

NOV 25 2019

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 RIO BRAZOS RD., 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

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 30-015-45746		Pool Code 30216	Pool Name Hay Hollow; Bone Spring, North
Property Code 325001	Property Name DAISY 24 STATE COM		Well Number 502H
OGRID No. 229137	Operator Name COG OPERATING, LLC		Elevation 3051.0'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	24	25-S	27-E		275	NORTH	415	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
M	25	25-S	27-E		51	SOUTH	990	WEST	EDDY

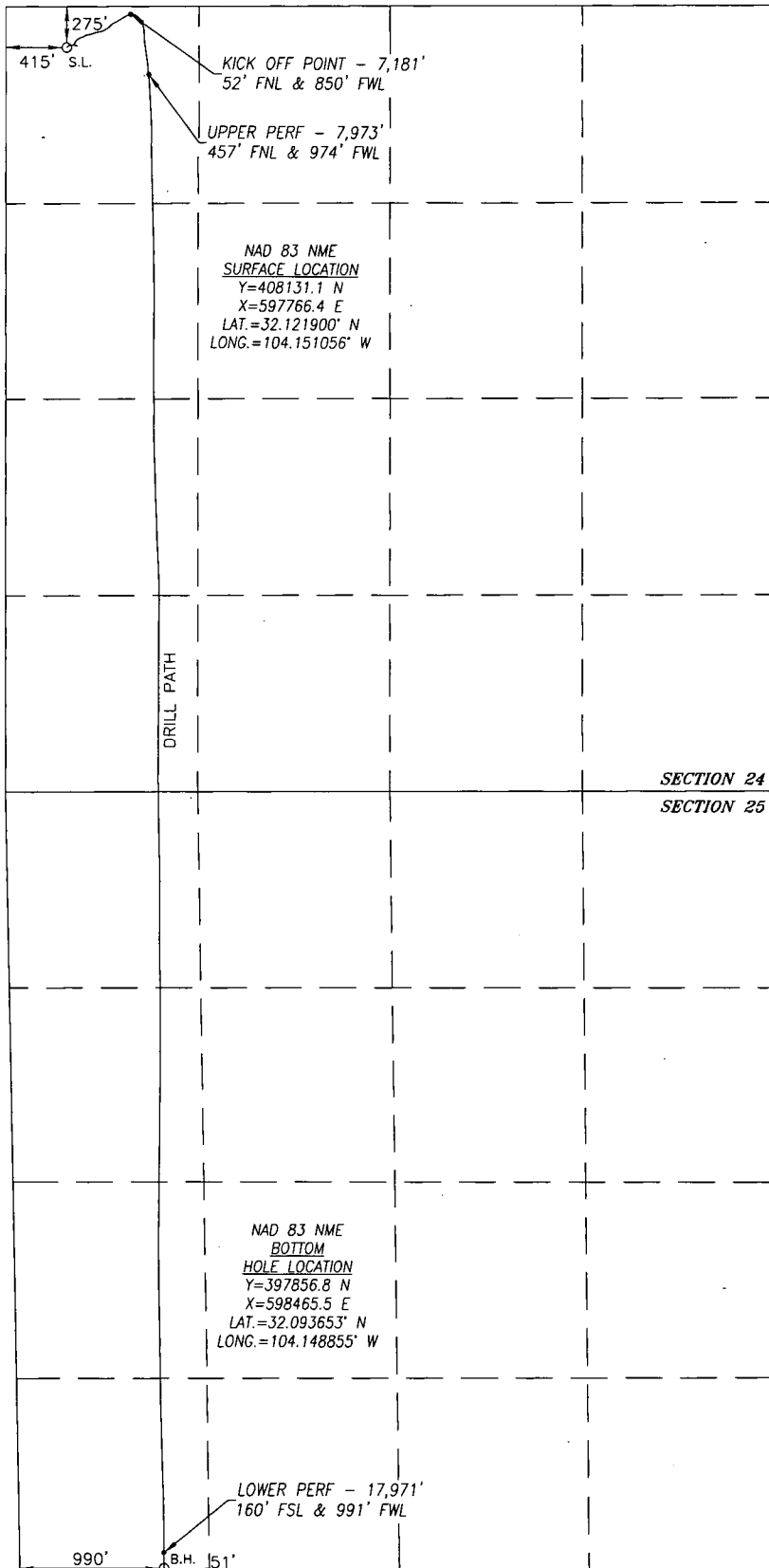
Dedicated Acres 640	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

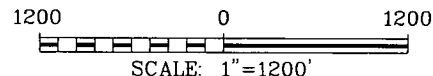
SEE PAGE 2

RWP 1-7-2020

Property Code 325001	Property Name DAISY 24 STATE COM	Well Number 502H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3051.0'



BOREPATH SHOWN HEREON IS BASED ON
DIRECTIONAL SURVEY REPORT PROVIDED BY
COG OPERATING, LLC FOR THE DAISY 24 STATE
COM #502H SUPPLIED TO HARCROW SURVEYING,
LLC ON OCTOBER 10, 2019



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.

Amanda Avery 11/20/19
Signature Date

Amanda Avery

Printed Name

aaavery@concho.com

E-mail Address

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.

DEC. 5, 2018/JULY 7, 2019

Date of Survey/Date of Geographic Survey

Signature & Seal of Professional Surveyor



Chad Harcrow 10/21/19
Certificate No. CHAD HARCROW 17777

Intent ☐ As Drilled ☒

API #
30-015-45745

Operator Name:
COG OPERATING, LLC

Property Name:
DAISY 24 STATE COM

Well Number
502H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	24	25S	27E		52	NORTH	950	WEST	EDDY
Latitude					Longitude			NAD	
32.122520					-104.149653			83	

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	24	25S	27E		457	NORTH	974	WEST	EDDY
Latitude					Longitude			NAD	
32.121408					-104.149250			83	

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
M	25	25S	27E		160	SOUTH	991	WEST	EDDY
Latitude					Longitude			NAD	
32.093953					-104.148858			83	

Is this well the defining well for the Horizontal Spacing Unit?

No

Is this well an infill well?

Yes

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #
30-015-45748

Operator Name:
COG Operating LLC

Property Name:
Daisy 24 State Com

Well Number
504H

KZ 06/29/2018



PHOENIX
TECHNOLOGY SERVICES

NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 25 2019

RECEIVED

COG Operating LLC

Eddy County, NM (NAD83 NME)

Daisy 24 State Com

502H

OH

Survey: Phoenix MWD Surveys

Standard Survey Report

07 July, 2019

A Certified Directional Survey should be
submitted as required by NMOCD Rule
19.15.16.14 NMAC



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well 502H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	RKB @ 3076.00usft (Pioneer 84)
Site:	Daisy 24 State Com	MD Reference:	RKB @ 3076.00usft (Pioneer 84)
Well:	502H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Pioneer 84)	Database:	USA Compass

Project	Eddy County, NM (NAD83 NME)	
Map System:	US State Plane 1983	System Datum:
Geo Datum:	North American Datum 1983	Mean Sea Level
Map Zone:	New Mexico Eastern Zone	

Site	Daisy 24 State Com				
Site Position:		Northing:	408,130.96 usft	Latitude:	32° 7' 18.840000 N
From:	Lat/Long	Easting:	597,736.43 usft	Longitude:	104° 9' 4.150800 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.10 °

Well	502H				
Well Position	+N/-S	0.00 usft	Northing:	408,131.10 usft	Latitude:
	+E/-W	0.00 usft	Easting:	597,766.40 usft	Longitude:
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:
					3,051.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	MVHD	7/1/2019	7.08	59.80	47,857.30650077

Design	Surveys (Pioneer 84)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	179.11	

Survey Program	Date 7/7/2019				
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
7,150.00	18,080.00	Phoenix MWD Surveys (OH)	MWD+HRGM	OWSG MWD + HRGM	

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)
	7,073.00	13.63	65.09	7,037.77	216.73	413.07	-210.29	0.00	0.00	0.00
Tie In										
	7,150.00	11.68	64.16	7,112.90	223.95	428.31	-217.27	2.55	-2.53	-1.21
First Phoenix MWD Survey										
	7,181.00	11.36	70.68	7,143.27	226.33	434.02	-219.56	4.32	-1.03	21.03
	7,213.00	11.88	85.09	7,174.62	227.65	440.28	-220.79	9.19	1.63	45.03
	7,245.00	13.89	99.56	7,205.82	227.30	447.35	-220.32	11.83	6.28	45.22
	7,277.00	17.03	109.46	7,236.67	225.10	455.56	-217.99	12.78	9.81	30.94
	7,308.00	19.45	118.28	7,266.11	221.14	464.39	-213.90	11.82	7.81	28.45
	7,340.00	21.99	125.77	7,296.05	215.11	473.94	-207.72	11.46	7.94	23.41

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Well:	502H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Pioneer 84)	Database:	USA Compass

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)
7,372.00	25.28	130.41	7,325.36	207.17	484.01	-199.63	11.80	10.28	14.50
7,404.00	27.44	136.62	7,354.04	197.38	494.28	-189.68	10.94	6.75	19.41
7,435.00	29.36	143.10	7,381.31	186.11	503.75	-178.26	11.71	6.19	20.90
7,467.00	29.02	152.94	7,409.26	172.92	512.00	-164.94	15.02	-1.06	30.75
7,499.00	29.78	161.62	7,437.16	158.46	518.04	-150.39	13.52	2.38	27.13
7,530.00	30.69	169.63	7,463.95	143.36	521.89	-135.24	13.33	2.94	25.84
7,562.00	32.72	173.49	7,491.18	126.73	524.34	-118.57	8.97	6.34	12.06
7,594.00	33.83	175.14	7,517.93	109.26	526.08	-101.08	4.48	3.47	5.16
7,625.00	35.06	177.35	7,543.49	91.77	527.22	-83.57	5.66	3.97	7.13
7,657.00	37.28	177.29	7,569.33	72.91	528.10	-64.70	6.94	6.94	-0.19
7,688.00	40.10	176.28	7,593.52	53.56	529.20	-45.34	9.32	9.10	-3.26
7,720.00	43.61	174.10	7,617.35	32.29	531.00	-24.04	11.87	10.97	-6.81
7,752.00	46.94	171.46	7,639.87	9.75	533.87	-1.45	11.94	10.41	-8.25
7,783.00	50.44	170.97	7,660.33	-13.26	537.43	21.61	11.35	11.29	-1.58
7,815.00	54.74	170.98	7,679.77	-38.36	541.42	46.76	13.44	13.44	0.03
7,847.00	58.25	171.83	7,697.43	-64.74	545.40	73.20	11.19	10.97	2.66
7,878.00	62.01	172.00	7,712.86	-91.35	549.18	99.87	12.14	12.13	0.55
7,910.00	65.11	173.22	7,727.11	-119.76	552.86	128.33	10.27	9.69	3.81
7,942.00	68.91	173.68	7,739.61	-149.02	556.22	157.64	11.95	11.88	1.44
7,973.00	72.52	173.67	7,749.84	-178.10	559.44	186.77	11.65	11.65	-0.03
8,005.00	74.60	175.23	7,758.90	-208.64	562.41	217.35	8.01	6.50	4.88
8,037.00	75.37	176.24	7,767.19	-239.47	564.70	248.21	3.88	2.41	3.16
8,068.00	77.45	176.62	7,774.48	-269.54	566.58	278.31	6.81	6.71	1.23
8,100.00	78.80	176.87	7,781.06	-300.80	568.36	309.59	4.29	4.22	0.78
8,132.00	79.31	176.80	7,787.14	-332.17	570.09	340.99	1.61	1.59	-0.22
8,163.00	80.31	176.78	7,792.62	-362.63	571.80	371.47	3.23	3.23	-0.06
8,195.00	82.62	176.97	7,797.37	-394.23	573.53	403.09	7.24	7.22	0.59
8,227.00	84.10	177.65	7,801.07	-425.98	575.02	434.86	5.08	4.63	2.13
8,258.00	85.83	178.66	7,803.79	-456.84	576.01	465.73	6.46	5.58	3.26
8,290.00	86.50	178.61	7,805.93	-488.76	576.77	497.66	2.10	2.09	-0.16
8,322.00	86.95	178.51	7,807.76	-520.70	577.57	529.61	1.44	1.41	-0.31
8,353.00	87.29	178.32	7,809.32	-551.65	578.43	560.57	1.26	1.10	-0.61
8,385.00	87.43	178.00	7,810.79	-583.60	579.46	592.53	1.09	0.44	-1.00
8,416.00	87.57	178.09	7,812.14	-614.55	580.51	623.49	0.54	0.45	0.29
8,448.00	88.65	178.66	7,813.20	-646.52	581.42	655.47	3.82	3.38	1.78
8,543.00	92.05	178.58	7,812.62	-741.48	583.71	750.45	3.58	3.58	-0.08
8,638.00	90.83	178.69	7,810.23	-836.42	585.97	845.42	1.29	-1.28	0.12
8,732.00	92.01	177.94	7,807.90	-930.34	588.73	939.38	1.49	1.26	-0.80
8,827.00	90.28	177.74	7,806.00	-1,025.25	592.31	1,034.33	1.83	-1.82	-0.21
8,922.00	88.78	178.84	7,806.78	-1,120.21	595.15	1,129.31	1.96	-1.58	1.16
9,017.00	89.56	178.57	7,808.16	-1,215.17	597.29	1,224.30	0.87	0.82	-0.28
9,112.00	90.54	178.47	7,808.07	-1,310.14	599.75	1,319.29	1.04	1.03	-0.11
9,207.00	90.47	178.13	7,807.24	-1,405.09	602.57	1,414.28	0.37	-0.07	-0.36

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well 502H
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Site:	Daisy 24 State Com	MD Reference:	RKB @ 3076.00usft (Pioneer 84)
Well:	502H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Pioneer 84)	Database:	USA Compass

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)
9,302.00	88.00	179.59	7,808.51	-1,500.05	604.46	1,509.26	3.02	-2.60	1.54
9,397.00	88.82	179.28	7,811.14	-1,595.01	605.39	1,604.22	0.92	0.86	-0.33
9,492.00	89.96	179.00	7,812.15	-1,689.99	606.82	1,699.22	1.24	1.20	-0.29
9,587.00	88.94	180.68	7,813.06	-1,784.99	607.08	1,794.20	2.07	-1.07	1.77
9,682.00	89.66	180.95	7,814.23	-1,879.97	605.73	1,889.15	0.81	0.76	0.28
9,777.00	90.45	180.62	7,814.13	-1,974.96	604.43	1,984.11	0.90	0.83	-0.35
9,872.00	91.27	180.50	7,812.71	-2,069.94	603.50	2,079.07	0.87	0.86	-0.13
9,966.00	91.99	179.90	7,810.03	-2,163.90	603.17	2,173.01	1.00	0.77	-0.64
10,061.00	93.32	179.30	7,805.63	-2,258.80	603.84	2,267.90	1.54	1.40	-0.63
10,156.00	91.14	178.80	7,801.94	-2,353.70	605.41	2,362.82	2.35	-2.29	-0.53
10,251.00	89.52	180.19	7,801.39	-2,448.69	606.25	2,457.81	2.25	-1.71	1.46
10,346.00	88.75	180.24	7,802.82	-2,543.68	605.89	2,552.79	0.81	-0.81	0.05
10,441.00	89.79	178.86	7,804.03	-2,638.67	606.64	2,647.77	1.82	1.09	-1.45
10,535.00	89.96	178.07	7,804.24	-2,732.63	609.16	2,741.76	0.86	0.18	-0.84
10,630.00	86.79	178.50	7,806.93	-2,827.54	612.00	2,836.70	3.37	-3.34	0.45
10,725.00	87.21	177.48	7,811.91	-2,922.35	615.33	2,931.55	1.16	0.44	-1.07
10,820.00	88.63	177.38	7,815.35	-3,017.19	619.58	3,026.45	1.50	1.49	-0.11
10,915.00	90.43	178.55	7,816.13	-3,112.12	622.95	3,121.42	2.26	1.89	1.23
11,009.00	91.15	177.96	7,814.84	-3,206.07	625.82	3,215.40	0.99	0.77	-0.63
11,104.00	91.77	177.48	7,812.42	-3,300.96	629.60	3,310.34	0.83	0.65	-0.51
11,199.00	92.84	177.28	7,808.60	-3,395.78	633.93	3,405.22	1.15	1.13	-0.21
11,265.00	93.60	176.77	7,804.89	-3,461.59	637.35	3,471.07	1.39	1.15	-0.77
11,361.00	94.62	177.17	7,798.01	-3,557.21	642.42	3,566.76	1.14	1.06	0.42
11,455.00	92.01	178.79	7,792.57	-3,650.98	645.72	3,660.57	3.27	-2.78	1.72
11,546.00	90.38	179.81	7,790.67	-3,741.95	646.83	3,751.54	2.11	-1.79	1.12
11,637.00	89.70	180.24	7,790.61	-3,832.95	646.79	3,842.53	0.88	-0.75	0.47
11,728.00	89.61	180.47	7,791.16	-3,923.94	646.23	3,933.51	0.27	-0.10	0.25
11,820.00	87.96	180.73	7,793.11	-4,015.92	645.27	4,025.45	1.82	-1.79	0.28
11,911.00	88.11	180.47	7,796.23	-4,106.86	644.31	4,116.37	0.33	0.16	-0.29
12,003.00	88.41	180.30	7,799.02	-4,198.81	643.70	4,208.30	0.37	0.33	-0.18
12,098.00	88.70	180.25	7,801.42	-4,293.78	643.24	4,303.25	0.31	0.31	-0.05
12,193.00	89.76	179.83	7,802.70	-4,388.77	643.17	4,398.23	1.20	1.12	-0.44
12,287.00	90.82	180.10	7,802.22	-4,482.77	643.23	4,492.22	1.16	1.13	0.29
12,382.00	91.07	180.04	7,800.65	-4,577.75	643.11	4,587.19	0.27	0.26	-0.06
12,477.00	91.81	180.40	7,798.27	-4,672.72	642.75	4,682.14	0.87	0.78	0.38
12,572.00	92.15	179.97	7,794.98	-4,767.67	642.44	4,777.07	0.58	0.36	-0.45
12,667.00	91.01	179.59	7,792.36	-4,862.63	642.81	4,872.03	1.26	-1.20	-0.40
12,761.00	91.30	179.89	7,790.47	-4,956.61	643.23	4,966.00	0.44	0.31	0.32
12,856.00	91.96	179.88	7,787.77	-5,051.57	643.43	5,060.95	0.69	0.69	-0.01
12,951.00	90.33	179.51	7,785.87	-5,146.54	643.93	5,155.93	1.76	-1.72	-0.39
13,045.00	89.27	178.87	7,786.20	-5,240.53	645.26	5,249.92	1.32	-1.13	-0.68
13,140.00	89.67	178.34	7,787.08	-5,335.50	647.57	5,344.91	0.70	0.42	-0.56
13,235.00	91.13	178.49	7,786.41	-5,430.46	650.20	5,439.90	1.54	1.54	0.16
13,330.00	91.06	178.64	7,784.60	-5,525.41	652.58	5,534.88	0.17	-0.07	0.16

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well 502H
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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Pioneer 84)	Database:	USA Compass

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)
13,425.00	90.75	179.47	7,783.10	-5,620.39	654.15	5,629.87	0.93	-0.33	0.87
13,520.00	89.90	179.75	7,782.56	-5,715.38	654.79	5,724.86	0.94	-0.89	0.29
13,615.00	89.10	180.02	7,783.39	-5,810.38	654.98	5,819.85	0.89	-0.84	0.28
13,710.00	88.44	179.74	7,785.43	-5,905.35	655.18	5,914.82	0.75	-0.69	-0.29
13,805.00	89.42	180.04	7,787.20	-6,000.34	655.36	6,009.79	1.08	1.03	0.32
13,900.00	88.36	179.46	7,789.04	-6,095.31	655.78	6,104.77	1.27	-1.12	-0.61
13,996.00	89.05	179.04	7,791.21	-6,191.28	657.03	6,200.74	0.84	0.72	-0.44
14,082.00	89.41	178.62	7,792.37	-6,277.26	658.79	6,286.73	0.64	0.42	-0.49
14,177.00	89.84	178.92	7,792.99	-6,372.23	660.83	6,381.73	0.55	0.45	0.32
14,272.00	89.84	179.63	7,793.25	-6,467.22	662.03	6,476.73	0.75	0.00	0.75
14,367.00	89.02	179.98	7,794.20	-6,562.22	662.35	6,571.71	0.94	-0.86	0.37
14,461.00	89.85	180.22	7,795.12	-6,656.21	662.19	6,665.69	0.92	0.88	0.26
14,556.00	89.36	179.63	7,795.78	-6,751.21	662.32	6,760.68	0.81	-0.52	-0.62
14,650.00	89.10	179.95	7,797.04	-6,845.20	662.66	6,854.67	0.44	-0.28	0.34
14,745.00	89.65	180.09	7,798.08	-6,940.19	662.63	6,949.65	0.60	0.58	0.15
14,840.00	90.32	180.14	7,798.10	-7,035.19	662.44	7,044.63	0.71	0.71	0.05
14,935.00	89.85	180.82	7,797.96	-7,130.19	661.64	7,139.60	0.87	-0.49	0.72
15,030.00	90.35	180.61	7,797.80	-7,225.18	660.45	7,234.57	0.57	0.53	-0.22
15,125.00	91.13	180.77	7,796.57	-7,320.16	659.31	7,329.52	0.84	0.82	0.17
15,219.00	89.93	180.71	7,795.70	-7,414.15	658.10	7,423.48	1.28	-1.28	-0.06
15,314.00	89.53	180.20	7,796.15	-7,509.15	657.34	7,518.45	0.68	-0.42	-0.54
15,409.00	90.07	180.11	7,796.48	-7,604.14	657.09	7,613.43	0.58	0.57	-0.09
15,504.00	90.84	180.29	7,795.73	-7,699.14	656.75	7,708.41	0.83	0.81	0.19
15,598.00	90.02	180.21	7,795.02	-7,793.14	656.34	7,802.39	0.88	-0.87	-0.09
15,693.00	90.22	180.45	7,794.82	-7,888.13	655.80	7,897.37	0.33	0.21	0.25
15,788.00	90.94	180.53	7,793.86	-7,983.12	654.98	7,992.34	0.76	0.76	0.08
15,883.00	90.59	180.32	7,792.59	-8,078.11	654.28	8,087.30	0.43	-0.37	-0.22
15,978.00	90.54	180.08	7,791.65	-8,173.11	653.95	8,182.28	0.26	-0.05	-0.25
16,072.00	89.60	179.68	7,791.54	-8,267.11	654.14	8,276.27	1.09	-1.00	-0.43
16,167.00	89.52	179.33	7,792.27	-8,362.10	654.97	8,371.26	0.38	-0.08	-0.37
16,262.00	89.41	178.57	7,793.16	-8,457.08	656.71	8,466.26	0.81	-0.12	-0.80
16,357.00	90.09	178.72	7,793.57	-8,552.05	658.95	8,561.26	0.73	0.72	0.16
16,452.00	90.98	179.04	7,792.68	-8,647.03	660.81	8,656.25	1.00	0.94	0.34
16,546.00	90.35	178.94	7,791.59	-8,741.01	662.47	8,750.24	0.68	-0.67	-0.11
16,641.00	89.95	179.17	7,791.34	-8,835.99	664.03	8,845.24	0.49	-0.42	0.24
16,736.00	89.36	178.91	7,791.92	-8,930.98	665.62	8,940.24	0.68	-0.62	-0.27
16,830.00	88.78	178.29	7,793.44	-9,024.94	667.92	9,034.22	0.90	-0.62	-0.66
16,925.00	90.41	179.29	7,794.11	-9,119.91	669.93	9,129.21	2.01	1.72	1.05
17,020.00	88.75	178.49	7,794.81	-9,214.88	671.77	9,224.21	1.94	-1.75	-0.84
17,115.00	88.55	178.05	7,797.05	-9,309.81	674.63	9,319.17	0.51	-0.21	-0.46
17,210.00	89.45	177.78	7,798.71	-9,404.74	678.09	9,414.13	0.99	0.95	-0.28
17,305.00	90.18	178.09	7,799.01	-9,499.67	681.51	9,509.11	0.83	0.77	0.33
17,400.00	90.86	178.03	7,798.15	-9,594.61	684.73	9,604.09	0.72	0.72	-0.06

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well 502H
Project:	Eddy County, NM (NAD83 NME)	TVD Reference:	RKB @ 3076.00usft (Pioneer 84)
Site:	Daisy 24 State Com	MD Reference:	RKB @ 3076.00usft (Pioneer 84)
Well:	502H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Pioneer 84)	Database:	USA Compass

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)
17,494.00	91.70	178.00	7,796.05	-9,688.53	687.98	9,698.05	0.89	0.89	-0.03
17,589.00	92.78	178.29	7,792.34	-9,783.41	691.06	9,792.96	1.18	1.14	0.31
17,684.00	91.86	178.58	7,788.49	-9,878.29	693.65	9,887.88	1.02	-0.97	0.31
17,779.00	91.84	179.36	7,785.42	-9,973.23	695.36	9,982.83	0.82	-0.02	0.82
17,874.00	90.96	179.24	7,783.10	-10,068.19	696.52	10,077.80	0.93	-0.93	-0.13
17,969.00	90.73	179.32	7,781.70	-10,163.17	697.71	10,172.79	0.26	-0.24	0.08
18,014.00	91.13	179.39	7,780.97	-10,208.17	698.22	10,217.78	0.90	0.89	0.16
Final Phoenix MWD Survey									
18,080.00	91.13	179.39	7,779.67	-10,274.15	698.92	10,283.77	0.00	0.00	0.00
Projection to TD									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,073.00	7,037.77	216.73	413.07	Tie In
7,150.00	7,112.90	223.95	428.31	First Phoenix MWD Survey
18,014.00	7,780.97	-10,208.17	698.22	Final Phoenix MWD Survey
18,080.00	7,779.67	-10,274.15	698.92	Projection to TD