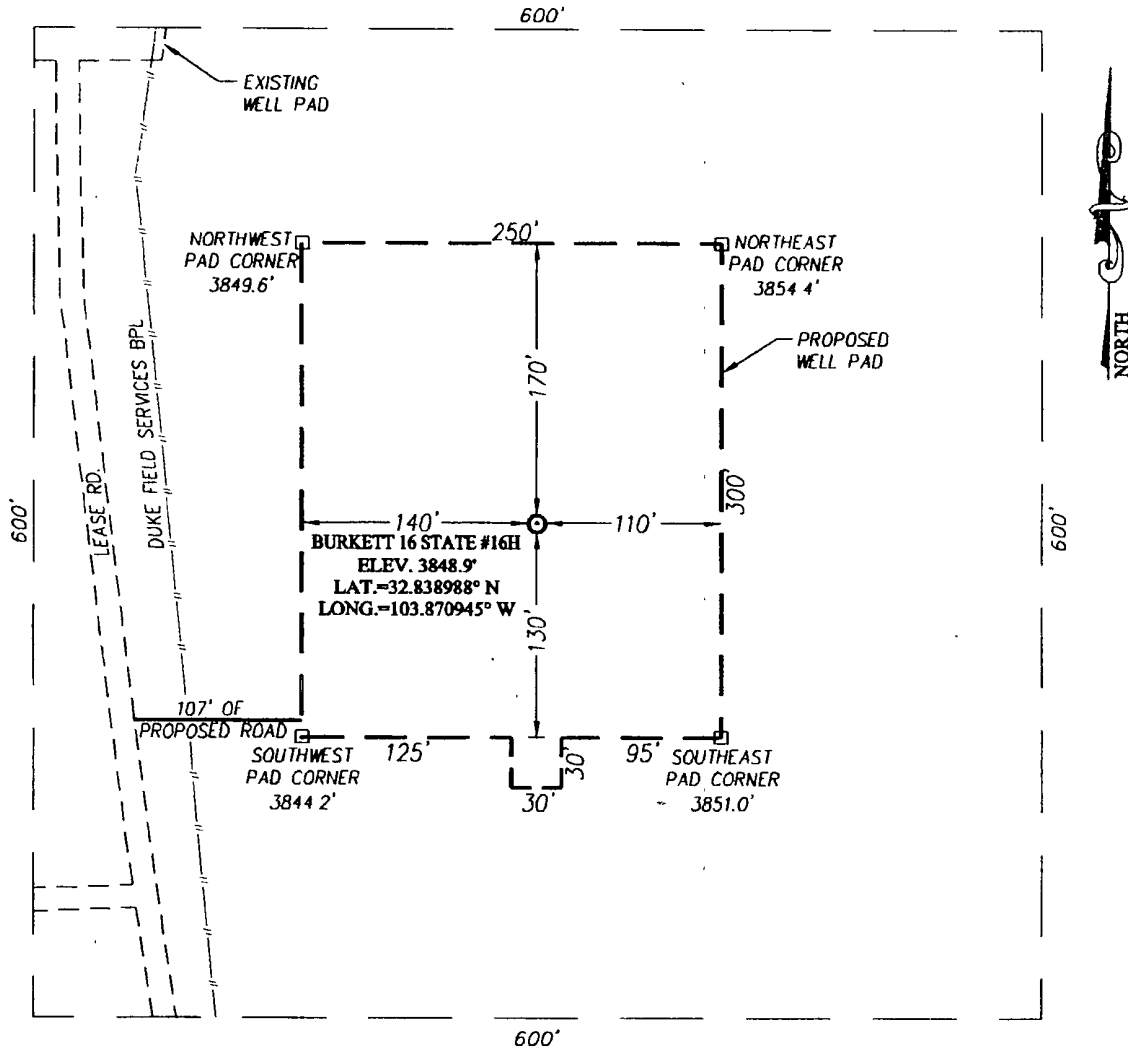
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	16	17-S	31-E		990	NORTH	330	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
120			

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

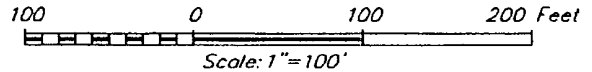
		OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this 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. <i>[Signature]</i> 9-10-12 Signature Date Kelly J. Holly Printed Name kholly@concho.com E-mail Address
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=669245.9 N X=642018.1 E BOTTOM HOLE LOCATION Y=669224.8 N X=638716.2 E		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 JANUARY 16, 2012 Date of Survey Signature & Seal of Professional Surveyor: Certificate Number: 12641 Ronald J. Eidson 3239 DSS JWSC W.O. 12.13 1509

SECTION 16, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY NEW MEXICO



DIRECTIONS TO LOCATION

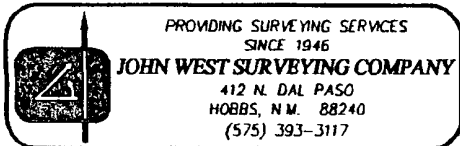
FROM THE INTERSECTION OF U.S. HWY. 82
(LOVINGTON HWY.) AND CO. RD. #223 (SWEET GUM).
FOLLOW CO. RD. #223 NORTH APPROX. 1.3 MILES
TURN RIGHT AND GO EAST APPROX. 0.1 MILES. TURN
LEFT AND GO NORTH APPROX. 0.1 MILES TO Y TURN
RIGHT AND GO NORTHEAST APPROX. 0.1 MILES TO
INTERSECTION TURN LEFT AND GO NORTHWEST
APPROX. 0.2 MILES TO ROAD SURVEY FOLLOW ROAD
SURVEY NORTHEAST APPROX. 275 FEET TO THIS
LOCATION.



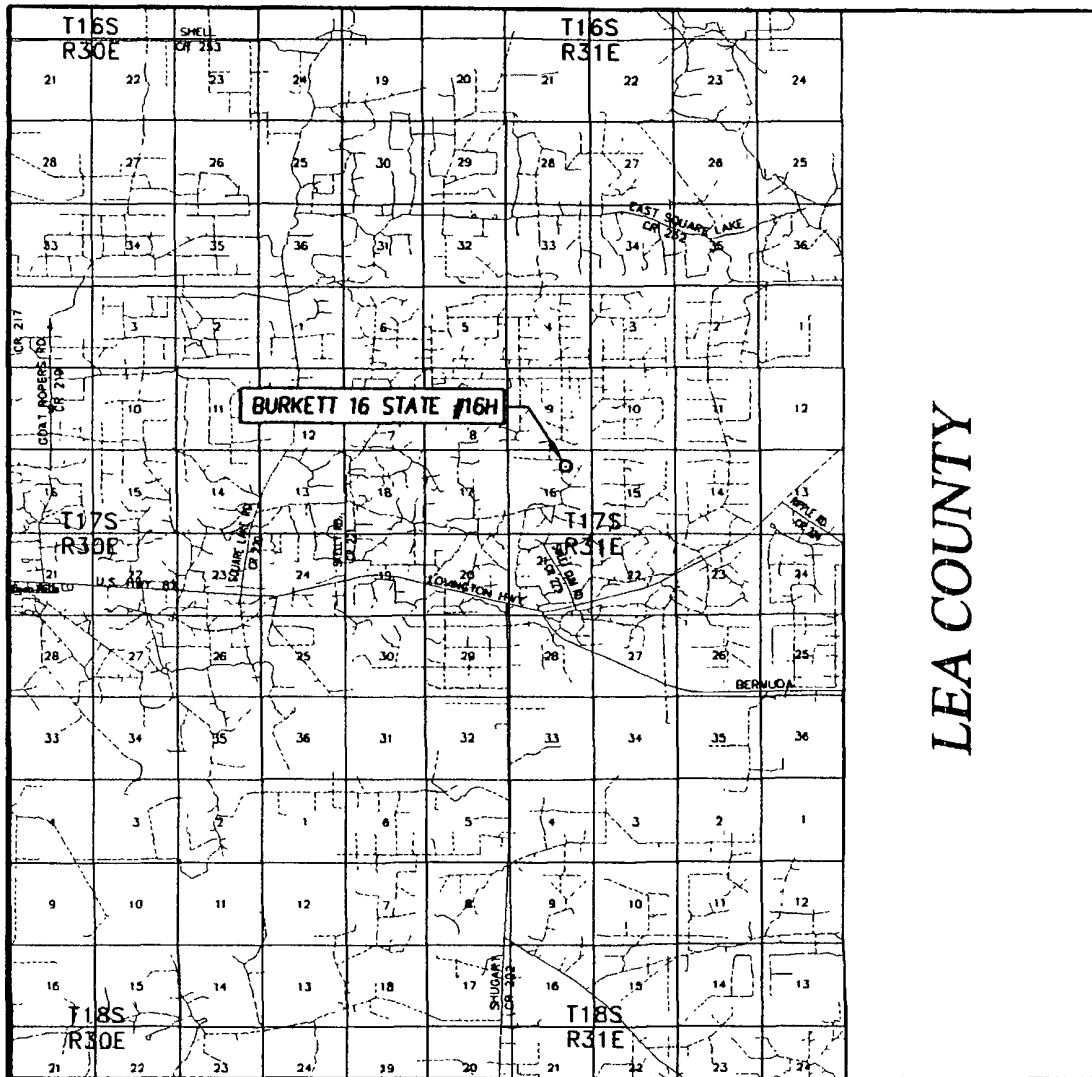
COG OPERATING, LLC

BURKETT 16 STATE #16H WELL
LOCATED 990 FEET FROM THE NORTH LINE
AND 1650 FEET FROM THE EAST LINE OF SECTION 16,
TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

Survey Date: 1/16/12		Sheet 1 of 1 Sheets	
W.O. Number: 12.13.1509		Dr. By: DSS	Rev 1:
Date: 9/4/12	Rel. W.O.: 11112744	12131509	Scale: 1"=100'



VICINITY MAP



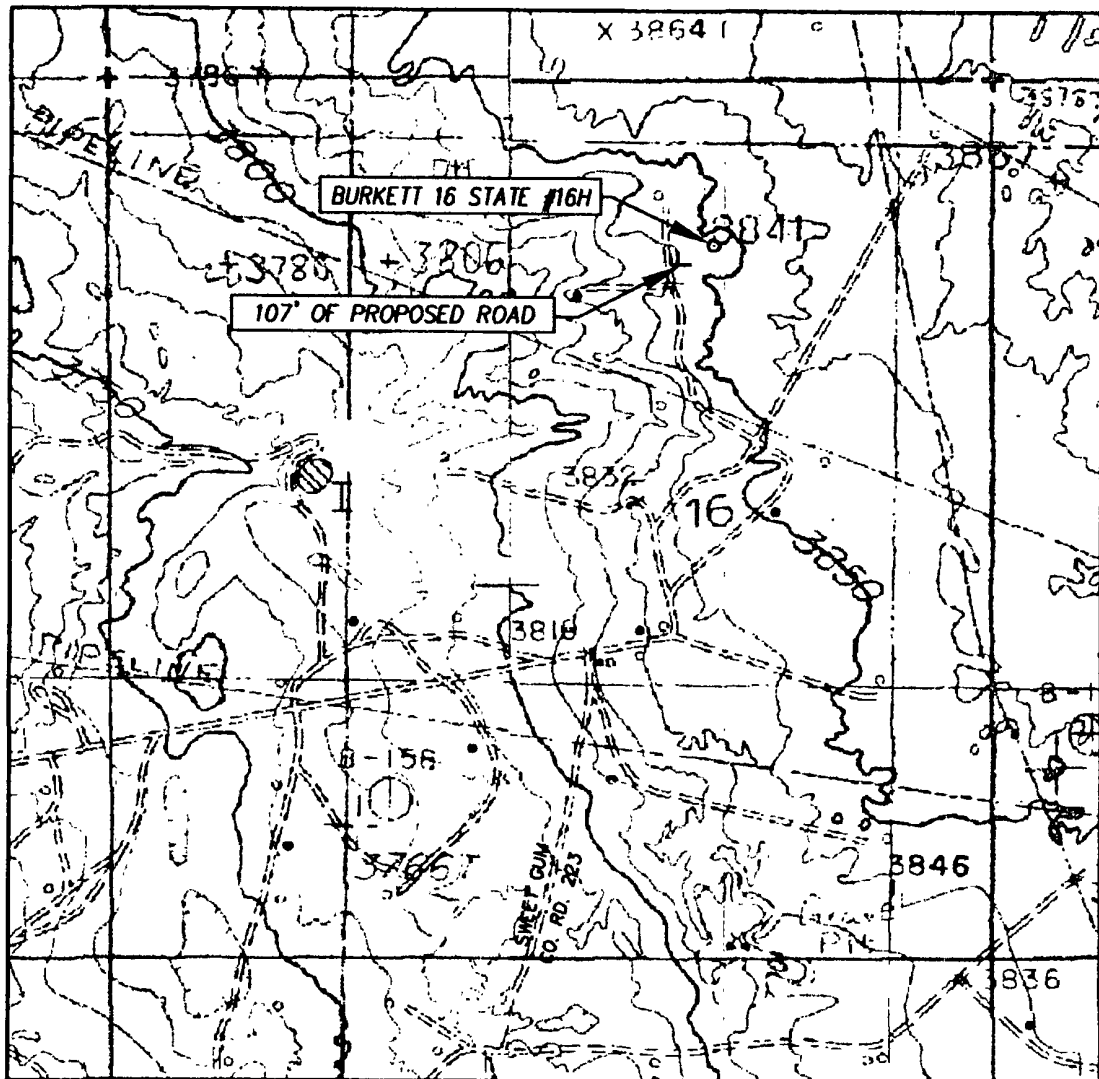
SCALE: 1" = 2 MILES

SEC. 16 TWP. 17-S RGE. 31-E
 SURVEY N.M.P.M
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 990' FNL & 1650' FEL
 ELEVATION 3849'
 OPERATOR COG OPERATING, LLC
 LEASE BURKETT 16 STATE



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

LOCATION VERIFICATION MAP



SCALE: 1" = 1000'

CONTOUR INTERVAL:
MALJAMAR, N.M. - 10'
LOCO HILLS, N.M. - 10'

SEC. 16 TWP. 17-S RGE 31-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

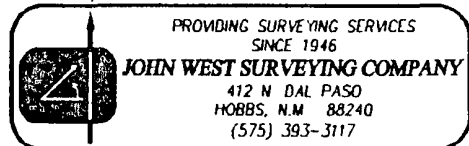
DESCRIPTION 990' FNL & 1650' FEL

ELEVATION 3849'

OPERATOR COG OPERATING, LLC

LEASE BURKETT 16 STATE

U S G S. TOPOGRAPHIC MAP
MALJAMAR, N.M.





COG Operating LLC

Eddy County, NM

Burkett 16 State

#16H

OH

Plan: Plan #1

Surface: 990' FNL, 1650' FEL, Sec 16, T17S, R31E, Unit B

BHL: 990' FNL, 330' FWL, Sec 16, T17S, R31E, Unit D

Standard Survey Report

19 September, 2012





Survey Report



Company: COG Operating LLC
 Project: Eddy County, NM
 Site: Burkett 16 State
 Well: #16H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well #16H
 TVD Reference: Well @ 3863 0usft (UDI #40 - 14' KB)
 MD Reference: Well @ 3863 0usft (UDI #40 - 14' KB)
 North Reference: Gnd
 Survey Calculation Method: Minimum Curvature
 Database: Houston R5000 Database

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	Burkett 16 State		
Site Position:		Northing:	669,419 27 usft
From:	Map	Easting:	641,980 82 usft
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 50' 22 075 N
		Longitude:	103° 52' 15 830 W
		Grid Convergence:	0 25 °

Well	#16H		
Well Position	+N-S	0 0 usft	Northing: 669,245 90 usft
	+E-W	0 0 usft	Easting: 642,018 10 usft
Position Uncertainty	2 0 usft	Wellhead Elevation:	usft
		Latitude:	32° 50' 20 358 N
		Longitude:	103° 52' 15 402 W
		Ground Level:	3,849 0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	9/19/2012	(°)
			7 62
			Dip Angle (°)
			60 67
			Field Strength (nT)
			48,853

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0 0
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0 0	0 0	0 0
			Direction
			(°)
			269 63

Survey Tool Program	Date 9/19/2012		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
0 0	9,197 0	Plan #1 (OH)	MWD
			Description
			MWD - Standard

Planned Survey									
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0 0	0 00	0 00	0 0	0 0	0 0	0 0	0 00	0 00	0 00
100 0	0 00	0 00	100 0	0 0	0 0	0 0	0 00	0 00	0 00
200 0	0 00	0 00	200 0	0 0	0 0	0 0	0 00	0 00	0 00
300 0	0 00	0 00	300 0	0 0	0 0	0 0	0 00	0 00	0 00
400 0	0 00	0 00	400 0	0 0	0 0	0 0	0 00	0 00	0 00
500 0	0 00	0 00	500 0	0 0	0 0	0 0	0 00	0 00	0 00
600 0	0 00	0 00	600 0	0 0	0 0	0 0	0 00	0 00	0 00
700 0	0 00	0 00	700 0	0 0	0 0	0 0	0 00	0 00	0 00
800 0	0 00	0 00	800 0	0 0	0 0	0 0	0 00	0 00	0 00
900 0	0 00	0 00	900 0	0 0	0 0	0 0	0 00	0 00	0 00



Survey Report



Company: COG Operating LLC
Project: Eddy County, NM
Site: Burkett 16 State
Well: #16H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #16H
TVD Reference: Well @ 3863.0usft (UDI #40 - 14' KB)
MD Reference: Well @ 3863.0usft (UDI #40 - 14' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Houston R5000 Database

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)
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

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Wellbore: OH
Design: Plan #1

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MD Reference: Well @ 3863 0usft (UDI #40 - 14' KB)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature
Database: Houston R5000 Database

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)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,622.5	0.00	0.00	5,622.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP - 5622.5' MD, 5622.5' TVD, 0.00° INC, 0.00° AZI, 0.0° VS									
5,625.0	0.30	269.63	5,625.0	0.0	0.0	0.0	12.00	12.00	0.00
5,650.0	3.30	269.63	5,650.0	0.0	-0.8	0.8	12.00	12.00	0.00
5,675.0	6.30	269.63	5,674.9	0.0	-2.9	2.9	12.00	12.00	0.00
5,700.0	9.30	269.63	5,699.7	0.0	-6.3	6.3	12.00	12.00	0.00
5,725.0	12.30	269.63	5,724.2	-0.1	-11.0	11.0	12.00	12.00	0.00
5,750.0	15.30	269.63	5,748.5	-0.1	-16.9	16.9	12.00	12.00	0.00
5,775.0	18.30	269.63	5,772.4	-0.2	-24.1	24.1	12.00	12.00	0.00
5,800.0	21.30	269.63	5,795.9	-0.2	-32.6	32.6	12.00	12.00	0.00
5,825.0	24.30	269.63	5,819.0	-0.3	-42.3	42.3	12.00	12.00	0.00
5,850.0	27.30	269.63	5,841.5	-0.3	-53.2	53.2	12.00	12.00	0.00
5,875.0	30.30	269.63	5,863.4	-0.4	-65.2	65.2	12.00	12.00	0.00
5,900.0	33.30	269.63	5,884.6	-0.5	-78.4	78.4	12.00	12.00	0.00
5,925.0	36.30	269.63	5,905.2	-0.6	-92.7	92.7	12.00	12.00	0.00
5,950.0	39.30	269.63	5,924.9	-0.7	-108.0	108.0	12.00	12.00	0.00
5,975.0	42.30	269.63	5,943.8	-0.8	-124.3	124.3	12.00	12.00	0.00
6,000.0	45.30	269.63	5,961.9	-0.9	-141.6	141.6	12.00	12.00	0.00
6,025.0	48.30	269.63	5,979.0	-1.0	-159.8	159.8	12.00	12.00	0.00
6,050.0	51.30	269.63	5,995.1	-1.2	-178.9	178.9	12.00	12.00	0.00
6,075.0	54.30	269.63	6,010.3	-1.3	-198.8	198.8	12.00	12.00	0.00
6,100.0	57.30	269.63	6,024.3	-1.4	-219.5	219.5	12.00	12.00	0.00
6,125.0	60.30	269.63	6,037.3	-1.6	-240.9	240.9	12.00	12.00	0.00
6,150.0	63.30	269.63	6,049.1	-1.7	-262.9	262.9	12.00	12.00	0.00
6,175.0	66.30	269.63	6,059.7	-1.8	-285.5	285.5	12.00	12.00	0.00
6,200.0	69.29	269.63	6,069.2	-2.0	-308.7	308.7	12.00	12.00	0.00
6,225.0	72.29	269.63	6,077.4	-2.1	-332.3	332.3	12.00	12.00	0.00
6,250.0	75.29	269.63	6,084.4	-2.3	-356.3	356.3	12.00	12.00	0.00
6,275.0	78.29	269.63	6,090.1	-2.5	-380.6	380.6	12.00	12.00	0.00
6,300.0	81.29	269.63	6,094.5	-2.6	-405.2	405.2	12.00	12.00	0.00
6,325.0	84.29	269.63	6,097.6	-2.8	-430.0	430.0	12.00	12.00	0.00
6,350.0	87.29	269.63	6,099.5	-2.9	-454.9	455.0	12.00	12.00	0.00
6,372.6	90.00	269.63	6,100.0	-3.1	-477.5	477.5	11.98	11.98	0.00
EOC - 6372.6' MD, 6100.0' TVD, 90.00° INC, 269.63° AZI, 477.5° VS									
6,400.0	90.00	269.63	6,100.0	-3.3	-504.9	504.9	0.00	0.00	0.00
6,500.0	90.00	269.63	6,100.0	-3.9	-604.9	604.9	0.00	0.00	0.00
6,600.0	90.00	269.63	6,100.0	-4.6	-704.9	704.9	0.00	0.00	0.00
6,700.0	90.00	269.63	6,100.0	-5.2	-804.9	804.9	0.00	0.00	0.00
6,800.0	90.00	269.63	6,100.0	-5.8	-904.9	904.9	0.00	0.00	0.00
6,900.0	90.00	269.63	6,100.0	-6.5	-1,004.9	1,004.9	0.00	0.00	0.00



Survey Report



Company: COG Operating LLC
Project: Eddy County, NM
Site: Burkett 16 State
Well: #16H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #16H
TVD Reference: Well @ 3863.0usft (UDI #40 - 14' KB)
MD Reference: Well @ 3863.0usft (UDI #40 - 14' KB)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature
Database: Houston R5000 Database

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)
7,000.0	90.00	269.63	6,100.0	-7.1	-1,104.9	1,104.9	0.00	0.00	0.00
7,100.0	90.00	269.63	6,100.0	-7.8	-1,204.9	1,204.9	0.00	0.00	0.00
7,200.0	90.00	269.63	6,100.0	-8.4	-1,304.9	1,304.9	0.00	0.00	0.00
7,300.0	90.00	269.63	6,100.0	-9.1	-1,404.9	1,404.9	0.00	0.00	0.00
7,400.0	90.00	269.63	6,100.0	-9.7	-1,504.9	1,504.9	0.00	0.00	0.00
7,500.0	90.00	269.63	6,100.0	-10.4	-1,604.9	1,604.9	0.00	0.00	0.00
7,600.0	90.00	269.63	6,100.0	-11.0	-1,704.9	1,704.9	0.00	0.00	0.00
7,700.0	90.00	269.63	6,100.0	-11.7	-1,804.9	1,804.9	0.00	0.00	0.00
7,800.0	90.00	269.63	6,100.0	-12.3	-1,904.9	1,904.9	0.00	0.00	0.00
7,900.0	90.00	269.63	6,100.0	-12.9	-2,004.9	2,004.9	0.00	0.00	0.00
8,000.0	90.00	269.63	6,100.0	-13.6	-2,104.9	2,104.9	0.00	0.00	0.00
8,100.0	90.00	269.63	6,100.0	-14.2	-2,204.9	2,204.9	0.00	0.00	0.00
8,200.0	90.00	269.63	6,100.0	-14.9	-2,304.9	2,304.9	0.00	0.00	0.00
8,300.0	90.00	269.63	6,100.0	-15.5	-2,404.9	2,404.9	0.00	0.00	0.00
8,400.0	90.00	269.63	6,100.0	-16.2	-2,504.9	2,504.9	0.00	0.00	0.00
8,500.0	90.00	269.63	6,100.0	-16.8	-2,604.9	2,604.9	0.00	0.00	0.00
8,600.0	90.00	269.63	6,100.0	-17.5	-2,704.9	2,704.9	0.00	0.00	0.00
8,700.0	90.00	269.63	6,100.0	-18.1	-2,804.9	2,804.9	0.00	0.00	0.00
8,800.0	90.00	269.63	6,100.0	-18.8	-2,904.9	2,904.9	0.00	0.00	0.00
8,900.0	90.00	269.63	6,100.0	-19.4	-3,004.9	3,004.9	0.00	0.00	0.00
9,000.0	90.00	269.63	6,100.0	-20.1	-3,104.9	3,104.9	0.00	0.00	0.00
9,100.0	90.00	269.63	6,100.0	-20.7	-3,204.9	3,204.9	0.00	0.00	0.00
9,197.0	90.00	269.63	6,100.0	-21.3	-3,301.9	3,301.9	0.00	0.00	0.00

TD @ 9197.0' MD, 6100.0' TVD

Design Targets

Target Name

- hit/miss target
- Shape

Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
0.00	0.00	6,100.0	-21.1	-3,301.9	669,224.80	638,716.20	32° 50' 20.291 N	103° 52' 54.103 W

PBHL (B#16H)
- plan misses target center by 0.2usft at 9197.0usft MD (6100.0 TVD, -21.3 N, -3301.9 E)
- Point

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
5623	5623	0	0	KOP - 5622.5' MD, 5622.5' TVD, 0.00° INC, 0.00° AZI, 0.0' VS
6373	6100	-3	-478	EOC - 6372.6' MD, 6100.0' TVD, 90.00° INC, 269.63° AZI, 477.5' VS
9197	6100	-21	-3302	TD @ 9197.0' MD, 6100.0' TVD

Checked By: _____

Approved By: _____

Date: _____

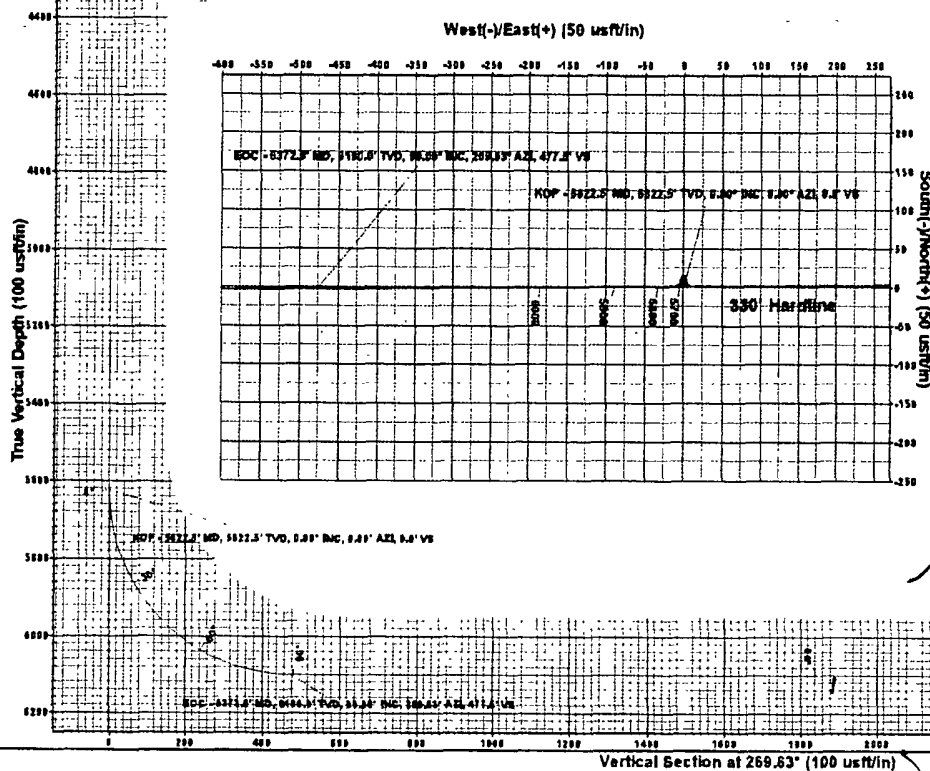
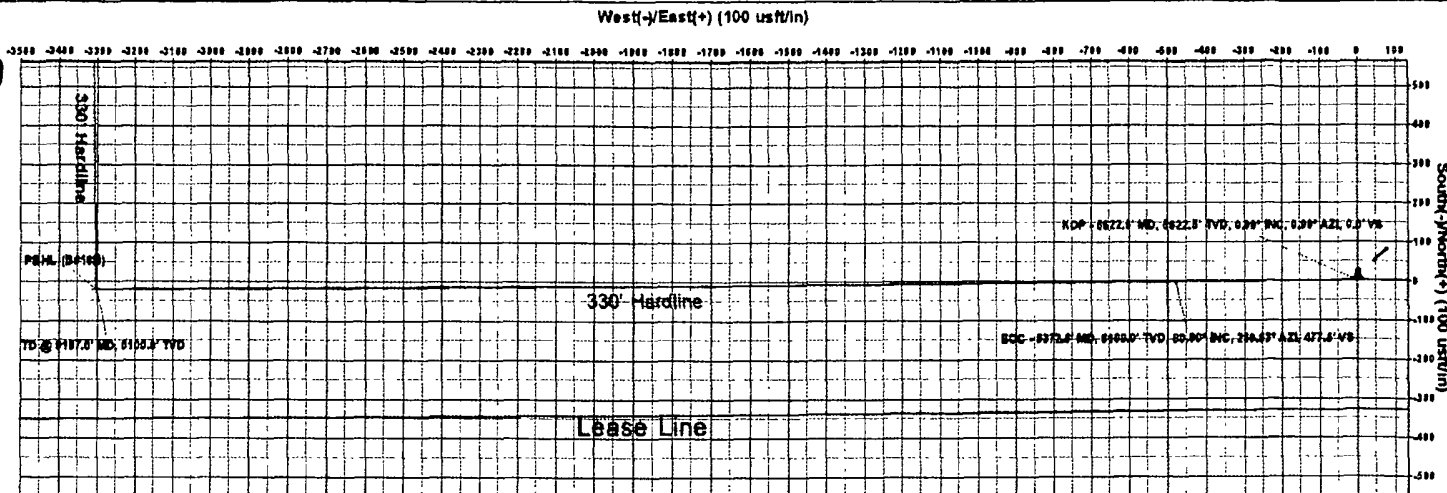


COG Operating LLC
Project: Eddy County, NM
Site: Burkett 16 State
Well: #16H
Wellbore: OH
Plan: Plan #1 (#16H/OH)



Azimuths to Grid North
True North: -0.25°
Magnetic North: 7.37°

Magnetic Field
Strength: 48852.8nT
Dip Angle: 60.67°
Date: 9/19/2012
Model: IGRF2010



Section Details										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Diep	TFace	VFace	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5622.5	0.00	0.00	5622.5	0.0	0.0	0.00	0.00	0.0	
3	6372.6	90.00	269.63	6100.0	-3.1	-477.5	12.00	269.63	477.5	
4	9197.0	90.00	269.63	6100.0	-21.3	-3301.9	0.00	0.00	3302.0	PBHL (B#16H)

WELL DETAILS: #16H

Ground Elevation:: 3849.0
RKB Elevation: Well @ 3863.0usft (UDI #40 - 14' KB)
Rig Name: UDI #40 - 14' KB

Surface Hole Location
Northing Easting Latitude Longitude
669245.80 642018.10 32° 50' 20.358 N 103° 52' 15.402 W

DESIGN TARGET DETAILS

Name TVD +N/-S +E/-W Northing Easting
PBHL (B#16H) 6100.0 -21.1 -3301.9 669244.80 638716.20

PROJECT DETAILS: Eddy County, NM
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid



Crescent Directional Drilling
7715 West Industrial Ave. Midland, Tx 79706
Phone: 432-618-1135

Plan: Plan #1 (#16H/OH)
Created By: Matt Higgins Date: 10/10, September 19 2012