

Submit 1 Copy To Appropriate District Office

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Ave., Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-103

October 13, 2009

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 10) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-45373
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 2208 W. Main Street, Artesia, NM 88210		7. Lease Name or Unit Agreement Name Myox 21 State Com
4. Well Location Unit Letter <u>N</u> : <u>220</u> feet from the <u>South</u> line and <u>1739</u> feet from the <u>West</u> line Section <u>21</u> Township <u>25S</u> Range <u>28E</u> NMPM <u>Eddy</u> County		8. Well Number 38H
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 2976.9'		9. OGRID Number 229137
		10. Pool name or Wildcat Purple Sage; Wolfcamp

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 ☐	

OTHER: ☒ SHL Change

SUBSEQUENT REPORT OF:

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

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 respectfully requests approval for the following changes to the original approved APD.

SHL:

From: 200' FSL & 1739' FWL Section 21. T25S. R28E UL N

To: 220' FSL & 1739' FWL Section 21. T25S. R28E. UL N

C102 attached.

Directional Plan Attached.

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 Mayte Reyes TITLE: Senior Regulatory Analyst DATE: 2/5/2019

Type or print name: Mayte Reyes E-mail address: mreyes1@conchoresources.com PHONE: (575) 748-6945

For State Use Only

APPROVED BY: Raymond W. Bidaway TITLE: Geologist DATE: 2-7-19

Conditions of Approval (if any):

FEB 07 2019

DISTRICT I
1000 N. FRANKLIN DR., SUITE 200, NM 87504
Phone: (505) 828-4181 Fax: (505) 828-0720

DISTRICT II
511 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 748-1823 Fax: (505) 748-0780

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6176 Fax: (505) 334-6170

DISTRICT IV
1000 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3469 Fax: (505) 476-3468

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

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-45373	Pool Code 98220	Pool Name Purple Sage; Wolfcamp
Property Code 38521	Property Name MYOX 21 STATE COM	Well Number 38H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 2977.3'

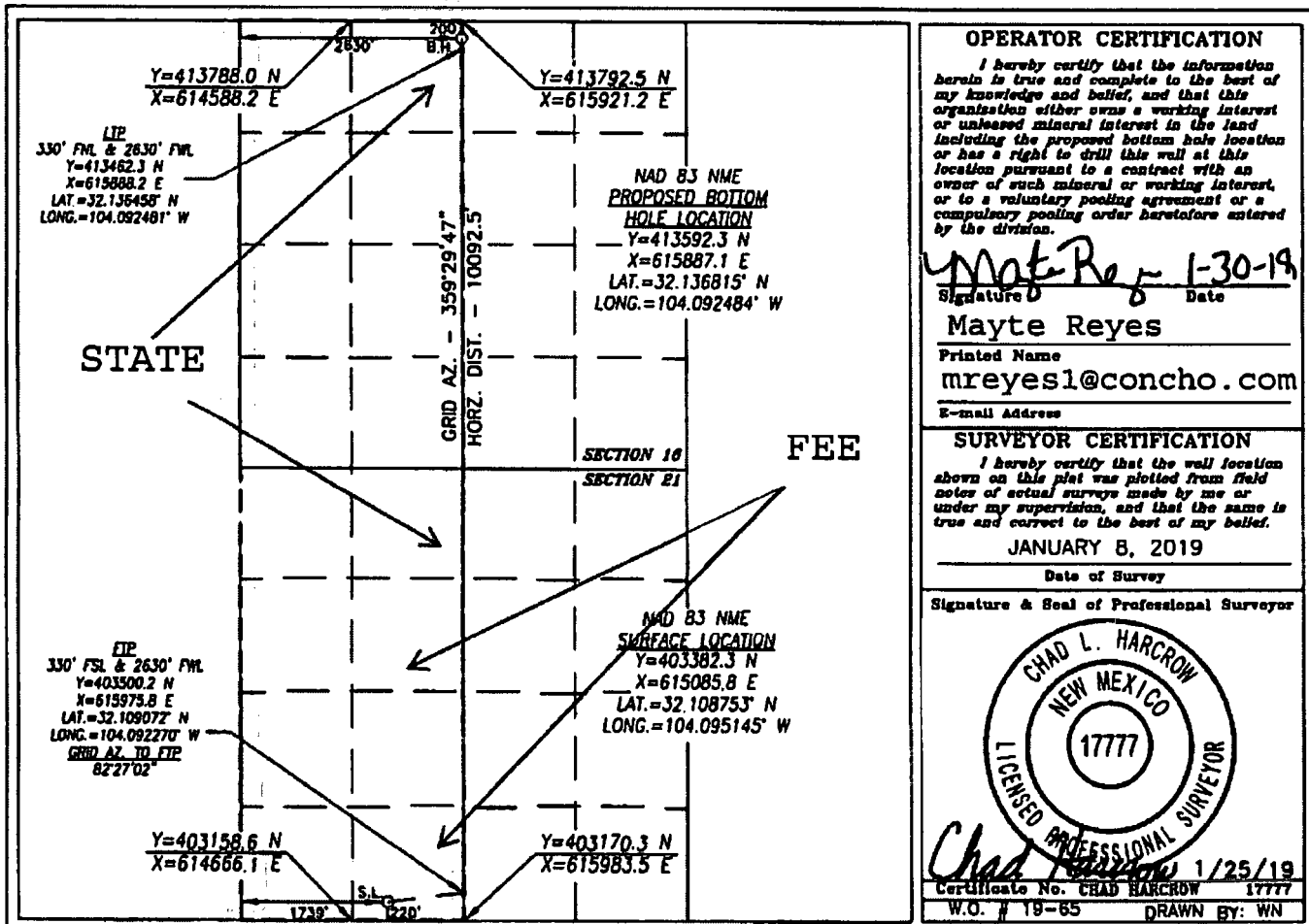
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	21	25-S	28-E		220	SOUTH	1739	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
C	16	25-S	28-E		200	NORTH	2630	WEST	EDDY
Dedicated Acres 640	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**



RW 2-7-19



NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 07 2019

RECEIVED

COG Operating LLC

Eddy County, NM (NAD27 NME)

Myox 21 State Com

38H

30-015-45373

OH

Plan: Plan 2 02-05-19

Standard Planning Report

05 February, 2019





Planning Report



Database: USA Compass
 Company: COG Operating LLC
 Project: Eddy County, NM (NAD27 NME)
 Site: Myox 21 State Corn
 Well: 38H
 Wellbore: OH
 Design: Plan 2 02-05-19

Local Co-ordinate Reference: Well 38H
 TVD Reference: KB @ 3001.30usft (Ensign 155)
 MD Reference: KB @ 3001.30usft (Ensign 155)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM (NAD27 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	Myox 21 State Corn				
Site Position:		Northing:	403,335.40 usft	Latitude:	32° 6' 31.10711 N
From:	Map	Easting:	577,031.40 usft	Longitude:	104° 5' 4.37007 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.13 °

Well	38H					
Well Position	+N/-S	-10.80 usft	Northing:	403,324.60 usft	Latitude:	32° 6' 31.07027 N
	+E/-W	-3,129.80 usft	Easting:	573,901.60 usft	Longitude:	104° 5' 40.75968 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	2,977.30 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	3/18/2019	7.02	59.80	47,877.90870732

Design	Plan 2 02-05-19			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	4.49

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,099.87	12.00	95.32	3,095.49	-5.80	62.31	2.00	2.00	0.00	95.32	
6,802.76	12.00	95.32	6,717.51	-77.20	828.69	0.00	0.00	0.00	0.00	
7,402.63	0.00	0.01	7,313.00	-83.00	891.00	2.00	-2.00	0.00	180.00	
8,988.17	0.00	0.01	8,898.54	-83.00	891.00	0.00	0.00	0.00	0.01	
9,736.71	89.82	359.50	9,376.00	392.99	886.86	12.00	12.00	-0.07	359.50	
19,553.94	89.82	359.50	9,406.00	10,209.80	801.50	0.00	0.00	0.00	0.00	BHL - Myox 21 State



Planning Report



Database: USA Compass
Company: COG Operating LLC
Project: Eddy County, NM (NAD27 NME)
Site: Myox 21 State Com
Well: 38H
Wellbore: OH
Design: Plan 2 02-05-19

Local Co-ordinate Reference: Well 38H
TVD Reference: KB @ 3001.30usft (Ensign 155)
MD Reference: KB @ 3001.30usft (Ensign 155)
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
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
2,600.00	2.00	95.32	2,599.98	-0.16	1.74	-0.03	2.00	2.00	0.00
2,700.00	4.00	95.32	2,699.84	-0.65	6.95	-0.10	2.00	2.00	0.00
2,800.00	6.00	95.32	2,799.45	-1.46	15.63	-0.23	2.00	2.00	0.00
2,900.00	8.00	95.32	2,898.70	-2.59	27.76	-0.41	2.00	2.00	0.00
3,000.00	10.00	95.32	2,997.47	-4.04	43.33	-0.63	2.00	2.00	0.00
3,099.87	12.00	95.32	3,095.49	-5.80	62.31	-0.91	2.00	2.00	0.00
Hold 12.00° Inc at 95.32° Azm									
3,100.00	12.00	95.32	3,095.62	-5.81	62.33	-0.91	0.00	0.00	0.00
3,200.00	12.00	95.32	3,193.44	-7.73	83.03	-1.21	0.00	0.00	0.00
3,300.00	12.00	95.32	3,291.25	-9.66	103.73	-1.52	0.00	0.00	0.00
3,400.00	12.00	95.32	3,389.07	-11.59	124.42	-1.82	0.00	0.00	0.00
3,500.00	12.00	95.32	3,486.89	-13.52	145.12	-2.12	0.00	0.00	0.00
3,600.00	12.00	95.32	3,584.70	-15.45	165.82	-2.42	0.00	0.00	0.00
3,700.00	12.00	95.32	3,682.52	-17.37	186.51	-2.72	0.00	0.00	0.00
3,800.00	12.00	95.32	3,780.33	-19.30	207.21	-3.03	0.00	0.00	0.00
3,900.00	12.00	95.32	3,878.15	-21.23	227.91	-3.33	0.00	0.00	0.00
4,000.00	12.00	95.32	3,975.96	-23.16	248.61	-3.63	0.00	0.00	0.00
4,100.00	12.00	95.32	4,073.78	-25.09	269.30	-3.93	0.00	0.00	0.00
4,200.00	12.00	95.32	4,171.60	-27.01	290.00	-4.24	0.00	0.00	0.00
4,300.00	12.00	95.32	4,269.41	-28.94	310.70	-4.54	0.00	0.00	0.00
4,400.00	12.00	95.32	4,367.23	-30.87	331.39	-4.84	0.00	0.00	0.00
4,500.00	12.00	95.32	4,465.04	-32.80	352.09	-5.14	0.00	0.00	0.00
4,600.00	12.00	95.32	4,562.86	-34.73	372.79	-5.44	0.00	0.00	0.00
4,700.00	12.00	95.32	4,660.67	-36.65	393.49	-5.75	0.00	0.00	0.00
4,800.00	12.00	95.32	4,758.49	-38.58	414.18	-6.05	0.00	0.00	0.00
4,900.00	12.00	95.32	4,856.31	-40.51	434.88	-6.35	0.00	0.00	0.00
5,000.00	12.00	95.32	4,954.12	-42.44	455.58	-6.65	0.00	0.00	0.00
5,100.00	12.00	95.32	5,051.94	-44.37	476.27	-6.96	0.00	0.00	0.00
5,200.00	12.00	95.32	5,149.75	-46.29	496.97	-7.26	0.00	0.00	0.00
5,300.00	12.00	95.32	5,247.57	-48.22	517.67	-7.56	0.00	0.00	0.00
5,400.00	12.00	95.32	5,345.38	-50.15	538.36	-7.86	0.00	0.00	0.00
5,500.00	12.00	95.32	5,443.20	-52.08	559.06	-8.17	0.00	0.00	0.00
5,600.00	12.00	95.32	5,541.02	-54.01	579.76	-8.47	0.00	0.00	0.00
5,700.00	12.00	95.32	5,638.83	-55.93	600.46	-8.77	0.00	0.00	0.00
5,800.00	12.00	95.32	5,736.65	-57.86	621.15	-9.07	0.00	0.00	0.00
5,900.00	12.00	95.32	5,834.46	-59.79	641.85	-9.37	0.00	0.00	0.00
6,000.00	12.00	95.32	5,932.28	-61.72	662.55	-9.68	0.00	0.00	0.00
6,100.00	12.00	95.32	6,030.09	-63.65	683.24	-9.98	0.00	0.00	0.00
6,200.00	12.00	95.32	6,127.91	-65.57	703.94	-10.28	0.00	0.00	0.00
6,300.00	12.00	95.32	6,225.73	-67.50	724.64	-10.58	0.00	0.00	0.00
6,400.00	12.00	95.32	6,323.54	-69.43	745.33	-10.89	0.00	0.00	0.00
6,500.00	12.00	95.32	6,421.36	-71.36	766.03	-11.19	0.00	0.00	0.00
6,600.00	12.00	95.32	6,519.17	-73.29	786.73	-11.49	0.00	0.00	0.00
6,700.00	12.00	95.32	6,616.99	-75.21	807.43	-11.79	0.00	0.00	0.00
6,800.00	12.00	95.32	6,714.80	-77.14	828.12	-12.10	0.00	0.00	0.00
6,802.76	12.00	95.32	6,717.51	-77.20	828.69	-12.10	0.00	0.00	0.00
Begin 2.00°/100' Drop									
6,900.00	10.05	95.32	6,812.95	-78.92	847.21	-12.37	2.00	-2.00	0.00
7,000.00	8.05	95.32	6,911.69	-80.38	862.87	-12.60	2.00	-2.00	0.00
7,100.00	6.05	95.32	7,010.93	-81.52	875.10	-12.78	2.00	-2.00	0.00



Planning Report



Database: USA Compass
Company: COG Operating LLC
Project: Eddy County, NM (NAD27 NME)
Site: Myox 21 State Com
Well: 38H
Wellbore: OH
Design: Plan 2 02-05-19

Local Co-ordinate Reference: Well 38H
TVD Reference: KB @ 3001.30usft (Ensign 155)
MD Reference: KB @ 3001.30usft (Ensign 155)
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)
7,200.00	4.05	95.32	7,110.54	-82.34	883.87	-12.91	2.00	-2.00	0.00
7,300.00	2.05	95.32	7,210.39	-82.83	889.17	-12.99	2.00	-2.00	0.00
7,400.00	0.05	95.32	7,310.37	-83.00	891.00	-13.01	2.00	-2.00	0.00
7,402.63	0.00	0.01	7,313.00	-83.00	891.00	-13.01	2.00	-2.00	0.00
Begin Vertical Hold									
8,988.17	0.00	0.00	8,898.54	-83.00	891.00	-13.01	0.00	0.00	0.00
KOP2, Begin 12.00°/100' Build									
9,000.00	1.42	359.50	8,910.37	-82.85	891.00	-12.87	12.00	12.00	0.00
9,100.00	13.42	359.50	9,009.35	-69.96	890.89	-0.03	12.00	12.00	0.00
9,200.00	25.42	359.50	9,103.49	-36.78	890.60	33.04	12.00	12.00	0.00
9,300.00	37.42	359.50	9,188.67	15.26	890.15	84.87	12.00	12.00	0.00
9,400.00	49.42	359.50	9,261.17	83.86	889.55	153.22	12.00	12.00	0.00
9,500.00	61.42	359.50	9,317.82	166.04	888.83	235.09	12.00	12.00	0.00
9,600.00	73.42	359.50	9,356.15	258.20	888.03	326.91	12.00	12.00	0.00
9,700.00	85.42	359.50	9,374.48	356.32	887.18	424.66	12.00	12.00	0.00
9,736.71	89.82	359.50	9,376.00	392.99	886.86	461.19	12.00	12.00	0.00
LP, Hold 89.82° Inc at 359.50° Azm									
9,800.00	89.82	359.50	9,376.20	456.27	886.31	524.24	0.00	0.00	0.00
9,900.00	89.82	359.50	9,376.50	556.27	885.44	623.86	0.00	0.00	0.00
10,000.00	89.82	359.50	9,376.81	656.27	884.57	723.48	0.00	0.00	0.00
10,100.00	89.82	359.50	9,377.11	756.26	883.70	823.10	0.00	0.00	0.00
10,200.00	89.82	359.50	9,377.42	856.26	882.83	922.72	0.00	0.00	0.00
10,300.00	89.82	359.50	9,377.72	956.25	881.96	1,022.34	0.00	0.00	0.00
10,400.00	89.82	359.50	9,378.03	1,056.25	881.09	1,121.97	0.00	0.00	0.00
10,500.00	89.82	359.50	9,378.34	1,156.24	880.22	1,221.59	0.00	0.00	0.00
10,600.00	89.82	359.50	9,378.64	1,256.24	879.35	1,321.21	0.00	0.00	0.00
10,700.00	89.82	359.50	9,378.95	1,356.24	878.49	1,420.83	0.00	0.00	0.00
10,800.00	89.82	359.50	9,379.25	1,456.23	877.62	1,520.45	0.00	0.00	0.00
10,900.00	89.82	359.50	9,379.56	1,556.23	876.75	1,620.07	0.00	0.00	0.00
11,000.00	89.82	359.50	9,379.86	1,656.22	875.88	1,719.69	0.00	0.00	0.00
11,100.00	89.82	359.50	9,380.17	1,756.22	875.01	1,819.31	0.00	0.00	0.00
11,200.00	89.82	359.50	9,380.47	1,856.22	874.14	1,918.93	0.00	0.00	0.00
11,300.00	89.82	359.50	9,380.78	1,956.21	873.27	2,018.55	0.00	0.00	0.00
11,400.00	89.82	359.50	9,381.09	2,056.21	872.40	2,118.18	0.00	0.00	0.00
11,500.00	89.82	359.50	9,381.39	2,156.20	871.53	2,217.80	0.00	0.00	0.00
11,600.00	89.82	359.50	9,381.70	2,256.20	870.66	2,317.42	0.00	0.00	0.00
11,700.00	89.82	359.50	9,382.00	2,356.19	869.79	2,417.04	0.00	0.00	0.00
11,800.00	89.82	359.50	9,382.31	2,456.19	868.92	2,516.66	0.00	0.00	0.00
11,900.00	89.82	359.50	9,382.61	2,556.19	868.05	2,616.28	0.00	0.00	0.00
12,000.00	89.82	359.50	9,382.92	2,656.18	867.18	2,715.90	0.00	0.00	0.00
12,100.00	89.82	359.50	9,383.22	2,756.18	866.31	2,815.52	0.00	0.00	0.00
12,200.00	89.82	359.50	9,383.53	2,856.17	865.44	2,915.14	0.00	0.00	0.00
12,300.00	89.82	359.50	9,383.84	2,956.17	864.57	3,014.76	0.00	0.00	0.00
12,400.00	89.82	359.50	9,384.14	3,056.16	863.70	3,114.39	0.00	0.00	0.00
12,500.00	89.82	359.50	9,384.45	3,156.16	862.83	3,214.01	0.00	0.00	0.00
12,600.00	89.82	359.50	9,384.75	3,256.16	861.96	3,313.63	0.00	0.00	0.00
12,700.00	89.82	359.50	9,385.06	3,356.15	861.10	3,413.25	0.00	0.00	0.00
12,800.00	89.82	359.50	9,385.36	3,456.15	860.23	3,512.87	0.00	0.00	0.00
12,900.00	89.82	359.50	9,385.67	3,556.14	859.36	3,612.49	0.00	0.00	0.00
13,000.00	89.82	359.50	9,385.97	3,656.14	858.49	3,712.11	0.00	0.00	0.00
13,100.00	89.82	359.50	9,386.28	3,756.13	857.62	3,811.73	0.00	0.00	0.00
13,200.00	89.82	359.50	9,386.59	3,856.13	856.75	3,911.35	0.00	0.00	0.00
13,300.00	89.82	359.50	9,386.89	3,956.13	855.88	4,010.97	0.00	0.00	0.00



Planning Report



Database: USA Compass
Company: COG Operating LLC
Project: Eddy County, NM (NAD27 NME)
Site: Myox 21 State Com
Well: 38H
Wellbore: OH
Design: Plan 2 02-05-19

Local Co-ordinate Reference: Well 38H
TVD Reference: KB @ 3001.30usft (Ensign 155)
MD Reference: KB @ 3001.30usft (Ensign 155)
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)
13,400.00	89.82	359.50	9,387.20	4,056.12	855.01	4,110.60	0.00	0.00	0.00
13,500.00	89.82	359.50	9,387.50	4,156.12	854.14	4,210.22	0.00	0.00	0.00
13,600.00	89.82	359.50	9,387.81	4,256.11	853.27	4,309.84	0.00	0.00	0.00
13,700.00	89.82	359.50	9,388.11	4,356.11	852.40	4,409.46	0.00	0.00	0.00
13,800.00	89.82	359.50	9,388.42	4,456.10	851.53	4,509.08	0.00	0.00	0.00
13,900.00	89.82	359.50	9,388.72	4,556.10	850.66	4,608.70	0.00	0.00	0.00
14,000.00	89.82	359.50	9,389.03	4,656.10	849.79	4,708.32	0.00	0.00	0.00
14,100.00	89.82	359.50	9,389.34	4,756.09	848.92	4,807.94	0.00	0.00	0.00
14,200.00	89.82	359.50	9,389.64	4,856.09	848.05	4,907.56	0.00	0.00	0.00
14,300.00	89.82	359.50	9,389.95	4,956.08	847.18	5,007.18	0.00	0.00	0.00
14,400.00	89.82	359.50	9,390.25	5,056.08	846.31	5,106.81	0.00	0.00	0.00
14,500.00	89.82	359.50	9,390.56	5,156.08	845.44	5,206.43	0.00	0.00	0.00
14,600.00	89.82	359.50	9,390.86	5,256.07	844.57	5,306.05	0.00	0.00	0.00
14,700.00	89.82	359.50	9,391.17	5,356.07	843.71	5,405.67	0.00	0.00	0.00
14,800.00	89.82	359.50	9,391.47	5,456.06	842.84	5,505.29	0.00	0.00	0.00
14,900.00	89.82	359.50	9,391.78	5,556.06	841.97	5,604.91	0.00	0.00	0.00
15,000.00	89.82	359.50	9,392.09	5,656.05	841.10	5,704.53	0.00	0.00	0.00
15,100.00	89.82	359.50	9,392.39	5,756.05	840.23	5,804.15	0.00	0.00	0.00
15,200.00	89.82	359.50	9,392.70	5,856.05	839.36	5,903.77	0.00	0.00	0.00
15,300.00	89.82	359.50	9,393.00	5,956.04	838.49	6,003.39	0.00	0.00	0.00
15,400.00	89.82	359.50	9,393.31	6,056.04	837.62	6,103.02	0.00	0.00	0.00
15,500.00	89.82	359.50	9,393.61	6,156.03	836.75	6,202.64	0.00	0.00	0.00
15,600.00	89.82	359.50	9,393.92	6,256.03	835.88	6,302.26	0.00	0.00	0.00
15,700.00	89.82	359.50	9,394.22	6,356.02	835.01	6,401.88	0.00	0.00	0.00
15,800.00	89.82	359.50	9,394.53	6,456.02	834.14	6,501.50	0.00	0.00	0.00
15,900.00	89.82	359.50	9,394.84	6,556.02	833.27	6,601.12	0.00	0.00	0.00
16,000.00	89.82	359.50	9,395.14	6,656.01	832.40	6,700.74	0.00	0.00	0.00
16,100.00	89.82	359.50	9,395.45	6,756.01	831.53	6,800.36	0.00	0.00	0.00
16,200.00	89.82	359.50	9,395.75	6,856.00	830.66	6,899.98	0.00	0.00	0.00
16,300.00	89.82	359.50	9,396.06	6,956.00	829.79	6,999.60	0.00	0.00	0.00
16,400.00	89.82	359.50	9,396.36	7,055.99	828.92	7,099.23	0.00	0.00	0.00
16,500.00	89.82	359.50	9,396.67	7,155.99	828.05	7,198.85	0.00	0.00	0.00
16,600.00	89.82	359.50	9,396.97	7,255.99	827.18	7,298.47	0.00	0.00	0.00
16,700.00	89.82	359.50	9,397.28	7,355.98	826.32	7,398.09	0.00	0.00	0.00
16,800.00	89.82	359.50	9,397.59	7,455.98	825.45	7,497.71	0.00	0.00	0.00
16,900.00	89.82	359.50	9,397.89	7,555.97	824.58	7,597.33	0.00	0.00	0.00
17,000.00	89.82	359.50	9,398.20	7,655.97	823.71	7,696.95	0.00	0.00	0.00
17,100.00	89.82	359.50	9,398.50	7,755.96	822.84	7,796.57	0.00	0.00	0.00
17,200.00	89.82	359.50	9,398.81	7,855.96	821.97	7,896.19	0.00	0.00	0.00
17,300.00	89.82	359.50	9,399.11	7,955.96	821.10	7,995.81	0.00	0.00	0.00
17,400.00	89.82	359.50	9,399.42	8,055.95	820.23	8,095.44	0.00	0.00	0.00
17,500.00	89.82	359.50	9,399.72	8,155.95	819.36	8,195.06	0.00	0.00	0.00
17,600.00	89.82	359.50	9,400.03	8,255.94	818.49	8,294.68	0.00	0.00	0.00
17,700.00	89.82	359.50	9,400.34	8,355.94	817.62	8,394.30	0.00	0.00	0.00
17,800.00	89.82	359.50	9,400.64	8,455.94	816.75	8,493.92	0.00	0.00	0.00
17,900.00	89.82	359.50	9,400.95	8,555.93	815.88	8,593.54	0.00	0.00	0.00
18,000.00	89.82	359.50	9,401.25	8,655.93	815.01	8,693.16	0.00	0.00	0.00
18,100.00	89.82	359.50	9,401.56	8,755.92	814.14	8,792.78	0.00	0.00	0.00
18,200.00	89.82	359.50	9,401.86	8,855.92	813.27	8,892.40	0.00	0.00	0.00
18,300.00	89.82	359.50	9,402.17	8,955.91	812.40	8,992.02	0.00	0.00	0.00
18,400.00	89.82	359.50	9,402.47	9,055.91	811.53	9,091.65	0.00	0.00	0.00
18,500.00	89.82	359.50	9,402.78	9,155.91	810.66	9,191.27	0.00	0.00	0.00
18,600.00	89.82	359.50	9,403.09	9,255.90	809.79	9,290.89	0.00	0.00	0.00
18,700.00	89.82	359.50	9,403.39	9,355.90	808.93	9,390.51	0.00	0.00	0.00



Planning Report



Database: USA Compass
Company: COG Operating LLC
Project: Eddy County, NM (NAD27 NME)
Site: Myox 21 State Com
Well: 38H
Wellbore: OH
Design: Plan 2 02-05-19

Local Co-ordinate Reference: Well 38H
TVD Reference: KB @ 3001.30usft (Ensign 155)
MD Reference: KB @ 3001.30usft (Ensign 155)
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)
18,800.00	89.82	359.50	9,403.70	9,455.89	808.06	9,490.13	0.00	0.00	0.00
18,900.00	89.82	359.50	9,404.00	9,555.89	807.19	9,589.75	0.00	0.00	0.00
19,000.00	89.82	359.50	9,404.31	9,655.88	806.32	9,689.37	0.00	0.00	0.00
19,100.00	89.82	359.50	9,404.61	9,755.88	805.45	9,788.99	0.00	0.00	0.00
19,200.00	89.82	359.50	9,404.92	9,855.88	804.58	9,888.61	0.00	0.00	0.00
19,300.00	89.82	359.50	9,405.22	9,955.87	803.71	9,988.23	0.00	0.00	0.00
19,400.00	89.82	359.50	9,405.53	10,055.87	802.84	10,087.86	0.00	0.00	0.00
19,500.00	89.82	359.50	9,405.84	10,155.86	801.97	10,187.48	0.00	0.00	0.00
19,553.94	89.82	359.50	9,406.00	10,209.80	801.50	10,241.21	0.00	0.00	0.00

TD at 19553.94

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
FTP - Myox 21 State Co - plan misses target center by 74.58usft at 9493.36usft MD (9314.61 TVD, 160.24 N, 888.88 E) - Point	0.00	0.00	9,376.00	117.90	890.00	403,442.50	574,791.60	32° 6' 32.21744 N	104° 5' 30.40882 W
LTP - Myox 21 State Co - plan misses target center by 0.40usft at 19423.94usft MD (9405.60 TVD, 10079.80 N, 802.63 E) - Point	0.00	0.00	9,406.00	10,079.80	802.60	413,404.40	574,704.20	32° 8' 10.80688 N	104° 5' 31.16558 W
BHL - Myox 21 State Co - plan hits target center - Point	0.00	0.01	9,406.00	10,209.80	801.50	413,534.40	574,703.10	32° 8' 12.09344 N	104° 5' 31.17498 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,500.00	2,500.00	0.00	0.00	KOP, Begin 2.00°/100' Build
3,099.87	3,095.49	-5.80	62.31	Hold 12.00° Inc at 95.32° Azm
6,802.76	6,717.51	-77.20	828.69	Begin 2.00°/100' Drop
7,402.63	7,313.00	-83.00	891.00	Begin Vertical Hold
8,988.17	8,898.54	-83.00	891.00	KOP2, Begin 12.00°/100' Build
9,736.71	9,376.00	392.99	886.86	LP, Hold 89.82° Inc at 359.50° Azm
19,553.94	9,406.00	10,209.80	801.50	TD at 19553.94



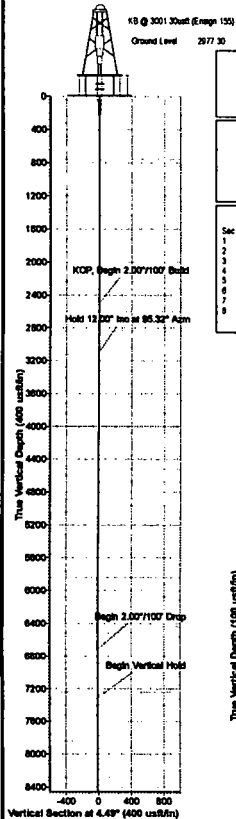
Project: Eddy County, NM (NAD27 NME)
Site: Myox 21 State Com
Well: 38H
Wellbore: OH
Design: Plan 2 02-05-19
Rig: Ensign 155



PHOENIX
TECHNOLOGY SERVICES



Azimuth to Grid North
True North: 0.1°
Magnetic North: 0.8°
Magnetic Field
Strength: 47877.8nT
Dip Angle: 63.36°
Date: 3/1/2019
Model: MVD



WELL DETAILS									
				2977.30					
+N-S		+E-W		Northing		Easting		Latitude	
0.00		0.00		403234.60		57301.60		32° 5' 31.0727 N	
								104° 9' 40.7668 W	
DESIGN TARGET DETAILS									
Name		TVD		+N-S		+E-W		Northing	
								Easting	
FTP - Myox 21 State Com 38H		8376.00		117.80		40342.50		574791.60	
								32° 5' 32.2144 N	
								104° 9' 30.4082 W	
BHL - Myox 21 State Com 38H		8408.00		10209.80		61.50		41304.40	
								574793.10	
								32° 5' 12.0244 N	
								104° 9' 31.1488 W	
LTP - Myox 21 State Com 38H		8408.00		10278.80		802.00		413404.40	
								574794.20	
								32° 5' 10.8088 N	
								104° 9' 31.1808 W	
SECTION DETAILS									
Sec	MD	Inc	Asn	TVD	+N-S	+E-W	Dir	Face	Vsect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00
3	3209.87	12.00	95.32	3209.49	-8.80	62.31	7.00	95.32	-0.91
4	6802.76	12.00	95.32	6717.51	-77.20	628.09	0.00	0.00	-12.10
5	7427.63	0.00	0.00	7313.00	-43.00	591.00	7.00	180.00	-13.01
6	8385.17	0.00	0.00	8386.54	-43.00	591.00	0.00	0.00	-13.01
7	8736.71	89.82	359.50	8376.00	302.99	686.86	12.00	359.50	49.19
8	10533.94	89.82	359.50	8408.00	10209.80	61.50	0.00	0.00	10241.21
BHL - Myox 21 State Com 38H									
KOP2 - Begins 2.007100' Build									
KOP1 - Begins 12.00' inc at 88.30' Azim									
KOP2 - Begins 2.007100' Drop									
Begins Vertical Hole									
KOP2 - Begins 12.007100' Build									
LP Hole end 68.82' inc at 359.50° Az									
LP end at 10533.94'									

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001
Local Origin: Well 38H, Grid North
Latitude: 32° 5' 31.0727 N
Longitude: 104° 9' 40.7668 W
Grid East: 57301.60
Grid North: 43324.60
Scale Factor: 1.000
Geographic Model: MVD
Sample Date: 18-Mar-19
Magnetic Declination: 7.02°
Dip Angle from Horizontal: 63.36°
Magnetic Field Strength: 47877.80870732nT
To convert a Magnetic Direction to a Grid Direction, Add 7.02° East
To convert a Magnetic Direction to a True Direction, Add 7.02° East
To convert a True Direction to a Grid Direction, Subtract 0.13°

FORMATION TOP DETAILS
No formation data is available

