

HOBBS OCD

JUN 13 2016

RECEIVED

Monet Federal #3H

30-025-42763

Sec 4-T25S-R33E

	<u>Perfs</u>		<u>7 1/2% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
13960	13909	13859	1512	299871	264348
13771	13739	13706	4536	301734	385350
13656	13605	13554	2982	300191	285978
13504	13453	13405	3024	302172	292320
13356	13301	13250	3024	300958	302778
13199	13151	13095	4536	301074	356412
13047	12998	12945	2982	301549	278796
12895	12844	12793	3024	301076	277578
12743	12692	12645	3024	301467	279090
12590	12540	12489	2982	300283	279132
12438	12388	12337	2982	301206	273084
12286	12235	12185	3024	299595	275226
12134	12083	12033	3024	300141	275604
11982	11931	11880	3024	300330	277830
11828	11779	11727	3024	302925	271950
11678	11627	11576	3024	298916	272370
11525	11475	11426	3066	300977	297024
11371	11323	11272	2982	300910	273252
11221	11170	11120	2982	297393	276150
11069	11018	10967	3066	302773	299796
10919	10862	10815	3024	304544	283248
10765	10714	10663	3024	133581	197190
10612	10562	10511	3024	302297	277956
10460	10412	10357	3024	302682	275646
10308	10257	10207	3066	301622	276276
10156	10105	10054	3024	299751	271824
10004	9955	9902	3024	301219	272748
9852	9801	9750	2982	300468	272160
9699	9649	9598	3024	300125	295512
	Totals		89040	8561830	8216628

COG Production LLC

Lea County, NM (NAD27 NME)

Monet Federal

#3H

OH

HOBBS OCD

JUN 13 2016

Design: OH

RECEIVED

Survey Report - Geographic

09 March, 2016

IDS

Survey Report - Geographic

Company:	COG Production LLC	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	WELL @ 3481.7usft (Original Well Elev)
Site:	Monet Federal	MD Reference:	WELL @ 3481.7usft (Original Well Elev)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea 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	Monet Federal		
Site Position:		Northing:	425,010.10 usft
From:	Map	Easting:	733,599.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 9' 58.383 N
		Longitude:	103° 34' 42.302 W
		Grid Convergence:	0.40 °

Well	#3H		
Well Position	+N/-S	0.0 usft	Northing: 425,009.10 usft
	+E/-W	0.0 usft	Easting: 733,449.90 usft
Position Uncertainty	3.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 9' 58.383 N
		Longitude:	103° 34' 44.046 W
		Ground Level:	3,461.7 usft

Wellbore	OH		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/16/2016	7.10	60.03	48,040

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			183.50

Survey Program	Date 3/8/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.0	4,900.0	GYRO (OH)	VESSI_GYROFLEX
5,087.0	14,049.0	MWD #1 (OH)	MWD
			Description
			VESSI Gyroflex Gyro
			MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	425,009.10	733,449.90	32° 9' 58.383 N	103° 34' 44.046 W
100.0	0.33	39.29	100.0	0.2	0.2	425,009.32	733,450.08	32° 9' 58.385 N	103° 34' 44.044 W
First Gyro Survey									
200.0	0.35	26.55	200.0	0.7	0.5	425,009.82	733,450.40	32° 9' 58.390 N	103° 34' 44.040 W
300.0	0.30	28.64	300.0	1.2	0.8	425,010.32	733,450.66	32° 9' 58.395 N	103° 34' 44.037 W
400.0	0.26	32.41	400.0	1.6	1.0	425,010.74	733,450.91	32° 9' 58.399 N	103° 34' 44.034 W
500.0	0.27	39.71	500.0	2.0	1.3	425,011.12	733,451.18	32° 9' 58.403 N	103° 34' 44.031 W
600.0	0.29	15.34	600.0	2.4	1.5	425,011.54	733,451.40	32° 9' 58.407 N	103° 34' 44.028 W
700.0	0.35	23.00	700.0	3.0	1.7	425,012.07	733,451.58	32° 9' 58.412 N	103° 34' 44.026 W
800.0	0.23	34.54	800.0	3.4	1.9	425,012.51	733,451.82	32° 9' 58.417 N	103° 34' 44.023 W
900.0	0.44	51.52	900.0	3.8	2.3	425,012.92	733,452.23	32° 9' 58.421 N	103° 34' 44.018 W

IDS

Survey Report - Geographic

Company:	COG Production LLC	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	WELL @ 3481.7usft (Original Well Elev)
Site:	Monet Federal	MD Reference:	WELL @ 3481.7usft (Original Well Elev)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,000.0	0.46	49.96	1,000.0	4.3	2.9	425,013.41	733,452.84	32° 9' 58.426 N	103° 34' 44.011 W
1,100.0	0.60	57.10	1,100.0	4.9	3.7	425,013.96	733,453.59	32° 9' 58.431 N	103° 34' 44.002 W
1,200.0	0.46	6.04	1,200.0	5.5	4.2	425,014.64	733,454.07	32° 9' 58.438 N	103° 34' 43.997 W
1,300.0	0.42	56.49	1,300.0	6.1	4.5	425,015.24	733,454.41	32° 9' 58.444 N	103° 34' 43.993 W
1,400.0	0.45	27.84	1,400.0	6.7	5.0	425,015.79	733,454.90	32° 9' 58.449 N	103° 34' 43.987 W
1,500.0	0.29	318.81	1,500.0	7.2	5.0	425,016.33	733,454.92	32° 9' 58.454 N	103° 34' 43.987 W
1,600.0	0.49	11.09	1,600.0	7.8	4.9	425,016.94	733,454.84	32° 9' 58.460 N	103° 34' 43.988 W
1,700.0	0.32	46.22	1,700.0	8.5	5.2	425,017.55	733,455.12	32° 9' 58.466 N	103° 34' 43.984 W
1,800.0	0.08	345.51	1,800.0	8.7	5.4	425,017.81	733,455.30	32° 9' 58.469 N	103° 34' 43.982 W
1,900.0	0.47	16.00	1,900.0	9.2	5.5	425,018.27	733,455.40	32° 9' 58.473 N	103° 34' 43.981 W
2,000.0	0.53	354.80	2,000.0	10.0	5.6	425,019.13	733,455.47	32° 9' 58.482 N	103° 34' 43.980 W
2,100.0	0.45	329.80	2,100.0	10.8	5.3	425,019.93	733,455.23	32° 9' 58.490 N	103° 34' 43.983 W
2,200.0	0.56	345.78	2,200.0	11.6	5.0	425,020.74	733,454.91	32° 9' 58.498 N	103° 34' 43.986 W
2,300.0	0.66	342.75	2,299.9	12.7	4.7	425,021.77	733,454.62	32° 9' 58.508 N	103° 34' 43.990 W
2,400.0	0.74	338.11	2,399.9	13.8	4.3	425,022.92	733,454.21	32° 9' 58.519 N	103° 34' 43.994 W
2,500.0	0.91	328.35	2,499.9	15.1	3.7	425,024.19	733,453.55	32° 9' 58.532 N	103° 34' 44.002 W
2,600.0	1.09	323.73	2,599.9	16.5	2.7	425,025.63	733,452.57	32° 9' 58.546 N	103° 34' 44.013 W
2,700.0	1.12	321.53	2,699.9	18.1	1.5	425,027.17	733,451.40	32° 9' 58.562 N	103° 34' 44.027 W
2,800.0	1.15	318.15	2,799.9	19.6	0.2	425,028.68	733,450.13	32° 9' 58.577 N	103° 34' 44.041 W
2,900.0	1.24	313.39	2,899.9	21.1	-1.2	425,030.17	733,448.67	32° 9' 58.592 N	103° 34' 44.058 W
3,000.0	1.04	315.11	2,999.8	22.5	-2.7	425,031.56	733,447.24	32° 9' 58.605 N	103° 34' 44.075 W
3,100.0	1.39	318.75	3,099.8	24.0	-4.1	425,033.11	733,445.80	32° 9' 58.621 N	103° 34' 44.091 W
3,200.0	1.10	320.14	3,199.8	25.7	-5.5	425,034.76	733,444.39	32° 9' 58.637 N	103° 34' 44.108 W
3,300.0	1.11	321.56	3,299.8	27.2	-6.7	425,036.25	733,443.17	32° 9' 58.652 N	103° 34' 44.122 W
3,400.0	1.14	315.20	3,399.7	28.6	-8.0	425,037.72	733,441.87	32° 9' 58.667 N	103° 34' 44.137 W
3,500.0	1.08	313.57	3,499.7	30.0	-9.4	425,039.07	733,440.48	32° 9' 58.680 N	103° 34' 44.153 W
3,600.0	1.13	311.24	3,599.7	31.3	-10.8	425,040.37	733,439.06	32° 9' 58.693 N	103° 34' 44.169 W
3,700.0	1.22	312.30	3,699.7	32.6	-12.4	425,041.74	733,437.53	32° 9' 58.707 N	103° 34' 44.187 W
3,800.0	1.11	313.10	3,799.7	34.0	-13.9	425,043.12	733,436.04	32° 9' 58.721 N	103° 34' 44.204 W
3,900.0	1.05	333.65	3,899.7	35.5	-15.0	425,044.60	733,434.92	32° 9' 58.735 N	103° 34' 44.217 W
4,000.0	1.01	337.03	3,999.6	37.1	-15.7	425,046.23	733,434.17	32° 9' 58.752 N	103° 34' 44.226 W
4,100.0	1.02	339.55	4,099.6	38.8	-16.4	425,047.88	733,433.52	32° 9' 58.768 N	103° 34' 44.233 W
4,200.0	1.02	337.08	4,199.6	40.4	-17.0	425,049.53	733,432.86	32° 9' 58.784 N	103° 34' 44.241 W
4,300.0	1.04	338.89	4,299.6	42.1	-17.7	425,051.20	733,432.19	32° 9' 58.801 N	103° 34' 44.248 W
4,400.0	0.84	9.80	4,399.6	43.7	-17.9	425,052.77	733,431.98	32° 9' 58.816 N	103° 34' 44.251 W
4,500.0	0.62	56.73	4,499.6	44.7	-17.3	425,053.79	733,432.56	32° 9' 58.826 N	103° 34' 44.244 W
4,600.0	0.83	68.65	4,599.6	45.2	-16.2	425,054.35	733,433.69	32° 9' 58.832 N	103° 34' 44.231 W
4,700.0	1.33	91.70	4,699.5	45.5	-14.4	425,054.58	733,435.52	32° 9' 58.834 N	103° 34' 44.209 W
4,800.0	1.49	111.56	4,799.5	45.0	-12.0	425,054.07	733,437.89	32° 9' 58.829 N	103° 34' 44.182 W
4,900.0	0.84	130.17	4,899.5	44.0	-10.2	425,053.11	733,439.66	32° 9' 58.819 N	103° 34' 44.161 W
Final Gyro Survey									
5,087.0	1.40	143.50	5,086.5	41.3	-7.8	425,050.39	733,442.07	32° 9' 58.792 N	103° 34' 44.133 W
First MWD Survey									
5,181.0	1.30	144.00	5,180.4	39.5	-6.5	425,048.61	733,443.38	32° 9' 58.774 N	103° 34' 44.118 W
5,276.0	0.40	101.70	5,275.4	38.6	-5.6	425,047.67	733,444.34	32° 9' 58.765 N	103° 34' 44.107 W
5,370.0	1.20	302.30	5,369.4	39.0	-6.1	425,048.13	733,443.82	32° 9' 58.770 N	103° 34' 44.113 W
5,464.0	4.20	319.10	5,463.3	42.2	-9.2	425,051.26	733,440.74	32° 9' 58.801 N	103° 34' 44.149 W
5,558.0	5.80	317.70	5,556.9	48.3	-14.6	425,057.37	733,435.29	32° 9' 58.862 N	103° 34' 44.212 W
5,653.0	5.60	316.30	5,651.5	55.2	-21.0	425,064.27	733,428.85	32° 9' 58.930 N	103° 34' 44.286 W
5,747.0	5.60	314.60	5,745.0	61.7	-27.5	425,070.81	733,422.42	32° 9' 58.996 N	103° 34' 44.360 W
5,841.0	5.80	312.90	5,838.6	68.2	-34.2	425,077.26	733,415.68	32° 9' 59.060 N	103° 34' 44.438 W
5,936.0	5.50	313.40	5,933.1	74.6	-41.0	425,083.66	733,408.85	32° 9' 59.124 N	103° 34' 44.517 W
6,030.0	5.60	313.40	6,026.7	80.8	-47.7	425,089.91	733,402.25	32° 9' 59.186 N	103° 34' 44.593 W
6,124.0	5.70	300.50	6,120.2	86.3	-55.0	425,095.43	733,394.89	32° 9' 59.241 N	103° 34' 44.679 W
6,218.0	5.80	301.00	6,213.7	91.1	-63.1	425,100.24	733,386.80	32° 9' 59.289 N	103° 34' 44.772 W

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Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,313.0	6.00	296.90	6,308.2	95.9	-71.6	425,104.96	733,378.26	32° 9' 59.337 N	103° 34' 44.871 W
6,407.0	5.60	279.80	6,401.8	98.9	-80.5	425,107.96	733,369.35	32° 9' 59.367 N	103° 34' 44.975 W
6,502.0	5.50	278.70	6,496.3	100.3	-89.6	425,109.44	733,360.29	32° 9' 59.382 N	103° 34' 45.080 W
6,596.0	5.50	278.20	6,589.9	101.7	-98.5	425,110.77	733,351.37	32° 9' 59.396 N	103° 34' 45.184 W
6,690.0	5.50	280.60	6,683.4	103.1	-107.4	425,112.24	733,342.49	32° 9' 59.411 N	103° 34' 45.287 W
6,784.0	5.40	277.70	6,777.0	104.6	-116.2	425,113.66	733,333.68	32° 9' 59.426 N	103° 34' 45.389 W
6,879.0	5.10	278.00	6,871.6	105.7	-124.8	425,114.84	733,325.07	32° 9' 59.438 N	103° 34' 45.489 W
6,974.0	4.90	275.90	6,966.3	106.7	-133.0	425,115.85	733,316.85	32° 9' 59.449 N	103° 34' 45.585 W
7,068.0	4.70	279.70	7,059.9	107.8	-140.8	425,116.91	733,309.06	32° 9' 59.460 N	103° 34' 45.675 W
7,162.0	4.60	279.10	7,153.6	109.1	-148.4	425,118.16	733,301.54	32° 9' 59.473 N	103° 34' 45.763 W
7,256.0	4.60	275.10	7,247.3	110.0	-155.8	425,119.09	733,294.06	32° 9' 59.482 N	103° 34' 45.850 W
7,350.0	4.50	274.50	7,341.0	110.6	-163.3	425,119.71	733,286.63	32° 9' 59.489 N	103° 34' 45.936 W
7,444.0	3.40	276.30	7,434.8	111.2	-169.7	425,120.31	733,280.19	32° 9' 59.495 N	103° 34' 46.011 W
7,538.0	4.00	290.70	7,528.6	112.7	-175.5	425,121.77	733,274.35	32° 9' 59.510 N	103° 34' 46.079 W
7,632.0	4.00	290.50	7,622.4	115.0	-181.7	425,124.08	733,268.21	32° 9' 59.533 N	103° 34' 46.150 W
7,727.0	3.90	289.00	7,717.1	117.2	-187.8	425,126.29	733,262.05	32° 9' 59.556 N	103° 34' 46.221 W
7,820.0	3.90	287.40	7,809.9	119.2	-193.9	425,128.27	733,256.04	32° 9' 59.576 N	103° 34' 46.291 W
7,915.0	3.90	282.10	7,904.7	120.8	-200.1	425,129.91	733,249.80	32° 9' 59.592 N	103° 34' 46.364 W
8,009.0	4.30	301.70	7,998.5	123.3	-206.2	425,132.43	733,243.68	32° 9' 59.618 N	103° 34' 46.435 W
8,104.0	4.20	304.20	8,093.2	127.2	-212.1	425,136.26	733,237.77	32° 9' 59.656 N	103° 34' 46.503 W
8,199.0	4.00	305.50	8,188.0	131.0	-217.7	425,140.14	733,232.20	32° 9' 59.695 N	103° 34' 46.568 W
8,293.0	3.60	308.20	8,281.8	134.8	-222.7	425,143.87	733,227.21	32° 9' 59.732 N	103° 34' 46.625 W
8,387.0	4.90	298.30	8,375.5	138.5	-228.5	425,147.60	733,221.35	32° 9' 59.769 N	103° 34' 46.693 W
8,482.0	4.90	299.70	8,470.2	142.4	-235.6	425,151.53	733,214.26	32° 9' 59.809 N	103° 34' 46.775 W
8,577.0	4.90	293.80	8,564.8	146.1	-242.9	425,155.18	733,207.02	32° 9' 59.845 N	103° 34' 46.859 W
8,672.0	4.90	293.00	8,659.5	149.3	-250.3	425,158.40	733,199.57	32° 9' 59.878 N	103° 34' 46.946 W
8,767.0	4.80	289.40	8,754.1	152.2	-257.8	425,161.30	733,192.09	32° 9' 59.907 N	103° 34' 47.032 W
8,791.0	4.60	289.50	8,778.0	152.9	-259.7	425,161.96	733,190.24	32° 9' 59.914 N	103° 34' 47.054 W
8,841.0	4.70	285.30	8,827.9	154.1	-263.5	425,163.17	733,186.37	32° 9' 59.926 N	103° 34' 47.099 W
8,872.0	6.50	244.10	8,858.7	153.6	-266.3	425,162.74	733,183.56	32° 9' 59.922 N	103° 34' 47.131 W
8,935.0	15.70	213.60	8,920.5	145.0	-274.3	425,154.06	733,175.62	32° 9' 59.836 N	103° 34' 47.225 W
8,981.0	23.80	208.40	8,963.8	131.6	-282.2	425,140.68	733,167.74	32° 9' 59.705 N	103° 34' 47.317 W
9,030.0	30.70	203.00	9,007.3	111.3	-291.8	425,120.45	733,158.14	32° 9' 59.505 N	103° 34' 47.431 W
9,077.0	35.80	198.30	9,046.6	87.2	-300.8	425,096.33	733,149.13	32° 9' 59.267 N	103° 34' 47.537 W
9,124.0	39.10	193.20	9,084.0	59.7	-308.5	425,068.84	733,141.43	32° 9' 58.996 N	103° 34' 47.629 W
9,171.0	42.60	188.30	9,119.5	29.5	-314.2	425,038.65	733,135.74	32° 9' 58.697 N	103° 34' 47.698 W
9,219.0	44.00	183.90	9,154.5	-3.2	-317.6	425,005.93	733,132.26	32° 9' 58.374 N	103° 34' 47.741 W
9,251.0	44.30	183.30	9,177.4	-25.4	-319.0	424,983.69	733,130.86	32° 9' 58.154 N	103° 34' 47.759 W
9,314.0	45.10	181.30	9,222.2	-69.7	-320.8	424,939.41	733,129.09	32° 9' 57.716 N	103° 34' 47.783 W
9,361.0	47.70	179.00	9,254.6	-103.7	-320.9	424,905.38	733,129.02	32° 9' 57.379 N	103° 34' 47.787 W
9,409.0	55.00	180.50	9,284.6	-141.2	-320.7	424,867.93	733,129.15	32° 9' 57.008 N	103° 34' 47.788 W
9,456.0	62.40	181.90	9,309.0	-181.3	-321.6	424,827.80	733,128.29	32° 9' 56.611 N	103° 34' 47.802 W
9,504.0	65.80	183.20	9,329.9	-224.4	-323.5	424,784.68	733,126.37	32° 9' 56.185 N	103° 34' 47.828 W
9,551.0	71.80	182.90	9,346.9	-268.2	-325.9	424,740.94	733,124.04	32° 9' 55.752 N	103° 34' 47.858 W
9,598.0	75.80	180.60	9,360.0	-313.3	-327.2	424,695.84	733,122.67	32° 9' 55.306 N	103° 34' 47.878 W
9,662.0	84.20	178.20	9,371.1	-376.2	-326.6	424,632.88	733,123.35	32° 9' 54.683 N	103° 34' 47.875 W
9,694.0	88.20	180.50	9,373.3	-408.1	-326.2	424,600.96	733,123.71	32° 9' 54.367 N	103° 34' 47.874 W
9,757.0	90.40	181.40	9,374.0	-471.1	-327.2	424,537.97	733,122.66	32° 9' 53.744 N	103° 34' 47.891 W
9,822.0	90.60	179.20	9,373.5	-536.1	-327.6	424,472.98	733,122.32	32° 9' 53.101 N	103° 34' 47.900 W
9,917.0	92.40	178.80	9,371.0	-631.1	-325.9	424,378.03	733,123.98	32° 9' 52.161 N	103° 34' 47.889 W
10,012.0	90.80	179.40	9,368.3	-726.0	-324.4	424,283.09	733,125.47	32° 9' 51.221 N	103° 34' 47.879 W
10,106.0	89.30	176.90	9,368.2	-820.0	-321.4	424,189.14	733,128.50	32° 9' 50.291 N	103° 34' 47.851 W
10,202.0	88.00	176.70	9,370.5	-915.8	-316.0	424,093.32	733,133.86	32° 9' 49.343 N	103° 34' 47.797 W
10,296.0	89.20	175.50	9,372.8	-1,009.5	-309.6	423,999.57	733,140.25	32° 9' 48.415 N	103° 34' 47.730 W
10,390.0	86.80	177.60	9,376.1	-1,103.3	-304.0	423,905.81	733,145.91	32° 9' 47.486 N	103° 34' 47.672 W

IDS

Survey Report - Geographic

Company:	COG Production LLC	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	WELL @ 3481.7usft (Original Well Elev)
Site:	Monet Federal	MD Reference:	WELL @ 3481.7usft (Original Well Elev)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,483.0	88.30	179.40	9,380.1	-1,196.2	-301.6	423,812.94	733,148.34	32° 9' 46.567 N	103° 34' 47.651 W
10,577.0	91.10	181.90	9,380.5	-1,290.1	-302.6	423,718.96	733,147.27	32° 9' 45.637 N	103° 34' 47.671 W
10,672.0	89.10	181.30	9,380.4	-1,385.1	-305.3	423,624.00	733,144.62	32° 9' 44.698 N	103° 34' 47.710 W
10,767.0	87.30	179.80	9,383.4	-1,480.0	-306.2	423,529.06	733,143.71	32° 9' 43.758 N	103° 34' 47.728 W
10,861.0	89.30	179.80	9,386.2	-1,574.0	-305.9	423,435.11	733,144.04	32° 9' 42.829 N	103° 34' 47.732 W
10,956.0	91.50	181.30	9,385.5	-1,669.0	-306.8	423,340.12	733,143.12	32° 9' 41.889 N	103° 34' 47.750 W
11,051.0	88.30	179.10	9,385.7	-1,764.0	-307.1	423,245.14	733,142.79	32° 9' 40.949 N	103° 34' 47.762 W
11,147.0	87.60	179.90	9,389.1	-1,859.9	-306.3	423,149.21	733,143.63	32° 9' 39.999 N	103° 34' 47.760 W
11,242.0	87.30	179.80	9,393.3	-1,954.8	-306.0	423,054.30	733,143.88	32° 9' 39.060 N	103° 34' 47.765 W
11,336.0	89.50	179.50	9,395.9	-2,048.8	-305.4	422,960.35	733,144.45	32° 9' 38.131 N	103° 34' 47.766 W
11,431.0	89.30	179.80	9,396.9	-2,143.7	-304.9	422,865.35	733,145.03	32° 9' 37.190 N	103° 34' 47.767 W
11,526.0	89.40	180.00	9,398.0	-2,238.7	-304.7	422,770.36	733,145.20	32° 9' 36.250 N	103° 34' 47.773 W
11,621.0	89.00	180.00	9,399.3	-2,333.7	-304.7	422,675.37	733,145.20	32° 9' 35.310 N	103° 34' 47.780 W
11,715.0	90.40	180.20	9,399.8	-2,427.7	-304.9	422,581.37	733,145.03	32° 9' 34.380 N	103° 34' 47.790 W
11,810.0	90.00	180.10	9,399.5	-2,522.7	-305.1	422,486.37	733,144.79	32° 9' 33.440 N	103° 34' 47.801 W
11,904.0	89.00	179.80	9,400.3	-2,616.7	-305.0	422,392.38	733,144.87	32° 9' 32.510 N	103° 34' 47.807 W
11,999.0	90.40	180.60	9,400.8	-2,711.7	-305.4	422,297.38	733,144.54	32° 9' 31.570 N	103° 34' 47.819 W
12,093.0	91.50	181.30	9,399.3	-2,805.7	-306.9	422,203.41	733,142.98	32° 9' 30.640 N	103° 34' 47.845 W
12,187.0	91.10	181.60	9,397.1	-2,899.6	-309.3	422,109.47	733,140.60	32° 9' 29.711 N	103° 34' 47.880 W
12,282.0	90.90	181.50	9,395.5	-2,994.6	-311.9	422,014.52	733,138.03	32° 9' 28.771 N	103° 34' 47.918 W
12,377.0	90.60	181.90	9,394.2	-3,089.5	-314.7	421,919.57	733,135.21	32° 9' 27.832 N	103° 34' 47.958 W
12,471.0	93.10	181.20	9,391.2	-3,183.4	-317.2	421,825.66	733,132.67	32° 9' 26.903 N	103° 34' 47.995 W
12,566.0	92.80	181.60	9,386.3	-3,278.3	-319.5	421,730.81	733,130.35	32° 9' 25.964 N	103° 34' 48.030 W
12,661.0	92.40	181.80	9,382.0	-3,373.1	-322.4	421,635.95	733,127.54	32° 9' 25.026 N	103° 34' 48.070 W
12,756.0	92.30	179.80	9,378.1	-3,468.1	-323.7	421,541.05	733,126.21	32° 9' 24.087 N	103° 34' 48.094 W
12,850.0	90.00	180.50	9,376.2	-3,562.0	-323.9	421,447.07	733,125.97	32° 9' 23.157 N	103° 34' 48.104 W
12,945.0	90.00	179.80	9,376.2	-3,657.0	-324.2	421,352.07	733,125.72	32° 9' 22.217 N	103° 34' 48.115 W
13,038.0	89.60	178.90	9,376.5	-3,750.0	-323.1	421,259.08	733,126.77	32° 9' 21.297 N	103° 34' 48.110 W
13,133.0	89.30	179.70	9,377.4	-3,845.0	-322.0	421,164.09	733,127.93	32° 9' 20.357 N	103° 34' 48.104 W
13,228.0	88.30	179.90	9,379.4	-3,940.0	-321.6	421,069.12	733,128.26	32° 9' 19.417 N	103° 34' 48.108 W
13,322.0	88.50	181.50	9,382.1	-4,033.9	-322.8	420,975.16	733,127.12	32° 9' 18.487 N	103° 34' 48.129 W
13,418.0	89.30	179.90	9,383.9	-4,129.9	-324.0	420,879.19	733,125.94	32° 9' 17.537 N	103° 34' 48.151 W
13,513.0	88.90	179.10	9,385.4	-4,224.9	-323.1	420,784.21	733,126.77	32° 9' 16.597 N	103° 34' 48.149 W
13,602.0	89.80	178.40	9,386.4	-4,313.9	-321.2	420,695.24	733,128.71	32° 9' 15.717 N	103° 34' 48.133 W
13,696.0	93.70	178.30	9,383.5	-4,407.8	-318.5	420,601.34	733,131.42	32° 9' 14.788 N	103° 34' 48.109 W
13,791.0	93.80	178.90	9,377.3	-4,502.5	-316.2	420,506.57	733,133.74	32° 9' 13.850 N	103° 34' 48.090 W
13,885.0	91.40	177.70	9,373.1	-4,596.4	-313.4	420,412.72	733,136.52	32° 9' 12.921 N	103° 34' 48.065 W
13,981.0	90.70	176.40	9,371.3	-4,692.2	-308.4	420,316.86	733,141.46	32° 9' 11.972 N	103° 34' 48.016 W
Final MWD Survey									
14,049.0	90.70	176.40	9,370.5	-4,760.1	-304.2	420,249.00	733,145.73	32° 9' 11.300 N	103° 34' 47.972 W
Projection to TD									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
KOP(MonetF#3)	0.00	0.01	8,886.0	138.1	-280.0	425,147.20	733,169.90	32° 9' 59.769 N	103° 34' 47.292 W
- actual wellpath misses target center by 16.6usft at 8902.7usft MD (8889.1 TVD, 150.8 N, -269.8 E)									
- Point									
PBHL(MonetF#3H)	0.00	179.70	9,385.0	-4,764.1	-291.7	420,245.00	733,158.20	32° 9' 11.260 N	103° 34' 47.827 W
- actual wellpath misses target center by 19.6usft at 14049.0usft MD (9370.5 TVD, -4760.1 N, -304.2 E)									
- Rectangle (sides W100.0 H4,419.9 D0.0)									

IDS

Survey Report - Geographic

Company:	COG Production LLC	Local Co-ordinate Reference:	Well #3H
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	WELL @ 3481.7usft (Original Well Elev)
Site:	Monet Federal	MD Reference:	WELL @ 3481.7usft (Original Well Elev)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.0	100.0	0.2	0.2	First Gyro Survey
4,900.0	4,899.5	44.0	-10.2	Final Gyro Survey
5,087.0	5,086.5	41.3	-7.8	First MWD Survey
13,981.0	9,371.3	-4,692.2	-308.4	Final MWD Survey
14,049.0	9,370.5	-4,760.1	-304.2	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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