



McVAY DRILLING COMPANY
P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL

HOBBS OGD

SEP 16 2015

Well Name and Num: West Pearl 36 State Com # 6H
Location: Sec 36, T19S, R34E
Operator: COG
Drilling Contractor: McVay Drilling Company

RECEIVED

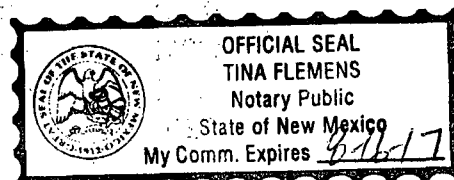
The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
0.00	361	0.60	7039				
0.00	533	0.10	7515				
0.10	809	9.5/8	3602				
0.20	1187	0.60	8658				
0.70	1660	1.30	9135				
0.70	1904	0.90	9512				
1.30	2391	0.90	9895				
1.50	2699	0.70	10277				
1.60	3077	40.40	10749				
1.80	3545	89.30	11479				
2.20	4008	91.00	11862				
1.40	4488	90.50	12245				
1.10	4952	90.20	12625				
1.10	5330	90.70	13050				
1.20	5708	89.50	13476				
1.40	6182	90.00	13856				
1.10	6563	88.80	14140				

By: Maurice A. Bann

Subscribed and sworn to before me this 15th day of July, 2015

Tina Flemens
Notary Public, Lea County, New Mexico



SEP 27 2015

AM



COG Operating LLC.

Lea County, NM

West Pearl 36 State Com

#6H

OH

Survey: MWD #1

Survey Report - Geographic

09 July, 2015



Wellplanning Survey Report - Geographic

Company:	COG Operating LLC.	Local Co-ordinate Reference:	Well #6H
Project:	Lea County, NM	TVD Reference:	WELL @ 3741.3usft (Original Well Elev)
Site:	West Pearl 36 State Com	MD Reference:	WELL @ 3741.3usft (Original Well Elev)
Well:	#6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM		
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		West Pearl 36 State Com			
Site Position:		Northing:	591,241.60 usft	Latitude:	32° 37' 22.065 N
From:	Map	Easting:	750,259.00 usft	Longitude:	103° 31' 13.807 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.44 °

Well	#6H					
Well Position	+N/-S	0.0 usft	Northing:	591,241.60 usft	Latitude:	32° 37' 22.065 N
	+E/-W	0.0 usft	Easting:	750,259.00 usft	Longitude:	103° 31' 13.807 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,724.3 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/8/2015	7.10	60.46	48,460

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)	Direction (°)	
	0.0	0.0	0.0		179.88

Survey Program	Date 7/9/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
65.0	15,219.0	MWD #1 (OH)	MWD	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	591,241.60	750,259.00	32° 37' 22.065 N	103° 31' 13.807 W
65.0	0.20	211.20	65.0	-0.1	-0.1	591,241.51	750,258.94	32° 37' 22.064 N	103° 31' 13.807 W
182.0	0.20	252.50	182.0	-0.3	-0.4	591,241.27	750,258.64	32° 37' 22.062 N	103° 31' 13.811 W
273.0	0.00	55.30	273.0	-0.4	-0.5	591,241.22	750,258.49	32° 37' 22.062 N	103° 31' 13.813 W
361.0	0.00	227.60	361.0	-0.4	-0.5	591,241.22	750,258.49	32° 37' 22.062 N	103° 31' 13.813 W
446.0	0.20	326.70	446.0	-0.3	-0.6	591,241.35	750,258.40	32° 37' 22.063 N	103° 31' 13.814 W
533.0	0.00	152.80	533.0	-0.1	-0.7	591,241.47	750,258.32	32° 37' 22.064 N	103° 31' 13.815 W
620.0	0.20	29.50	620.0	0.0	-0.6	591,241.61	750,258.40	32° 37' 22.065 N	103° 31' 13.814 W
715.0	0.20	60.30	715.0	0.2	-0.4	591,241.83	750,258.62	32° 37' 22.068 N	103° 31' 13.811 W
809.0	0.20	345.40	809.0	0.5	-0.3	591,242.07	750,258.72	32° 37' 22.070 N	103° 31' 13.810 W
904.0	0.00	125.20	904.0	0.6	-0.3	591,242.23	750,258.68	32° 37' 22.072 N	103° 31' 13.810 W
998.0	0.20	189.70	998.0	0.5	-0.3	591,242.07	750,258.65	32° 37' 22.070 N	103° 31' 13.811 W



Wellplanning

Survey Report - Geographic

Company:	COG Operating LLC.	Local Co-ordinate Reference:	Well #6H
Project:	Lea County, NM	TVD Reference:	WELL @ 3741.3usft (Original Well Elev)
Site:	West Pearl 36 State Com	MD Reference:	WELL @ 3741.3usft (Original Well Elev)
Well:	#6H	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
1,093.0	0.40	146.10	1,093.0	0.0	-0.2	591,241.63	750,258.81	32° 37' 22.066 N	103° 31' 13.809 W
1,187.0	0.20	204.00	1,187.0	-0.4	-0.1	591,241.21	750,258.93	32° 37' 22.061 N	103° 31' 13.807 W
1,282.0	0.20	95.50	1,282.0	-0.6	0.0	591,241.04	750,259.02	32° 37' 22.060 N	103° 31' 13.806 W
1,376.0	0.20	96.10	1,376.0	-0.6	0.4	591,241.01	750,259.35	32° 37' 22.059 N	103° 31' 13.803 W
1,471.0	0.50	137.70	1,471.0	-0.9	0.8	591,240.69	750,259.79	32° 37' 22.056 N	103° 31' 13.797 W
1,566.0	0.70	112.60	1,566.0	-1.4	1.6	591,240.16	750,260.61	32° 37' 22.051 N	103° 31' 13.788 W
1,660.0	0.70	224.50	1,660.0	-2.1	1.7	591,239.53	750,260.74	32° 37' 22.045 N	103° 31' 13.786 W
1,755.0	0.20	116.00	1,755.0	-2.6	1.5	591,239.04	750,260.48	32° 37' 22.040 N	103° 31' 13.790 W
1,943.0	0.70	95.90	1,943.0	-2.8	2.9	591,238.78	750,261.92	32° 37' 22.037 N	103° 31' 13.773 W
2,132.0	1.10	102.50	2,132.0	-3.3	5.8	591,238.27	750,264.84	32° 37' 22.032 N	103° 31' 13.739 W
2,321.0	1.30	108.30	2,320.9	-4.4	9.6	591,237.20	750,268.64	32° 37' 22.021 N	103° 31' 13.694 W
2,510.0	1.40	97.70	2,509.9	-5.4	14.0	591,236.22	750,272.97	32° 37' 22.011 N	103° 31' 13.644 W
2,699.0	1.50	89.20	2,698.8	-5.7	18.7	591,235.94	750,277.73	32° 37' 22.008 N	103° 31' 13.588 W
2,888.0	2.00	82.30	2,887.7	-5.2	24.5	591,236.42	750,283.47	32° 37' 22.012 N	103° 31' 13.521 W
2,983.0	1.80	83.60	2,982.7	-4.8	27.6	591,236.81	750,286.59	32° 37' 22.016 N	103° 31' 13.484 W
3,077.0	1.60	84.80	3,076.6	-4.5	30.4	591,237.09	750,289.37	32° 37' 22.018 N	103° 31' 13.452 W
3,172.0	1.80	86.40	3,171.6	-4.3	33.2	591,237.30	750,292.18	32° 37' 22.020 N	103° 31' 13.419 W
3,266.0	1.90	83.60	3,265.5	-4.0	36.2	591,237.57	750,295.20	32° 37' 22.023 N	103° 31' 13.384 W
3,360.0	1.90	85.30	3,359.5	-3.7	39.3	591,237.87	750,298.30	32° 37' 22.025 N	103° 31' 13.347 W
3,455.0	1.90	74.20	3,454.4	-3.2	42.4	591,238.43	750,301.39	32° 37' 22.031 N	103° 31' 13.311 W
3,545.0	1.80	70.80	3,544.4	-2.3	45.2	591,239.30	750,304.16	32° 37' 22.039 N	103° 31' 13.279 W
3,724.0	1.50	43.70	3,723.3	0.3	49.4	591,241.92	750,308.43	32° 37' 22.065 N	103° 31' 13.229 W
3,819.0	1.60	22.90	3,818.3	2.4	50.8	591,244.04	750,309.81	32° 37' 22.086 N	103° 31' 13.212 W
3,913.0	1.70	11.10	3,912.2	5.0	51.6	591,246.62	750,310.59	32° 37' 22.111 N	103° 31' 13.203 W
4,008.0	2.20	15.90	4,007.2	8.2	52.4	591,249.75	750,311.36	32° 37' 22.142 N	103° 31' 13.194 W
4,103.0	2.20	12.50	4,102.1	11.7	53.3	591,253.29	750,312.25	32° 37' 22.177 N	103° 31' 13.183 W
4,197.0	1.50	355.60	4,196.1	14.7	53.6	591,256.28	750,312.55	32° 37' 22.206 N	103° 31' 13.179 W
4,291.0	1.60	357.40	4,290.0	17.2	53.4	591,258.81	750,312.39	32° 37' 22.232 N	103° 31' 13.181 W
4,386.0	1.50	343.70	4,385.0	19.7	53.0	591,261.33	750,311.98	32° 37' 22.256 N	103° 31' 13.185 W
4,480.0	1.40	342.30	4,479.0	22.0	52.3	591,263.61	750,311.29	32° 37' 22.279 N	103° 31' 13.193 W
4,575.0	1.40	342.50	4,573.9	24.2	51.6	591,265.82	750,310.59	32° 37' 22.301 N	103° 31' 13.201 W
4,669.0	1.20	335.30	4,667.9	26.2	50.8	591,267.81	750,309.83	32° 37' 22.321 N	103° 31' 13.210 W
4,764.0	1.10	327.40	4,762.9	27.9	49.9	591,269.48	750,308.92	32° 37' 22.337 N	103° 31' 13.220 W
4,858.0	1.10	329.40	4,856.9	29.4	49.0	591,271.02	750,307.98	32° 37' 22.353 N	103° 31' 13.231 W
4,952.0	1.10	321.70	4,950.8	30.9	48.0	591,272.50	750,306.96	32° 37' 22.367 N	103° 31' 13.243 W
5,047.0	1.30	311.40	5,045.8	32.3	46.6	591,273.93	750,305.59	32° 37' 22.382 N	103° 31' 13.259 W
5,141.0	1.20	313.00	5,139.8	33.7	45.1	591,275.31	750,304.07	32° 37' 22.395 N	103° 31' 13.277 W
5,236.0	1.20	309.70	5,234.8	35.0	43.6	591,276.62	750,302.57	32° 37' 22.408 N	103° 31' 13.294 W
5,330.0	1.10	310.80	5,328.8	36.2	42.1	591,277.84	750,301.13	32° 37' 22.421 N	103° 31' 13.311 W
5,424.0	1.20	310.20	5,422.7	37.5	40.7	591,279.06	750,299.70	32° 37' 22.433 N	103° 31' 13.327 W
5,519.0	1.30	317.70	5,517.7	38.9	39.2	591,280.50	750,298.21	32° 37' 22.447 N	103° 31' 13.345 W
5,614.0	1.30	319.60	5,612.7	40.5	37.8	591,282.12	750,296.79	32° 37' 22.463 N	103° 31' 13.361 W
5,708.0	1.20	320.20	5,706.7	42.1	36.5	591,283.69	750,295.47	32° 37' 22.479 N	103° 31' 13.376 W
5,803.0	1.30	313.80	5,801.7	43.6	35.1	591,285.20	750,294.05	32° 37' 22.494 N	103° 31' 13.393 W
5,897.0	1.40	312.50	5,895.6	45.1	33.4	591,286.71	750,292.44	32° 37' 22.509 N	103° 31' 13.412 W
5,992.0	1.40	313.20	5,990.6	46.7	31.7	591,288.29	750,290.74	32° 37' 22.525 N	103° 31' 13.431 W
6,086.0	1.40	312.60	6,084.6	48.3	30.1	591,289.85	750,289.05	32° 37' 22.540 N	103° 31' 13.451 W
6,182.0	1.40	306.70	6,180.5	49.7	28.3	591,291.35	750,287.25	32° 37' 22.555 N	103° 31' 13.472 W
6,277.0	1.40	298.90	6,275.5	51.0	26.3	591,292.60	750,285.30	32° 37' 22.568 N	103° 31' 13.495 W
6,372.0	1.50	269.50	6,370.5	51.6	24.0	591,293.15	750,283.04	32° 37' 22.574 N	103° 31' 13.521 W
6,468.0	1.20	270.20	6,466.5	51.5	21.8	591,293.15	750,280.78	32° 37' 22.574 N	103° 31' 13.547 W
6,563.0	1.10	267.40	6,561.4	51.5	19.9	591,293.11	750,278.88	32° 37' 22.573 N	103° 31' 13.570 W
6,658.0	0.70	252.40	6,656.4	51.3	18.4	591,292.89	750,277.41	32° 37' 22.571 N	103° 31' 13.587 W
6,754.0	0.60	235.50	6,752.4	50.8	17.4	591,292.43	750,276.44	32° 37' 22.567 N	103° 31' 13.598 W
6,849.0	0.60	220.10	6,847.4	50.2	16.7	591,291.77	750,275.71	32° 37' 22.560 N	103° 31' 13.607 W



Wellplanning
Survey Report - Geographic

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Project:	Lea County, NM	TVD Reference:	WELL @ 3741.3usft (Original Well Elev)
Site:	West Pearl 36 State Com	MD Reference:	WELL @ 3741.3usft (Original Well Elev)
Well:	#6H	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
6,944.0	0.40	192.60	6,942.4	49.5	16.3	591,291.06	750,275.32	32° 37' 22.553 N	103° 31' 13.611 W
7,039.0	0.60	181.70	7,037.4	48.6	16.2	591,290.24	750,275.23	32° 37' 22.545 N	103° 31' 13.612 W
7,133.0	0.90	171.50	7,131.4	47.4	16.3	591,289.02	750,275.32	32° 37' 22.533 N	103° 31' 13.612 W
7,228.0	0.70	157.90	7,226.4	46.1	16.7	591,287.74	750,275.65	32° 37' 22.521 N	103° 31' 13.608 W
7,324.0	0.90	158.40	7,322.4	44.9	17.2	591,286.50	750,276.15	32° 37' 22.508 N	103° 31' 13.602 W
7,419.0	1.00	172.10	7,417.4	43.4	17.5	591,284.99	750,276.54	32° 37' 22.493 N	103° 31' 13.598 W
7,515.0	1.00	185.80	7,513.4	41.7	17.6	591,283.32	750,276.57	32° 37' 22.477 N	103° 31' 13.597 W
7,610.0	1.10	189.50	7,608.3	40.0	17.3	591,281.60	750,276.34	32° 37' 22.460 N	103° 31' 13.600 W
7,705.0	1.10	196.80	7,703.3	38.2	16.9	591,279.83	750,275.92	32° 37' 22.442 N	103° 31' 13.605 W
7,800.0	0.90	181.20	7,798.3	36.6	16.6	591,278.21	750,275.64	32° 37' 22.426 N	103° 31' 13.609 W
7,896.0	1.00	184.30	7,894.3	35.0	16.6	591,276.62	750,275.56	32° 37' 22.410 N	103° 31' 13.610 W
7,991.0	1.00	175.10	7,989.3	33.4	16.6	591,274.97	750,275.57	32° 37' 22.394 N	103° 31' 13.610 W
8,086.0	0.90	170.00	8,084.3	31.8	16.8	591,273.40	750,275.77	32° 37' 22.379 N	103° 31' 13.608 W
8,181.0	0.80	181.70	8,179.3	30.4	16.9	591,272.01	750,275.88	32° 37' 22.365 N	103° 31' 13.606 W
8,277.0	0.50	180.70	8,275.3	29.3	16.9	591,270.92	750,275.86	32° 37' 22.354 N	103° 31' 13.607 W
8,372.0	0.50	205.40	8,370.2	28.5	16.7	591,270.13	750,275.68	32° 37' 22.346 N	103° 31' 13.609 W
8,467.0	0.60	208.10	8,465.2	27.7	16.3	591,269.32	750,275.26	32° 37' 22.338 N	103° 31' 13.614 W
8,563.0	0.60	218.40	8,561.2	26.9	15.7	591,268.48	750,274.71	32° 37' 22.330 N	103° 31' 13.620 W
8,658.0	0.60	228.10	8,656.2	26.2	15.0	591,267.76	750,274.03	32° 37' 22.323 N	103° 31' 13.628 W
8,754.0	0.90	244.80	8,752.2	25.5	14.0	591,267.10	750,272.98	32° 37' 22.317 N	103° 31' 13.641 W
8,849.0	1.40	233.20	8,847.2	24.5	12.4	591,266.09	750,271.37	32° 37' 22.307 N	103° 31' 13.660 W
8,944.0	1.30	205.10	8,942.2	22.8	11.0	591,264.42	750,269.99	32° 37' 22.290 N	103° 31' 13.676 W
9,040.0	1.30	189.00	9,038.2	20.8	10.4	591,262.35	750,269.36	32° 37' 22.270 N	103° 31' 13.684 W
9,135.0	1.30	196.30	9,133.1	18.7	9.9	591,260.26	750,268.88	32° 37' 22.249 N	103° 31' 13.689 W
9,230.0	1.30	196.90	9,228.1	16.6	9.3	591,258.19	750,268.27	32° 37' 22.229 N	103° 31' 13.697 W
9,324.0	1.20	201.10	9,322.1	14.6	8.6	591,256.25	750,267.60	32° 37' 22.210 N	103° 31' 13.705 W
9,417.0	0.90	234.90	9,415.1	13.3	7.7	591,254.92	750,266.66	32° 37' 22.197 N	103° 31' 13.716 W
9,512.0	0.90	249.60	9,510.1	12.6	6.3	591,254.23	750,265.35	32° 37' 22.190 N	103° 31' 13.731 W
9,608.0	1.10	244.30	9,606.0	12.0	4.8	591,253.57	750,263.81	32° 37' 22.183 N	103° 31' 13.749 W
9,704.0	1.10	242.00	9,702.0	11.1	3.2	591,252.74	750,262.17	32° 37' 22.175 N	103° 31' 13.769 W
9,799.0	0.80	238.30	9,797.0	10.4	1.8	591,251.96	750,260.80	32° 37' 22.168 N	103° 31' 13.785 W
9,895.0	0.90	229.40	9,893.0	9.5	0.7	591,251.12	750,259.65	32° 37' 22.159 N	103° 31' 13.798 W
9,991.0	1.10	228.80	9,989.0	8.4	-0.6	591,250.02	750,258.39	32° 37' 22.149 N	103° 31' 13.813 W
10,087.0	1.00	220.80	10,085.0	7.2	-1.8	591,248.78	750,257.15	32° 37' 22.136 N	103° 31' 13.828 W
10,182.0	0.90	236.10	10,180.0	6.1	-3.0	591,247.74	750,255.99	32° 37' 22.126 N	103° 31' 13.841 W
10,277.0	0.70	231.90	10,274.9	5.4	-4.1	591,246.96	750,254.91	32° 37' 22.119 N	103° 31' 13.854 W
10,366.0	0.40	219.30	10,363.9	4.8	-4.7	591,246.39	750,254.29	32° 37' 22.113 N	103° 31' 13.861 W
10,398.0	0.50	175.70	10,395.9	4.6	-4.8	591,246.16	750,254.23	32° 37' 22.111 N	103° 31' 13.862 W
10,430.0	3.30	171.50	10,427.9	3.5	-4.6	591,245.11	750,254.37	32° 37' 22.100 N	103° 31' 13.860 W
10,462.0	7.50	176.40	10,459.8	0.5	-4.4	591,242.11	750,254.64	32° 37' 22.071 N	103° 31' 13.858 W
10,494.0	11.30	185.10	10,491.3	-4.7	-4.5	591,236.91	750,254.49	32° 37' 22.019 N	103° 31' 13.860 W
10,526.0	14.50	189.70	10,522.5	-11.8	-5.5	591,229.83	750,253.54	32° 37' 21.949 N	103° 31' 13.872 W
10,558.0	18.10	189.50	10,553.2	-20.6	-7.0	591,220.98	750,252.04	32° 37' 21.862 N	103° 31' 13.890 W
10,590.0	21.60	188.90	10,583.3	-31.4	-8.7	591,210.25	750,250.31	32° 37' 21.756 N	103° 31' 13.911 W
10,622.0	25.50	187.30	10,612.7	-44.0	-10.5	591,197.60	750,248.52	32° 37' 21.631 N	103° 31' 13.933 W
10,654.0	29.20	185.40	10,641.1	-58.6	-12.1	591,182.99	750,246.91	32° 37' 21.486 N	103° 31' 13.953 W
10,686.0	32.80	185.40	10,668.5	-75.0	-13.6	591,166.58	750,245.36	32° 37' 21.324 N	103° 31' 13.973 W
10,718.0	36.40	185.00	10,694.8	-93.1	-15.3	591,148.49	750,243.72	32° 37' 21.145 N	103° 31' 13.994 W
10,749.0	40.40	184.60	10,719.1	-112.3	-16.9	591,129.30	750,242.11	32° 37' 20.955 N	103° 31' 14.014 W
10,780.0	44.20	184.00	10,742.1	-133.1	-18.4	591,108.50	750,240.55	32° 37' 20.750 N	103° 31' 14.034 W
10,812.0	48.40	183.00	10,764.2	-156.2	-19.9	591,085.42	750,239.14	32° 37' 20.521 N	103° 31' 14.053 W
10,844.0	52.50	181.90	10,784.5	-180.8	-20.9	591,060.77	750,238.10	32° 37' 20.278 N	103° 31' 14.067 W
10,876.0	57.30	181.30	10,802.9	-207.0	-21.6	591,034.61	750,237.37	32° 37' 20.019 N	103° 31' 14.078 W
10,908.0	61.80	181.60	10,819.1	-234.6	-22.3	591,007.04	750,236.67	32° 37' 19.746 N	103° 31' 14.089 W
10,940.0	66.00	180.10	10,833.2	-263.3	-22.7	590,978.31	750,236.25	32° 37' 19.462 N	103° 31' 14.096 W



Wellplanning
Survey Report - Geographic

Company:	COG Operating LLC.	Local Co-ordinate Reference:	Well #6H
Project:	Lea County, NM	TVD Reference:	WELL @ 3741.3usft (Original Well Elev)
Site:	West Pearl 36 State Corn	MD Reference:	WELL @ 3741.3usft (Original Well Elev)
Well:	#6H	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
10,972.0	70.30	178.40	10,845.1	-293.0	-22.4	590,948.62	750,236.65	32° 37' 19.168 N	103° 31' 14.094 W
11,001.0	74.80	178.10	10,853.8	-320.6	-21.5	590,920.98	750,237.49	32° 37' 18.894 N	103° 31' 14.087 W
11,033.0	78.10	178.30	10,861.3	-351.7	-20.5	590,889.89	750,238.47	32° 37' 18.587 N	103° 31' 14.078 W
11,065.0	78.50	177.50	10,867.8	-383.0	-19.4	590,858.57	750,239.62	32° 37' 18.277 N	103° 31' 14.067 W
11,097.0	78.80	176.60	10,874.1	-414.4	-17.8	590,827.24	750,241.23	32° 37' 17.967 N	103° 31' 14.051 W
11,129.0	80.10	176.50	10,880.0	-445.8	-15.9	590,795.84	750,243.13	32° 37' 17.656 N	103° 31' 14.032 W
11,160.0	81.70	175.20	10,884.9	-476.3	-13.7	590,765.31	750,245.34	32° 37' 17.354 N	103° 31' 14.009 W
11,192.0	82.20	174.30	10,889.3	-507.8	-10.8	590,733.76	750,248.24	32° 37' 17.041 N	103° 31' 13.978 W
11,224.0	83.30	174.30	10,893.4	-539.4	-7.6	590,702.17	750,251.39	32° 37' 16.728 N	103° 31' 13.944 W
11,288.0	86.60	173.90	10,899.0	-602.8	-1.1	590,638.77	750,257.95	32° 37' 16.100 N	103° 31' 13.873 W
11,384.0	88.50	175.80	10,903.1	-698.4	7.6	590,543.25	750,266.55	32° 37' 15.155 N	103° 31' 13.781 W
11,479.0	89.30	176.60	10,904.9	-793.1	13.9	590,448.48	750,272.85	32° 37' 14.216 N	103° 31' 13.716 W
11,575.0	89.50	175.80	10,905.9	-888.9	20.2	590,352.70	750,279.21	32° 37' 13.268 N	103° 31' 13.650 W
11,671.0	89.60	175.70	10,906.7	-984.6	27.3	590,256.96	750,286.32	32° 37' 12.320 N	103° 31' 13.575 W
11,767.0	90.40	176.70	10,906.7	-1,080.4	33.7	590,161.18	750,292.69	32° 37' 11.372 N	103° 31' 13.509 W
11,862.0	91.00	178.60	10,905.5	-1,175.3	37.6	590,066.27	750,296.58	32° 37' 10.433 N	103° 31' 13.472 W
11,958.0	90.30	181.50	10,904.5	-1,271.3	37.5	589,970.29	750,296.50	32° 37' 9.483 N	103° 31' 13.482 W
12,054.0	90.50	181.70	10,903.8	-1,367.3	34.8	589,874.33	750,293.82	32° 37' 8.534 N	103° 31' 13.522 W
12,149.0	90.40	181.80	10,903.0	-1,462.2	31.9	589,779.37	750,290.92	32° 37' 7.594 N	103° 31' 13.564 W
12,245.0	90.50	182.30	10,902.3	-1,558.2	28.5	589,683.44	750,287.48	32° 37' 6.645 N	103° 31' 13.613 W
12,340.0	90.90	182.70	10,901.1	-1,653.1	24.3	589,588.54	750,283.34	32° 37' 5.707 N	103° 31' 13.670 W
12,435.0	91.30	182.80	10,899.3	-1,747.9	19.8	589,493.66	750,278.78	32° 37' 4.768 N	103° 31' 13.732 W
12,530.0	89.50	182.60	10,898.6	-1,842.8	15.3	589,398.77	750,274.31	32° 37' 3.830 N	103° 31' 13.792 W
12,625.0	90.20	183.40	10,898.9	-1,937.7	10.3	589,303.91	750,269.33	32° 37' 2.891 N	103° 31' 13.859 W
12,720.0	88.80	181.40	10,899.7	-2,032.6	6.4	589,209.00	750,265.36	32° 37' 1.953 N	103° 31' 13.914 W
12,813.0	89.50	181.90	10,901.1	-2,125.6	3.7	589,116.05	750,262.68	32° 37' 1.033 N	103° 31' 13.954 W
12,908.0	89.00	180.20	10,902.3	-2,220.5	1.9	589,021.08	750,260.94	32° 37' 0.094 N	103° 31' 13.982 W
13,002.0	90.70	179.90	10,902.6	-2,314.5	1.9	588,927.08	750,260.86	32° 36' 59.164 N	103° 31' 13.992 W
13,098.0	92.00	180.30	10,900.3	-2,410.5	1.7	588,831.11	750,260.69	32° 36' 58.214 N	103° 31' 14.002 W
13,191.0	90.20	179.70	10,898.5	-2,503.5	1.7	588,738.13	750,260.69	32° 36' 57.294 N	103° 31' 14.011 W
13,286.0	90.90	180.60	10,897.6	-2,598.5	1.4	588,643.14	750,260.44	32° 36' 56.354 N	103° 31' 14.022 W
13,381.0	91.10	180.20	10,896.0	-2,693.4	0.8	588,548.16	750,259.78	32° 36' 55.414 N	103° 31' 14.038 W
13,476.0	89.50	178.70	10,895.5	-2,788.4	1.7	588,453.17	750,260.69	32° 36' 54.474 N	103° 31' 14.036 W
13,571.0	89.70	179.30	10,896.1	-2,883.4	3.4	588,358.18	750,262.35	32° 36' 53.534 N	103° 31' 14.025 W
13,666.0	89.40	179.10	10,896.9	-2,978.4	4.7	588,263.20	750,263.67	32° 36' 52.594 N	103° 31' 14.018 W
13,761.0	89.80	179.70	10,897.5	-3,073.4	5.7	588,168.20	750,264.67	32° 36' 51.654 N	103° 31' 14.015 W
13,856.0	90.00	181.00	10,897.7	-3,168.4	5.1	588,073.21	750,264.09	32° 36' 50.714 N	103° 31' 14.030 W
13,951.0	90.10	181.70	10,897.6	-3,263.4	2.9	587,978.24	750,261.85	32° 36' 49.775 N	103° 31' 14.065 W
14,045.0	90.10	182.00	10,897.5	-3,357.3	-0.2	587,884.28	750,258.82	32° 36' 48.845 N	103° 31' 14.109 W
14,140.0	88.80	180.00	10,898.4	-3,452.3	-1.8	587,789.31	750,257.16	32° 36' 47.906 N	103° 31' 14.137 W
14,234.0	87.50	177.60	10,901.4	-3,546.2	0.1	587,695.39	750,259.12	32° 36' 46.976 N	103° 31' 14.122 W
14,328.0	87.30	177.50	10,905.7	-3,640.0	4.1	587,601.57	750,263.14	32° 36' 46.048 N	103° 31' 14.084 W
14,423.0	87.40	176.90	10,910.1	-3,734.8	8.8	587,506.79	750,267.77	32° 36' 45.110 N	103° 31' 14.038 W
14,518.0	87.90	176.90	10,914.0	-3,829.6	13.9	587,412.01	750,272.91	32° 36' 44.171 N	103° 31' 13.986 W
14,613.0	88.10	177.30	10,917.3	-3,924.4	18.7	587,317.19	750,277.71	32° 36' 43.233 N	103° 31' 13.939 W
14,708.0	88.50	177.10	10,920.1	-4,019.3	23.4	587,222.34	750,282.35	32° 36' 42.294 N	103° 31' 13.893 W
14,803.0	88.80	176.80	10,922.3	-4,114.1	28.4	587,127.50	750,287.40	32° 36' 41.355 N	103° 31' 13.842 W
14,898.0	89.50	177.20	10,923.7	-4,209.0	33.4	587,032.64	750,292.37	32° 36' 40.416 N	103° 31' 13.793 W
14,993.0	90.50	176.90	10,923.7	-4,303.8	38.3	586,937.77	750,297.26	32° 36' 39.477 N	103° 31' 13.744 W
15,019.0	91.20	178.30	10,923.4	-4,329.8	39.4	586,911.80	750,298.35	32° 36' 39.220 N	103° 31' 13.734 W
15,088.0	92.20	180.10	10,921.3	-4,398.8	40.3	586,842.84	750,299.31	32° 36' 38.538 N	103° 31' 13.729 W
15,167.0	93.60	181.10	10,917.3	-4,477.7	39.5	586,763.95	750,298.49	32° 36' 37.757 N	103° 31' 13.745 W
15,219.0	93.60	181.10	10,914.0	-4,529.5	38.5	586,712.06	750,297.49	32° 36' 37.244 N	103° 31' 13.762 W

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