

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
N.M. OIL CONSERVATION
ARTESIAN OIL CONSERVATION DIVISION
JUL 17 2017
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

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. 30-015-44268
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 600 W. Illinois Ave., Midland, TX 79701		7. Lease Name or Unit Agreement Name Burkett 16 State
4. Well Location Unit Letter <u>E</u> : <u>1520</u> feet from the <u>North</u> line and <u>330</u> feet from the <u>West</u> line Section <u>16</u> Township <u>17S</u> Range <u>31E</u> NMPM County <u>EDDY</u>		8. Well Number 12H
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3767' GR		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:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☒	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: ☐		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 Operating LLC proposes to make the following changes to this well:

Change the location:

FROM: SHL: 1520 FNL 330 FWL, Sec 16, 17S, 31E, Unit E
BHL: 987 FNL 1330 FEL, Sec 16, 17S, 31E, Unit B

TO: SHL: 1160 FNL 1630 FEL, Sec 16, 17S, 31E, Unit B
BHL: 990 FNL 10 FWL, Sec 16, 17S, 31E, Unit D

Casing/Cement Program:

Drill a 17-1/2" hole to 450' with 8.5ppg, 28 viscosity fresh water system. Set 13-3/8" casing and cement to surface. Drill a 12-1/4" hole to 1800' with a 10 ppg, 30 viscosity brine water mud system. Set 9-5/8" casing and cement to surface. Drill an 8-3/4" hole to 4738' MD and kick off and drill an 8-3/4" curve to 5666' MD, 5250' TVD. Drill a 8-3/4" lateral to new BHL @ 5190' TVD, 8678' MD. Set tapered string 7" 29# L80 & 5-1/2" 17# L80 casing at TD and cement to surface. This is necessary to turn the lateral end-for-end to put the wellhead at the battery side of the lease and minimize surface disturbance.

Attached are the revised plat and directional plan.

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 Regulatory Analyst DATE 07/14/17

Type or print name Robyn M. Russell E-mail address: Rrussell@concho.com PHONE: 432-685-4385

For State Use Only

APPROVED BY: [Signature] TITLE Geologist DATE 7-18-17

Conditions of Approval (if any):

NSL- NSP. Required

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State of New Mexico
Energy, Minerals & Natural Resources Department
NM OIL CONSERVATION DIVISION
ARTESIA DISTRICT
1220 South St. Francis Dr.
Santa Fe, NM 87505
JUL 17 2017

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

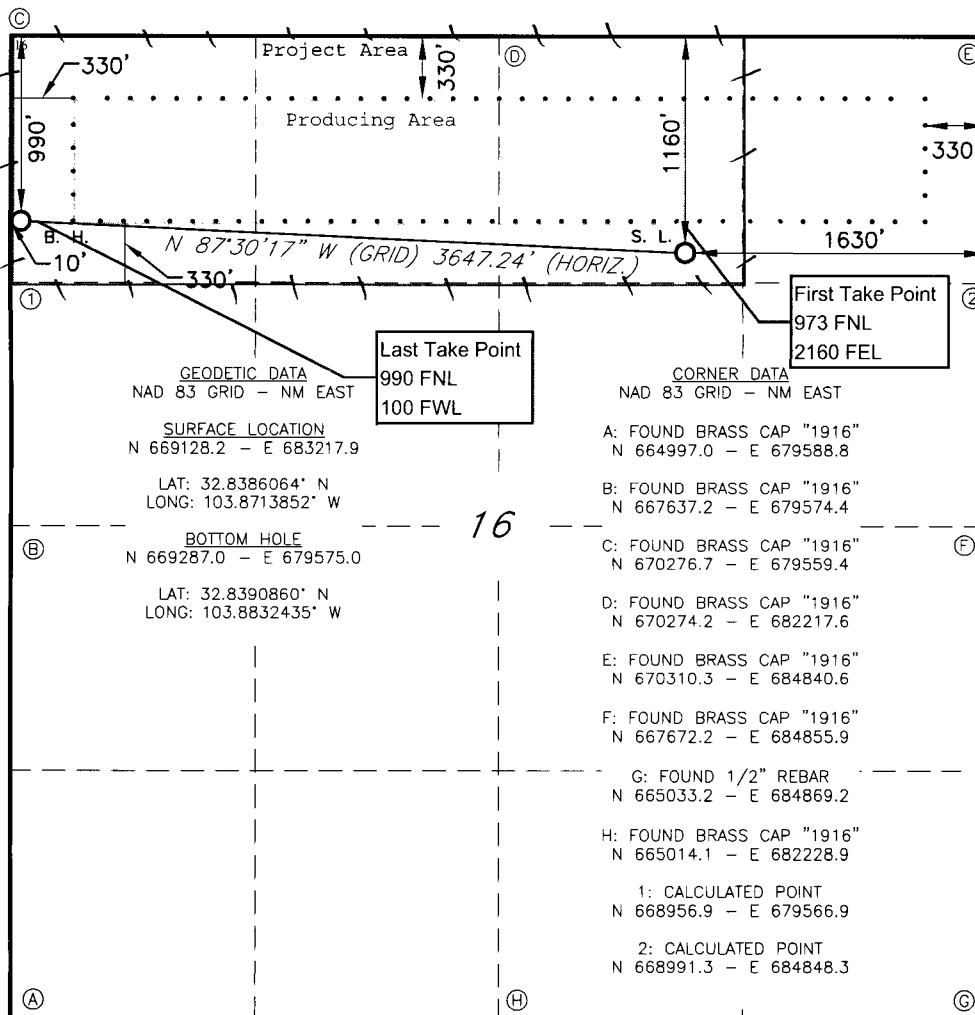
☐ AMENDED REPORT

RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-44268		² Pool Code 26770		³ Pool Name Fren; Glorieta-Yeso					
⁴ Property Code 39075		⁵ Property Name BURKETT 16 STATE						⁶ Well Number 12H	
⁷ GRID NO. 229137		⁸ Operator Name COG OPERATING, LLC						⁹ Elevation 3850'	
¹⁰ Surface Location									
UL or lot no. B	Section 16	Township 17S	Range 31E	Lot Idn	Feet from the 1160	North/South line NORTH	Feet From the 1630	East/West line EAST	County EDDY
¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. D	Section 16	Township 17S	Range 31E	Lot Idn	Feet from the 990	North/South line NORTH	Feet from the 10	East/West line WEST	County EDDY
¹² Dedicated Acres 120		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.



17 OPERATOR CERTIFICATION	
I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.	
Signature <i>Robyn M. Russell</i>	Date 07/10/17
Printed Name Robyn M. Russell	
E-mail Address Russell@concho.com	
18 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.	
Date of Survey 6-22-2017	
Signature and Seal of Professional Surveyor <i>Robert M. Howett</i>	
Certificate Number 19680	
6-27-2017 BH	



COG OPERATING, LLC

COG OPERATING, LLC

Eddy /Lea County, NM (NAD27) NMEZ

Burkett 16 State 12H

#12H - Slot 1160'FNL, 1630'FEL Sec 16

PP - 973'FNL, 2165'FEL

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 17 2017

RECEIVED

Lateral

Planned BHL - 10'FWL, 990'FNL Sec 16



DIRECTIONAL SERVICES, LLC.



Planning Report



Database: VON_EDM
Company: COG OPERATING, LLC
Project: Eddy /Lea County, NM (NAD27) NMEZ
Site: Burkett 16 State 12H
Well: #12H
Wellbore: Lateral
Design: Plan #4

Local Co-ordinate Reference: Well #12H - Slot Burkett12H
TVD Reference: 3767+18 @ 3785.00ft (Planning)
MD Reference: 3767+18 @ 3785.00ft (Planning)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy /Lea County, NM (NAD27) NMEZ		
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 12H				
Site Position:		Northing:	669,064.20 ft	Latitude:	32° 50' 18.546 N
From:	Map	Easting:	642,039.30 ft	Longitude:	103° 52' 15.178 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in	Grid Convergence:	0.25 °

Well	#12H - Slot Burkett12H					
Well Position	+N/-S	0.00 ft	Northing:	669.064.20 ft	Latitude:	32° 50' 18.546 N
	+E/-W	0.00 ft	Easting:	642.039.30 ft	Longitude:	103° 52' 15.178 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	3,767.00 ft

Wellbore Lateral

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	06/10/17	7.14	60.58	48.270

Design Plan #4

Audit Notes:

Version: **Phase:** PROTOTYPE **Tie On Depth:** 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	269.63

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,311.11	6.17	359.63	2,310.32	22.10	-0.14	1.50	1.50	0.00	359.63	
3,597.92	6.17	359.63	3,589.68	160.33	-1.04	0.00	0.00	0.00	0.00	
4,009.03	0.00	0.00	4,000.00	182.43	-1.19	1.50	-1.50	0.00	180.00	Burkett 16 State 12H
4,622.36	0.00	0.00	4,613.33	182.43	-1.19	0.00	0.00	0.00	0.00	
5,454.96	91.59	269.63	5,134.00	178.96	-536.46	11.00	11.00	-10.85	269.63	
8,562.66	91.59	269.63	5,048.00	158.80	-3,642.90	0.00	0.00	0.00	0.00	Burkett 16 State 12H



Planning Report



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Site: Burkett 16 State 12H
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Wellbore: Lateral
Design: Plan #4

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TVD Reference: 3767+18 @ 3785.00ft (Planning)
MD Reference: 3767+18 @ 3785.00ft (Planning)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
395.00	0.00	0.00	395.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustier									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
519.00	0.00	0.00	519.00	0.00	0.00	0.00	0.00	0.00	0.00
Top of Salt									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,478.00	0.00	0.00	1,478.00	0.00	0.00	0.00	0.00	0.00	0.00
Tansill									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,582.00	0.00	0.00	1,582.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,898.00	0.00	0.00	1,898.00	0.00	0.00	0.00	0.00	0.00	0.00
Seven Rivers									
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	1.50	359.63	1,999.99	1.31	-0.01	0.00	1.50	1.50	0.00
2,100.00	3.00	359.63	2,099.91	5.23	-0.03	0.00	1.50	1.50	0.00
2,200.00	4.50	359.63	2,199.69	11.77	-0.08	0.00	1.50	1.50	0.00
2,300.00	6.00	359.63	2,299.27	20.92	-0.14	0.00	1.50	1.50	0.00
2,311.11	6.17	359.63	2,310.32	22.10	-0.14	0.00	1.50	1.50	0.00
2,400.00	6.17	359.63	2,398.69	31.65	-0.21	0.00	0.00	0.00	0.00
2,500.00	6.17	359.63	2,498.11	42.39	-0.28	0.00	0.00	0.00	0.00
2,517.99	6.17	359.63	2,516.00	44.32	-0.29	0.00	0.00	0.00	0.00
Queen									
2,600.00	6.17	359.63	2,597.54	53.13	-0.35	0.00	0.00	0.00	0.00
2,700.00	6.17	359.63	2,696.96	63.88	-0.42	0.00	0.00	0.00	0.00
2,800.00	6.17	359.63	2,796.38	74.62	-0.49	0.00	0.00	0.00	0.00
2,900.00	6.17	359.63	2,895.80	85.36	-0.55	0.00	0.00	0.00	0.00
2,924.34	6.17	359.63	2,920.00	87.97	-0.57	0.00	0.00	0.00	0.00
Grayburg									
3,000.00	6.17	359.63	2,995.22	96.10	-0.62	0.00	0.00	0.00	0.00
3,100.00	6.17	359.63	3,094.64	106.84	-0.69	0.00	0.00	0.00	0.00
3,200.00	6.17	359.63	3,194.06	117.59	-0.76	0.00	0.00	0.00	0.00
3,250.23	6.17	359.63	3,244.00	122.98	-0.80	0.01	0.00	0.00	0.00
San Andres									
3,300.00	6.17	359.63	3,293.48	128.33	-0.83	0.01	0.00	0.00	0.00
3,400.00	6.17	359.63	3,392.91	139.07	-0.90	0.01	0.00	0.00	0.00
3,500.00	6.17	359.63	3,492.33	149.81	-0.97	0.01	0.00	0.00	0.00



Database: VON_EDM
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Well: #12H
Wellbore: Lateral
Design: Plan #4

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MD Reference: 3767+18 @ 3785.00ft (Planning)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
3,597.92	6.17	359.63	3,589.68	160.33	-1.04	0.01	0.00	0.00	0.00
3,600.00	6.14	359.63	3,591.75	160.55	-1.04	0.01	1.50	-1.50	0.00
3,700.00	4.64	359.63	3,691.30	169.94	-1.10	0.01	1.50	-1.50	0.00
3,800.00	3.14	359.63	3,791.07	176.71	-1.15	0.01	1.50	-1.50	0.00
3,900.00	1.64	359.63	3,890.98	180.88	-1.18	0.01	1.50	-1.50	0.00
4,009.03	0.00	0.00	4,000.00	182.43	-1.19	0.01	1.50	-1.50	0.00
4,100.00	0.00	0.00	4,090.97	182.43	-1.19	0.01	0.00	0.00	0.00
4,200.00	0.00	0.00	4,190.97	182.43	-1.19	0.01	0.00	0.00	0.00
4,300.00	0.00	0.00	4,290.97	182.43	-1.19	0.01	0.00	0.00	0.00
4,400.00	0.00	0.00	4,390.97	182.43	-1.19	0.01	0.00	0.00	0.00
4,500.00	0.00	0.00	4,490.97	182.43	-1.19	0.01	0.00	0.00	0.00
4,600.00	0.00	0.00	4,590.97	182.43	-1.19	0.01	0.00	0.00	0.00
4,622.36	0.00	0.00	4,613.33	182.43	-1.19	0.01	0.00	0.00	0.00
4,650.00	3.04	269.63	4,640.95	182.43	-1.92	0.74	11.00	11.00	0.00
4,700.00	8.54	269.63	4,690.68	182.39	-6.96	5.78	11.00	11.00	0.00
4,743.11	13.28	269.63	4,733.00	182.34	-15.12	13.94	11.00	11.00	0.00
Glorieta									
4,750.00	14.04	269.63	4,739.69	182.33	-16.75	15.57	11.00	11.00	0.00
4,800.00	19.54	269.63	4,787.54	182.24	-31.18	30.01	11.00	11.00	0.00
4,850.00	25.04	269.63	4,833.79	182.11	-50.14	48.96	11.00	11.00	0.00
4,860.21	26.16	269.63	4,843.00	182.09	-54.55	53.38	11.00	11.00	0.00
Paddock									
4,900.00	30.54	269.63	4,878.01	181.96	-73.44	72.27	11.00	11.00	0.00
4,950.00	36.04	269.63	4,919.79	181.78	-100.88	99.70	11.00	11.00	0.00
5,000.00	41.54	269.63	4,958.74	181.58	-132.19	131.01	11.00	11.00	0.00
5,050.00	47.04	269.63	4,994.52	181.35	-167.09	165.91	11.00	11.00	0.00
5,100.00	52.54	269.63	5,026.79	181.11	-205.26	204.08	11.00	11.00	0.00
5,150.00	58.04	269.63	5,055.25	180.84	-246.34	245.17	11.00	11.00	0.00
5,200.00	63.54	269.63	5,079.64	180.56	-289.97	288.79	11.00	11.00	0.00
5,250.00	69.04	269.63	5,099.74	180.26	-335.73	334.56	11.00	11.00	0.00
5,300.00	74.54	269.63	5,115.35	179.95	-383.20	382.03	11.00	11.00	0.00
5,350.00	80.04	269.63	5,126.35	179.64	-431.96	430.79	11.00	11.00	0.00
5,400.00	85.54	269.63	5,132.62	179.31	-481.54	480.38	11.00	11.00	0.00
5,454.96	91.59	269.63	5,134.00	178.96	-536.46	535.29	11.00	11.00	0.00
5,500.00	91.59	269.63	5,132.75	178.67	-581.48	580.32	0.00	0.00	0.00
5,600.00	91.59	269.63	5,129.99	178.02	-681.44	680.28	0.00	0.00	0.00
5,700.00	91.59	269.63	5,127.22	177.37	-781.40	780.24	0.00	0.00	0.00
5,800.00	91.59	269.63	5,124.45	176.72	-881.36	880.20	0.00	0.00	0.00
5,900.00	91.59	269.63	5,121.69	176.07	-981.32	980.16	0.00	0.00	0.00
6,000.00	91.59	269.63	5,118.92	175.42	-1,081.28	1,080.12	0.00	0.00	0.00
6,100.00	91.59	269.63	5,116.15	174.77	-1,181.24	1,180.09	0.00	0.00	0.00
6,200.00	91.59	269.63	5,113.38	174.13	-1,281.20	1,280.05	0.00	0.00	0.00
6,300.00	91.59	269.63	5,110.62	173.48	-1,381.16	1,380.01	0.00	0.00	0.00
6,400.00	91.59	269.63	5,107.85	172.83	-1,481.12	1,479.97	0.00	0.00	0.00
6,500.00	91.59	269.63	5,105.08	172.18	-1,581.08	1,579.93	0.00	0.00	0.00
6,600.00	91.59	269.63	5,102.31	171.53	-1,681.04	1,679.89	0.00	0.00	0.00
6,700.00	91.59	269.63	5,099.55	170.88	-1,781.00	1,779.86	0.00	0.00	0.00
6,800.00	91.59	269.63	5,096.78	170.23	-1,880.96	1,879.82	0.00	0.00	0.00
6,900.00	91.59	269.63	5,094.01	169.58	-1,980.92	1,979.78	0.00	0.00	0.00
7,000.00	91.59	269.63	5,091.24	168.94	-2,080.87	2,079.74	0.00	0.00	0.00
7,100.00	91.59	269.63	5,088.48	168.29	-2,180.83	2,179.70	0.00	0.00	0.00
7,200.00	91.59	269.63	5,085.71	167.64	-2,280.79	2,279.66	0.00	0.00	0.00
7,300.00	91.59	269.63	5,082.94	166.99	-2,380.75	2,379.63	0.00	0.00	0.00
7,400.00	91.59	269.63	5,080.18	166.34	-2,480.71	2,479.59	0.00	0.00	0.00



Planning Report



Database: VON_EDM
Company: COG OPERATING, LLC
Project: Eddy /Lea County, NM (NAD27) NMEZ
Site: Burkett 16 State 12H
Well: #12H
Wellbore: Lateral
Design: Plan #4

Local Co-ordinate Reference: Well #12H - Slot Burkett12H
TVD Reference: 3767+18 @ 3785.00ft (Planning)
MD Reference: 3767+18 @ 3785.00ft (Planning)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
7,500.00	91.59	269.63	5,077.41	165.69	-2,580.67	2,579.55	0.00	0.00	0.00
7,600.00	91.59	269.63	5,074.64	165.04	-2,680.63	2,679.51	0.00	0.00	0.00
7,700.00	91.59	269.63	5,071.87	164.40	-2,780.59	2,779.47	0.00	0.00	0.00
7,800.00	91.59	269.63	5,069.11	163.75	-2,880.55	2,879.43	0.00	0.00	0.00
7,900.00	91.59	269.63	5,066.34	163.10	-2,980.51	2,979.40	0.00	0.00	0.00
8,000.00	91.59	269.63	5,063.57	162.45	-3,080.47	3,079.36	0.00	0.00	0.00
8,100.00	91.59	269.63	5,060.80	161.80	-3,180.43	3,179.32	0.00	0.00	0.00
8,200.00	91.59	269.63	5,058.04	161.15	-3,280.39	3,279.28	0.00	0.00	0.00
8,300.00	91.59	269.63	5,055.27	160.50	-3,380.35	3,379.24	0.00	0.00	0.00
8,400.00	91.59	269.63	5,052.50	159.86	-3,480.31	3,479.20	0.00	0.00	0.00
8,500.00	91.59	269.63	5,049.73	159.21	-3,580.27	3,579.17	0.00	0.00	0.00
8,562.66	91.59	269.63	5,048.00	158.80	-3,642.90	3,641.80	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Burkett 16 State 12H SL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	669,064.20	642,039.30	32° 50' 18.546 N	103° 52' 15.178 W
Burkett 16 State 12H Tg - plan hits target center - Point	0.00	0.00	4,000.00	182.43	-1.19	669,246.64	642,038.12	32° 50' 20.351 N	103° 52' 15.182 W
Burkett 16 State 12H PB - plan hits target center - Point	0.00	0.00	5,048.00	158.80	-3,642.90	669,223.00	638,396.40	32° 50' 20.273 N	103° 52' 57.867 W
Burkett 16 State 12H LP - plan hits target center - Point	0.00	0.00	5,134.00	178.96	-536.46	669,243.16	641,502.84	32° 50' 20.340 N	103° 52' 21.456 W

Formations

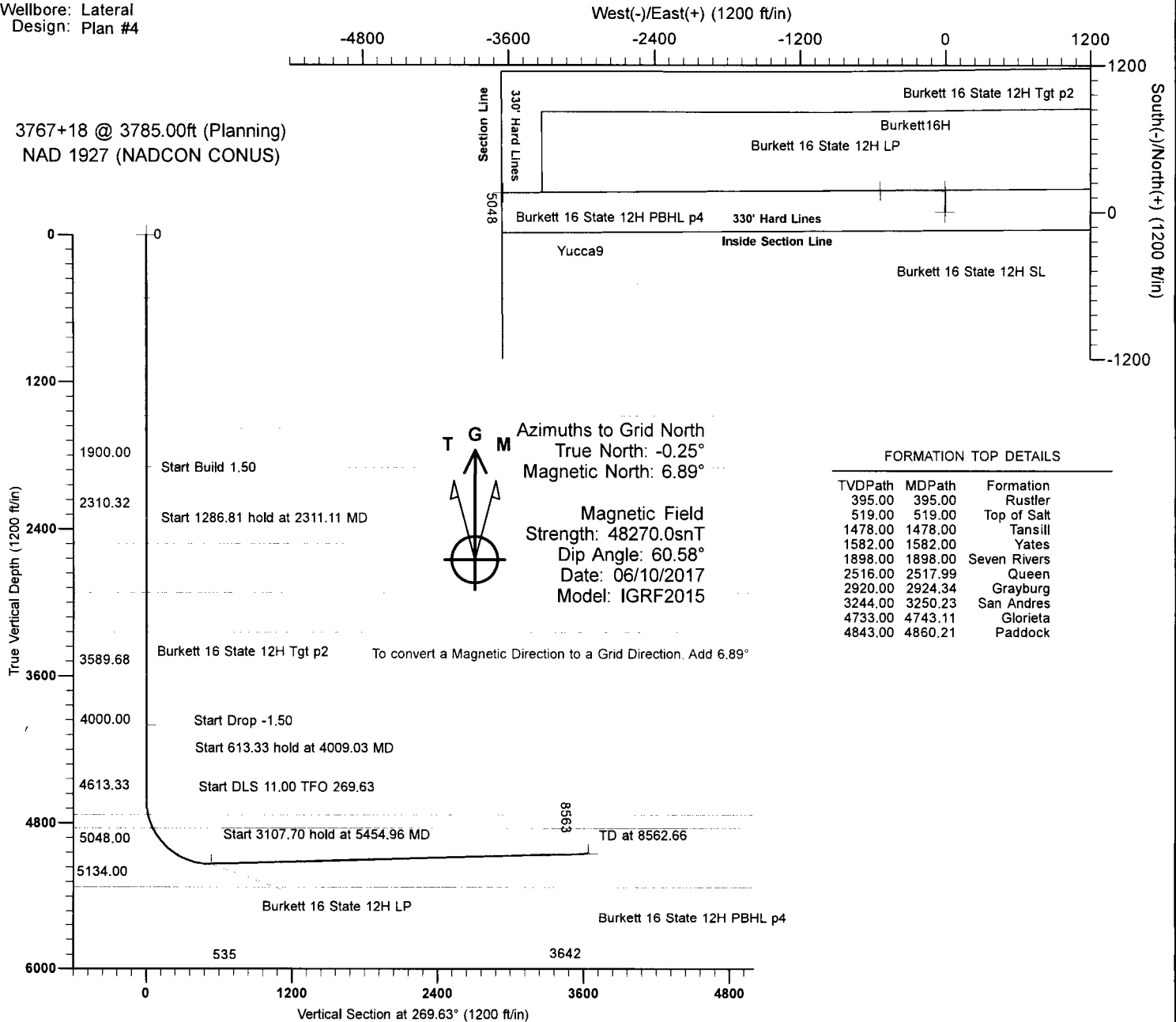
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
395.00	395.00	Rustler			
519.00	519.00	Top of Salt			
1,478.00	1,478.00	Tansill			
1,582.00	1,582.00	Yates			
1,898.00	1,898.00	Seven Rivers			
2,517.99	2,516.00	Queen			
2,924.34	2,920.00	Grayburg			
3,250.23	3,244.00	San Andres			
4,743.11	4,733.00	Glorieta			
4,860.21	4,843.00	Paddock			

COG OPERATING, LLC

Project: Eddy /Lea County, NM (NAD27) NMEZ
Site: Burkett 16 State 12H
Well: #12H
Wellbore: Lateral
Design: Plan #4



3767+18 @ 3785.00ft (Planning)
NAD 1927 (NADCON CONUS)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
395.00	395.00	Rustler
519.00	519.00	Top of Salt
1478.00	1478.00	Tansill
1582.00	1582.00	Yates
1898.00	1898.00	Seven Rivers
2516.00	2517.99	Queen
2920.00	2924.34	Grayburg
3244.00	3250.23	San Andres
4733.00	4743.11	Glorieta
4843.00	4860.21	Paddock

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Burkett 16 State 12H SL	0.00	0.00	0.00	669064.20	642039.30	Point
Burkett 16 State 12H Tgt p2	4000.00	182.43	-1.19	669246.63	642038.11	Point
Burkett 16 State 12H PBHL p4	5048.00	158.80	-3642.90	669223.00	638396.40	Point
Burkett 16 State 12H LP	5134.00	178.96	-536.46	669243.16	641502.84	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	
2311.11	6.17	359.63	2310.32	22.10	-0.14	1.50	359.63	0.00	
3597.92	6.17	359.63	3589.68	160.33	-1.04	0.00	0.00	0.01	
4009.03	0.00	0.00	4000.00	182.43	-1.19	1.50	180.00	0.01	Burkett 16 State 12H Tgt p2
4622.36	0.00	0.00	4613.33	182.43	-1.19	0.00	0.00	0.01	
5454.96	91.59	269.63	5134.00	178.96	-536.46	11.00	269.63	535.29	
8562.66	91.59	269.63	5048.00	158.80	-3642.90	0.00	0.00	3641.80	Burkett 16 State 12H PBHL p4

Plan: Plan #4 (#12H/Lateral)
Created By: Mekka Williams
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11:54, July 13 2017

VON DIRECTIONAL
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