



NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 13 2019

RECEIVED

COG Operating L L C

Eddy County, NM (NAD 27 NME)

Sec. 24, T 25S. , R 27 E

Daisy State Com #501H

Wellbore #1

30-05-45745

Plan: Plan #1

Standard Survey Report

06 February, 2019



Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec. 24, T 25S. , R 27 E
Well: Daisy State Com #501H
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Well Daisy State Com #501H
TVD Reference: KB=30' @ 3081.00usft (Nabors 894)
MD Reference: KB=30' @ 3081.00usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Project	Eddy County, NM (NAD 27 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	Sec. 24, T 25S. , R 27 E			
Site Position:		Northing:	408,345.40 usft	Latitude: 32.12253
From: Map		Easting:	556,167.10 usft	Longitude: -104.15191
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.10 °

Well	Daisy State Com #501H			
Well Position	+N/-S	0.00 usft	Northing:	408,073.20 usft
	+E/-W	0.00 usft	Easting:	556,552.70 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	3,051.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/31/2018	7.23	59.83	47,878

Design	Plan #1				
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	180.90	

Survey Tool Program	Date 2/6/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,003.17	Plan #1 (Wellbore #1)	MWD	MWD - Standard	

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
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
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
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

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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)
1,000.00	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
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
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
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	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
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

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5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
5,700.00	2.00	331.21	5,699.98	1.53	-0.84	-1.52	2.00	2.00	0.00
5,800.00	4.00	331.21	5,799.84	6.12	-3.36	-6.06	2.00	2.00	0.00
5,900.00	6.00	331.21	5,899.45	13.75	-7.56	-13.63	2.00	2.00	0.00
6,000.00	8.00	331.21	5,998.70	24.43	-13.43	-24.22	2.00	2.00	0.00
6,030.30	8.61	331.21	6,028.69	28.27	-15.53	-28.02	2.00	2.00	0.00
Start 1102.81 hold at 6030.30 MD									
6,100.00	8.61	331.21	6,097.60	37.41	-20.56	-37.08	0.00	0.00	0.00
6,200.00	8.61	331.21	6,196.47	50.52	-27.76	-50.08	0.00	0.00	0.00
6,300.00	8.61	331.21	6,295.35	63.64	-34.97	-63.09	0.00	0.00	0.00
6,400.00	8.61	331.21	6,394.22	76.75	-42.17	-76.09	0.00	0.00	0.00
6,500.00	8.61	331.21	6,493.10	89.87	-49.38	-89.09	0.00	0.00	0.00
6,600.00	8.61	331.21	6,591.97	102.98	-56.58	-102.09	0.00	0.00	0.00
6,700.00	8.61	331.21	6,690.84	116.10	-63.79	-115.09	0.00	0.00	0.00
6,800.00	8.61	331.21	6,789.72	129.21	-71.00	-128.09	0.00	0.00	0.00
6,900.00	8.61	331.21	6,888.59	142.33	-78.20	-141.09	0.00	0.00	0.00
7,000.00	8.61	331.21	6,987.47	155.44	-85.41	-154.09	0.00	0.00	0.00
7,100.00	8.61	331.21	7,086.34	168.56	-92.61	-167.09	0.00	0.00	0.00
7,133.11	8.61	331.21	7,119.08	172.90	-95.00	-171.39	0.00	0.00	0.00
Start DLS 10.00 TFO -140.88									
7,200.00	5.42	280.10	7,185.52	177.85	-100.52	-176.25	10.00	-4.77	-76.41
7,300.00	11.35	218.20	7,284.57	170.92	-111.28	-169.16	10.00	5.94	-61.91
7,400.00	20.68	204.56	7,380.61	147.06	-124.74	-145.09	10.00	9.33	-13.64
7,500.00	30.43	199.30	7,470.73	107.00	-140.50	-104.79	10.00	9.75	-5.26
7,600.00	40.30	196.43	7,552.18	51.94	-158.06	-49.46	10.00	9.86	-2.87
7,700.00	50.21	194.54	7,622.50	-16.44	-176.90	19.20	10.00	9.91	-1.89
7,800.00	60.14	193.13	7,679.54	-96.05	-196.45	99.11	10.00	9.93	-1.41
7,900.00	70.08	191.98	7,721.57	-184.49	-216.11	187.85	10.00	9.95	-1.15
8,000.00	80.04	190.97	7,747.32	-279.07	-235.28	282.71	10.00	9.95	-1.01
8,100.00	89.99	190.01	7,756.00	-376.90	-253.39	380.81	10.00	9.95	-0.95
8,101.29	90.12	190.00	7,756.00	-378.17	-253.61	382.09	10.00	9.96	-0.94
Start DLS 4.00 TFO -90.01									
8,200.00	90.12	186.05	7,755.79	-475.89	-267.39	480.02	4.00	0.00	-4.00
8,300.00	90.12	182.05	7,755.59	-575.62	-274.46	579.84	4.00	0.00	-4.00
8,368.32	90.12	179.32	7,755.45	-643.94	-275.27	648.16	4.00	0.00	-4.00
Start 9635.07 hold at 8368.32 MD									
8,400.00	90.12	179.32	7,755.38	-675.61	-274.90	679.82	0.00	0.00	0.00
8,500.00	90.12	179.32	7,755.18	-775.60	-273.71	779.79	0.00	0.00	0.00
8,600.00	90.12	179.32	7,754.98	-875.59	-272.52	879.75	0.00	0.00	0.00
8,700.00	90.12	179.32	7,754.78	-975.59	-271.33	979.71	0.00	0.00	0.00
8,800.00	90.12	179.32	7,754.58	-1,075.58	-270.14	1,079.67	0.00	0.00	0.00

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8,900.00	90.12	179.32	7,754.38	-1,175.57	-268.95	1,179.63	0.00	0.00	0.00
9,000.00	90.12	179.32	7,754.17	-1,275.57	-267.76	1,279.60	0.00	0.00	0.00
9,100.00	90.12	179.32	7,753.97	-1,375.56	-266.57	1,379.56	0.00	0.00	0.00
9,200.00	90.12	179.32	7,753.77	-1,475.55	-265.38	1,479.52	0.00	0.00	0.00
9,300.00	90.12	179.32	7,753.57	-1,575.54	-264.19	1,579.48	0.00	0.00	0.00
9,400.00	90.12	179.32	7,753.37	-1,675.54	-263.01	1,679.44	0.00	0.00	0.00
9,500.00	90.12	179.32	7,753.16	-1,775.53	-261.82	1,779.40	0.00	0.00	0.00
9,600.00	90.12	179.32	7,752.96	-1,875.52	-260.63	1,879.37	0.00	0.00	0.00
9,700.00	90.12	179.32	7,752.76	-1,975.51	-259.44	1,979.33	0.00	0.00	0.00
9,800.00	90.12	179.32	7,752.56	-2,075.51	-258.25	2,079.29	0.00	0.00	0.00
9,900.00	90.12	179.32	7,752.36	-2,175.50	-257.06	2,179.25	0.00	0.00	0.00
10,000.00	90.12	179.32	7,752.16	-2,275.49	-255.87	2,279.21	0.00	0.00	0.00
10,100.00	90.12	179.32	7,751.95	-2,375.49	-254.68	2,379.18	0.00	0.00	0.00
10,200.00	90.12	179.32	7,751.75	-2,475.48	-253.49	2,479.14	0.00	0.00	0.00
10,300.00	90.12	179.32	7,751.55	-2,575.47	-252.30	2,579.10	0.00	0.00	0.00
10,400.00	90.12	179.32	7,751.35	-2,675.46	-251.11	2,679.06	0.00	0.00	0.00
10,500.00	90.12	179.32	7,751.15	-2,775.46	-249.92	2,779.02	0.00	0.00	0.00
10,600.00	90.12	179.32	7,750.94	-2,875.45	-248.74	2,878.99	0.00	0.00	0.00
10,700.00	90.12	179.32	7,750.74	-2,975.44	-247.55	2,978.95	0.00	0.00	0.00
10,800.00	90.12	179.32	7,750.54	-3,075.43	-246.36	3,078.91	0.00	0.00	0.00
10,900.00	90.12	179.32	7,750.34	-3,175.43	-245.17	3,178.87	0.00	0.00	0.00
11,000.00	90.12	179.32	7,750.14	-3,275.42	-243.98	3,278.83	0.00	0.00	0.00
11,100.00	90.12	179.32	7,749.93	-3,375.41	-242.79	3,378.80	0.00	0.00	0.00
11,200.00	90.12	179.32	7,749.73	-3,475.41	-241.60	3,478.76	0.00	0.00	0.00
11,300.00	90.12	179.32	7,749.53	-3,575.40	-240.41	3,578.72	0.00	0.00	0.00
11,400.00	90.12	179.32	7,749.33	-3,675.39	-239.22	3,678.68	0.00	0.00	0.00
11,500.00	90.12	179.32	7,749.13	-3,775.38	-238.03	3,778.64	0.00	0.00	0.00
11,600.00	90.12	179.32	7,748.93	-3,875.38	-236.84	3,878.61	0.00	0.00	0.00
11,700.00	90.12	179.32	7,748.72	-3,975.37	-235.66	3,978.57	0.00	0.00	0.00
11,800.00	90.12	179.32	7,748.52	-4,075.36	-234.47	4,078.53	0.00	0.00	0.00
11,900.00	90.12	179.32	7,748.32	-4,175.35	-233.28	4,178.49	0.00	0.00	0.00
12,000.00	90.12	179.32	7,748.12	-4,275.35	-232.09	4,278.45	0.00	0.00	0.00
12,100.00	90.12	179.32	7,747.92	-4,375.34	-230.90	4,378.41	0.00	0.00	0.00
12,200.00	90.12	179.32	7,747.71	-4,475.33	-229.71	4,478.38	0.00	0.00	0.00
12,300.00	90.12	179.32	7,747.51	-4,575.33	-228.52	4,578.34	0.00	0.00	0.00
12,400.00	90.12	179.32	7,747.31	-4,675.32	-227.33	4,678.30	0.00	0.00	0.00
12,500.00	90.12	179.32	7,747.11	-4,775.31	-226.14	4,778.26	0.00	0.00	0.00
12,600.00	90.12	179.32	7,746.91	-4,875.30	-224.95	4,878.22	0.00	0.00	0.00
12,700.00	90.12	179.32	7,746.71	-4,975.30	-223.76	4,978.19	0.00	0.00	0.00
12,800.00	90.12	179.32	7,746.50	-5,075.29	-222.57	5,078.15	0.00	0.00	0.00
12,900.00	90.12	179.32	7,746.30	-5,175.28	-221.39	5,178.11	0.00	0.00	0.00
13,000.00	90.12	179.32	7,746.10	-5,275.27	-220.20	5,278.07	0.00	0.00	0.00
13,100.00	90.12	179.32	7,745.90	-5,375.27	-219.01	5,378.03	0.00	0.00	0.00

Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec. 24, T 25S. , R 27 E
Well: Daisy State Com #501H
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Well Daisy State Com #501H
TVD Reference: KB=30' @ 3081.00usft (Nabors 894)
MD Reference: KB=30' @ 3081.00usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

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)
13,200.00	90.12	179.32	7,745.70	-5,475.26	-217.82	5,478.00	0.00	0.00	0.00
13,300.00	90.12	179.32	7,745.49	-5,575.25	-216.63	5,577.96	0.00	0.00	0.00
13,400.00	90.12	179.32	7,745.29	-5,675.25	-215.44	5,677.92	0.00	0.00	0.00
13,500.00	90.12	179.32	7,745.09	-5,775.24	-214.25	5,777.88	0.00	0.00	0.00
13,600.00	90.12	179.32	7,744.89	-5,875.23	-213.06	5,877.84	0.00	0.00	0.00
13,700.00	90.12	179.32	7,744.69	-5,975.22	-211.87	5,977.81	0.00	0.00	0.00
13,800.00	90.12	179.32	7,744.48	-6,075.22	-210.68	6,077.77	0.00	0.00	0.00
13,900.00	90.12	179.32	7,744.28	-6,175.21	-209.49	6,177.73	0.00	0.00	0.00
14,000.00	90.12	179.32	7,744.08	-6,275.20	-208.31	6,277.69	0.00	0.00	0.00
14,100.00	90.12	179.32	7,743.88	-6,375.19	-207.12	6,377.65	0.00	0.00	0.00
14,200.00	90.12	179.32	7,743.68	-6,475.19	-205.93	6,477.62	0.00	0.00	0.00
14,300.00	90.12	179.32	7,743.48	-6,575.18	-204.74	6,577.58	0.00	0.00	0.00
14,400.00	90.12	179.32	7,743.27	-6,675.17	-203.55	6,677.54	0.00	0.00	0.00
14,500.00	90.12	179.32	7,743.07	-6,775.17	-202.36	6,777.50	0.00	0.00	0.00
14,600.00	90.12	179.32	7,742.87	-6,875.16	-201.17	6,877.46	0.00	0.00	0.00
14,700.00	90.12	179.32	7,742.67	-6,975.15	-199.98	6,977.42	0.00	0.00	0.00
14,800.00	90.12	179.32	7,742.47	-7,075.14	-198.79	7,077.39	0.00	0.00	0.00
14,900.00	90.12	179.32	7,742.26	-7,175.14	-197.60	7,177.35	0.00	0.00	0.00
15,000.00	90.12	179.32	7,742.06	-7,275.13	-196.41	7,277.31	0.00	0.00	0.00
15,100.00	90.12	179.32	7,741.86	-7,375.12	-195.23	7,377.27	0.00	0.00	0.00
15,200.00	90.12	179.32	7,741.66	-7,475.11	-194.04	7,477.23	0.00	0.00	0.00
15,300.00	90.12	179.32	7,741.46	-7,575.11	-192.85	7,577.20	0.00	0.00	0.00
15,400.00	90.12	179.32	7,741.26	-7,675.10	-191.66	7,677.16	0.00	0.00	0.00
15,500.00	90.12	179.32	7,741.05	-7,775.09	-190.47	7,777.12	0.00	0.00	0.00
15,600.00	90.12	179.32	7,740.85	-7,875.09	-189.28	7,877.08	0.00	0.00	0.00
15,700.00	90.12	179.32	7,740.65	-7,975.08	-188.09	7,977.04	0.00	0.00	0.00
15,800.00	90.12	179.32	7,740.45	-8,075.07	-186.90	8,077.01	0.00	0.00	0.00
15,900.00	90.12	179.32	7,740.25	-8,175.06	-185.71	8,176.97	0.00	0.00	0.00
16,000.00	90.12	179.32	7,740.04	-8,275.06	-184.52	8,276.93	0.00	0.00	0.00
16,100.00	90.12	179.32	7,739.84	-8,375.05	-183.33	8,376.89	0.00	0.00	0.00
16,200.00	90.12	179.32	7,739.64	-8,475.04	-182.14	8,476.85	0.00	0.00	0.00
16,300.00	90.12	179.32	7,739.44	-8,575.03	-180.96	8,576.82	0.00	0.00	0.00
16,400.00	90.12	179.32	7,739.24	-8,675.03	-179.77	8,676.78	0.00	0.00	0.00
16,500.00	90.12	179.32	7,739.03	-8,775.02	-178.58	8,776.74	0.00	0.00	0.00
16,600.00	90.12	179.32	7,738.83	-8,875.01	-177.39	8,876.70	0.00	0.00	0.00
16,700.00	90.12	179.32	7,738.63	-8,975.01	-176.20	8,976.66	0.00	0.00	0.00
16,800.00	90.12	179.32	7,738.43	-9,075.00	-175.01	9,076.62	0.00	0.00	0.00
16,900.00	90.12	179.32	7,738.23	-9,174.99	-173.82	9,176.59	0.00	0.00	0.00
17,000.00	90.12	179.32	7,738.03	-9,274.98	-172.63	9,276.55	0.00	0.00	0.00
17,100.00	90.12	179.32	7,737.82	-9,374.98	-171.44	9,376.51	0.00	0.00	0.00
17,200.00	90.12	179.32	7,737.62	-9,474.97	-170.25	9,476.47	0.00	0.00	0.00
17,300.00	90.12	179.32	7,737.42	-9,574.96	-169.06	9,576.43	0.00	0.00	0.00
17,400.00	90.12	179.32	7,737.22	-9,674.95	-167.88	9,676.40	0.00	0.00	0.00
17,500.00	90.12	179.32	7,737.02	-9,774.95	-166.69	9,776.36	0.00	0.00	0.00

Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec. 24, T 25S. , R 27 E
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Design: Plan #1

Local Co-ordinate Reference: Well Daisy State Com #501H
TVD Reference: KB=30' @ 3081.00usft (Nabors 894)
MD Reference: KB=30' @ 3081.00usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

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)
17,600.00	90.12	179.32	7,736.81	-9,874.94	-165.50	9,876.32	0.00	0.00	0.00
17,700.00	90.12	179.32	7,736.61	-9,974.93	-164.31	9,976.28	0.00	0.00	0.00
17,800.00	90.12	179.32	7,736.41	-10,074.93	-163.12	10,076.24	0.00	0.00	0.00
17,900.00	90.12	179.32	7,736.21	-10,174.92	-161.93	10,176.21	0.00	0.00	0.00
18,000.00	90.12	179.32	7,736.01	-10,274.91	-160.74	10,276.17	0.00	0.00	0.00
18,003.39	90.12	179.32	7,736.00	-10,278.30	-160.70	10,279.56	0.00	0.00	0.00
TD at 18003.39									

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
Daisy State Com #50' - plan misses target center by 333.69usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	172.90	-285.40	408,246.10	556,267.30	32.12226	-104.15158
Daisy State Com #50' - plan hits target center - Point	0.00	0.00	7,736.00	-10,278.30	-160.70	397,794.90	556,392.00	32.09352	-104.15124
Daisy State Com #50' - plan misses target center by 0.01usft at 17953.39usft MD (7736.10 TVD, -10228.30 N, -161.29 E) - Point	0.00	0.00	7,736.10	-10,228.30	-161.30	397,844.90	556,391.40	32.09366	-104.15124

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
578.00	578.00	TOS		0.00	
2,020.00	2,020.00	BOS (Fletcher)		0.00	
2,214.00	2,214.00	LMAR (Top Delaware)		0.00	
2,250.00	2,250.00	BLCN		0.00	
3,067.00	3,067.00	CYCN		0.00	
4,263.00	4,263.00	BYCN			
5,881.45	5,881.00	Bone Sprg (BSGL)			
6,180.31	6,177.00	U Avalon Sh			
6,418.99	6,413.00	L Avalon Sh			
6,754.77	6,745.00	B Avalon Sh			
6,809.39	6,799.00	FBSG_sand			
7,383.40	7,365.00	SBSG_sand			



Survey Report



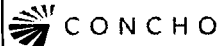
Company: COG Operating L L C
Project: Eddy County, NM (NAD 27 NME)
Site: Sec. 24, T 25S. , R 27 E
Well: Daisy State Com #501H
Wellbore: Wellbore #1
Design: Plan #1

Local Co-ordinate Reference: Well Daisy State Com #501H
TVD Reference: KB=30' @ 3081.00usft (Nabors 894)
MD Reference: KB=30' @ 3081.00usft (Nabors 894)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5600	5600	0	0	Start Build 2.00
6030	6029	28	-16	Start 1102.81 hold at 6030.30 MD
7133	7119	173	-95	Start DLS 10.00 TFO -140.88
8101	7756	-378	-254	Start DLS 4.00 TFO -90.01
8368	7755	-644	-275	Start 9635.07 hold at 8368.32 MD
18,003	7736	-10,278	-161	TD at 18003.39

Checked By: _____ Approved By: _____ Date: _____



COG Operating L.L.C.
Project: Eddy County, NM (NAD 27 NME)
Site: Sec. 24, T 25S., R 27 E
Well: Daisy State Com #501H
Wellbore: Wellbore #1
Plan: Plan #1 (Daisy State Com #501H/Wellbore #1)
Nabors 894

WELL DETAILS: Daisy State Com #501H

Ground Elevation:: 3051.00
RKB Elevation: KB=30' @ 3081.00usft (Nabors 894)
Rig Name: Nabors 894

Northing 408073.20 Easting 556552.70 Latitude 32.12178 Longitude -104.15066

Planned Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
2	5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	0.00	Start 1102.81 hold at 6030.30 MD
3	6030.30	8.61	331.21	6028.69	28.27	-15.53	2.00	331.21	-28.02	Start DLS 10.00 TFO -140.88
4	7133.11	8.61	331.21	7119.08	172.90	-95.00	0.00	0.00	-171.39	Start DLS 4.00 TFO -90.01
5	8101.29	90.12	190.00	7756.00	-378.17	-253.61	10.00	-140.88	382.09	Start 9635.07 hold at 8368.32 MD
6	8368.32	90.12	179.32	7755.45	-643.94	-275.27	4.00	-90.01	648.16	TD at 18003.39
7	18003.39	90.12	179.32	7736.00	-10278.30	-160.70	0.00	0.00	10279.56	

