



HOBBS OCD
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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Mamba 30 State Com

#702H

OH

Design: OH

Midland PVA

07 September, 2018



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25 @ 3563.0usft
Site:	Mamba 30 State Com	MD Reference:	KB= 25 @ 3563.0usft
Well:	#702H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Project	Lea County, NM (NAD 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Mamba 30 State Com				
Site Position:		Northing:	430,807.00 usft	Latitude:	32° 10' 56.143 N
From:	Map	Easting:	767,053.00 usft	Longitude:	103° 36' 13.509 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.39 °

Well	#702H					
Well Position	+N-S	0.0 usft	Northing:	430,815.00 usft	Latitude:	32° 10' 56.305 N
	+E-W	0.0 usft	Easting:	765,823.00 usft	Longitude:	103° 36' 27.820 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,538.0 usft

Wellbore	OH				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/25/2017	6.94	60.02	47,880.65907407

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	10.71	

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Survey Program		Date 9/7/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
181.0	1,173.0	Invictus MWD (OH)	MWD	OWSG MWD - Standard
1,328.0	17,350.0	Drilltech MWD (OH)	MWD	OWSG MWD - Standard

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
181.0	1.00	163.49	181.0	-1.5	0.4	0.55	0.55	0.00	0.0	0.0
209.0	0.40	177.49	209.0	-1.8	0.5	2.21	-2.14	50.00	0.0	0.0
237.0	1.10	123.49	237.0	-2.1	0.8	3.30	2.50	-192.86	0.0	0.0
301.0	0.90	146.49	301.0	-2.9	1.5	0.69	-0.31	35.94	0.0	0.0
333.0	0.90	217.49	333.0	-3.3	1.5	3.27	0.00	221.87	0.0	0.0
365.0	0.60	229.49	365.0	-3.6	1.2	1.05	-0.94	37.50	0.0	0.0
397.0	0.60	163.49	397.0	-3.8	1.2	2.04	0.00	-206.25	0.0	0.0
427.0	0.70	222.49	427.0	-4.1	1.1	2.15	0.33	196.67	0.0	0.0
459.0	0.40	161.49	459.0	-4.4	1.0	1.92	-0.94	-190.62	0.0	0.0
489.0	0.20	188.49	489.0	-4.5	1.0	0.80	-0.67	90.00	0.0	0.0
519.0	0.60	242.49	519.0	-4.6	0.9	1.70	1.33	180.00	0.0	0.0
550.0	0.70	153.49	550.0	-4.9	0.8	2.95	0.32	-287.10	0.0	0.0
582.0	0.40	247.49	582.0	-5.1	0.8	2.59	-0.94	293.75	0.0	0.0
613.0	0.30	182.49	613.0	-5.2	0.7	1.24	-0.32	-209.68	0.0	0.0
644.0	0.40	260.49	644.0	-5.3	0.6	1.44	0.32	251.61	0.0	0.0
675.0	1.10	292.49	675.0	-5.2	0.2	2.55	2.26	103.23	0.0	0.0
706.0	0.50	190.49	706.0	-5.3	-0.1	4.19	-1.94	-329.03	0.0	0.0
737.0	0.90	291.49	737.0	-5.3	-0.4	3.58	1.29	325.81	0.0	0.0
768.0	0.30	290.49	768.0	-5.2	-0.7	1.94	-1.94	-3.23	0.0	0.0
799.0	0.80	219.49	799.0	-5.3	-0.9	2.44	1.61	-229.03	0.0	0.0



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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Buidl (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
830.0	1.20	293.49	829.9	-5.4	-1.3	4.02	1.29	238.71	0.0	0.0	
861.0	0.30	313.49	860.9	-5.2	-1.7	2.98	-2.90	64.52	0.0	0.0	
893.0	0.60	233.49	892.9	-5.2	-1.9	1.95	0.94	-250.00	0.0	0.0	
924.0	1.40	6.49	923.9	-4.9	-1.9	6.01	2.58	429.03	0.0	0.0	
955.0	0.80	53.49	954.9	-4.4	-1.7	3.34	-1.94	151.61	0.0	0.0	
987.0	1.50	20.49	986.9	-3.9	-1.4	2.93	2.19	-103.12	0.0	0.0	
1,049.0	1.30	23.49	1,048.9	-2.5	-0.8	0.34	-0.32	4.84	0.0	0.0	
1,081.0	0.70	344.49	1,080.9	-2.0	-0.7	2.73	-1.87	-121.87	0.0	0.0	
1,111.0	0.60	30.49	1,110.9	-1.7	-0.7	1.72	-0.33	153.33	0.0	0.0	
1,142.0	0.10	331.49	1,141.9	-1.5	-0.6	1.79	-1.61	-190.32	0.0	0.0	
1,173.0	0.70	355.49	1,172.9	-1.3	-0.7	1.97	1.84	77.42	0.0	0.0	
1,328.0	0.44	278.20	1,327.9	-0.3	-1.3	0.48	-0.17	-49.87	-0.4	0.9	
1,419.0	0.70	255.35	1,418.9	-0.4	-2.2	0.37	0.29	-25.11	-1.8	1.7	
1,512.0	0.70	254.12	1,511.9	-0.7	-3.3	0.02	0.00	-1.32	-3.2	2.7	
1,605.0	0.62	252.01	1,604.9	-1.0	-4.3	0.09	-0.09	-2.27	-4.6	3.7	
1,699.0	0.53	276.79	1,698.9	-1.1	-5.3	0.28	-0.10	26.36	-3.3	6.6	
1,792.0	0.44	256.40	1,791.9	-1.1	-6.0	0.21	-0.10	-21.92	-6.4	6.0	
1,885.0	0.62	264.31	1,884.9	-1.2	-6.9	0.21	0.19	8.51	-6.3	8.0	
1,977.0	0.62	280.31	1,976.9	-1.2	-7.9	0.19	0.00	17.39	-4.6	10.7	
2,071.0	0.70	258.86	2,070.9	-1.2	-8.9	0.27	0.09	-22.82	-9.4	9.2	
2,165.0	0.88	256.84	2,164.8	-1.5	-10.2	0.19	0.19	-2.15	-11.1	10.0	
2,258.0	0.79	168.95	2,257.8	-2.3	-10.8	1.25	-0.10	-94.51	-12.2	-11.6	
2,352.0	1.93	126.94	2,351.8	-3.9	-9.4	1.54	1.21	-44.69	-4.1	-18.1	
2,446.0	1.76	127.56	2,445.8	-5.7	-7.0	0.18	-0.18	0.66	-8.1	-18.9	
2,541.0	1.85	124.65	2,540.7	-7.5	-4.5	0.14	0.09	-3.06	-10.9	-20.2	
2,634.0	1.93	122.19	2,633.7	-9.1	-2.0	0.12	0.09	-2.65	-13.7	-21.7	
2,726.0	2.11	124.48	2,725.6	-10.9	0.7	0.21	0.20	2.49	-18.5	-21.9	



Midland PVA

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Well:	#702H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLag (°/100usft)	Build. (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
2,820.0	2.02	123.69	2,819.5	-12.8	3.5	0.10	-0.10	-0.84	-22.3	-23.1
2,913.0	2.02	123.42	2,912.5	-14.6	6.3	0.01	0.00	-0.29	-26.2	-24.1
3,007.0	2.02	123.51	3,006.4	-16.5	9.0	0.00	0.00	0.10	-30.2	-25.0
3,100.0	2.20	122.19	3,099.4	-18.3	11.9	0.20	0.19	-1.42	-33.8	-26.6
3,194.0	2.37	124.30	3,193.3	-20.4	15.0	0.20	0.18	2.24	-39.2	-26.2
3,289.0	2.64	122.81	3,288.2	-22.7	18.5	0.29	0.28	-1.57	-43.3	-28.2
3,382.0	2.64	125.53	3,381.1	-25.1	22.0	0.13	0.00	2.92	-49.6	-26.9
3,476.0	2.64	127.82	3,475.0	-27.7	25.5	0.11	0.00	2.44	-55.8	-25.6
3,569.0	2.46	125.01	3,567.9	-30.1	28.8	0.24	-0.19	-3.02	-59.3	-29.3
3,663.0	2.37	139.77	3,661.8	-32.8	31.7	0.67	-0.10	15.70	-69.6	-13.4
3,757.0	1.93	139.07	3,755.8	-35.4	34.0	0.47	-0.47	-0.74	-73.9	-14.9
3,849.0	1.85	121.58	3,847.7	-37.4	36.3	0.63	-0.09	-19.01	-69.6	-37.8
3,943.0	1.85	119.03	3,941.7	-38.9	38.9	0.09	0.00	-2.71	-71.6	-41.9
4,036.0	1.67	117.45	4,034.6	-40.3	41.4	0.20	-0.19	-1.70	-73.8	-44.9
4,131.0	1.58	112.17	4,129.6	-41.4	43.9	0.18	-0.09	-5.56	-72.6	-52.6
4,224.0	1.49	107.52	4,222.5	-42.3	46.2	0.17	-0.10	-5.00	-71.0	-59.5
4,316.0	1.93	100.40	4,316.5	-42.9	49.0	0.52	0.47	-7.57	-66.2	-69.1
4,412.0	2.55	105.06	4,410.4	-43.7	52.5	0.69	0.66	4.96	-75.6	-64.5
4,505.0	2.37	106.11	4,503.3	-44.8	56.4	0.20	-0.19	1.13	-81.2	-64.1
4,599.0	2.81	111.82	4,597.2	-46.2	60.4	0.54	0.47	6.07	-91.9	-56.6
4,693.0	3.34	118.85	4,691.1	-48.4	64.9	0.69	0.56	7.48	-103.8	-45.6
4,786.0	3.69	121.14	4,783.9	-51.2	69.9	0.41	0.38	2.46	-111.9	-42.2
4,870.0	3.61	122.63	4,867.8	-54.1	74.4	0.15	-0.10	1.77	-118.9	-40.0
4,953.0	3.52	121.75	4,950.6	-56.8	78.8	0.13	-0.11	-1.06	-123.9	-42.6
5,046.0	3.17	121.84	5,043.5	-59.7	83.4	0.38	-0.38	0.10	-127.7	-42.2
5,140.0	2.99	118.68	5,137.3	-62.2	87.7	0.26	-0.19	-3.36	-125.6	-47.4
5,233.0	3.87	94.68	5,230.2	-63.6	93.0	1.79	0.95	-25.81	-95.7	-89.2



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5,327.0	5.19	106.20	5,323.9	-65.1	100.2	1.70	1.40	12.26	-110.1	-60.6	
5,420.0	7.21	131.07	5,416.3	-70.1	108.7	3.57	2.17	26.74	-121.0	-4.0	
5,513.0	7.83	147.15	5,508.5	-79.3	116.5	2.35	0.67	17.29	-112.0	30.1	
5,607.0	8.53	150.23	5,601.6	-90.7	123.4	0.88	0.74	3.28	-104.6	34.5	
5,700.0	9.58	150.85	5,693.4	-103.4	130.6	1.13	1.13	0.67	-100.1	33.7	
5,794.0	9.85	150.67	5,786.1	-117.3	138.4	0.29	0.29	-0.19	-97.1	31.4	
5,888.0	9.41	151.64	5,878.8	-131.0	146.0	0.50	-0.47	1.03	-93.3	30.9	
5,981.0	8.53	151.55	5,970.6	-143.8	152.9	0.95	-0.95	-0.10	-89.1	28.6	
6,074.0	8.00	150.06	6,062.6	-155.5	159.4	0.61	-0.57	-1.60	-84.3	24.4	
6,169.0	7.74	150.58	6,156.8	-166.8	165.8	0.28	-0.27	0.55	-77.9	23.3	
6,264.0	7.56	148.82	6,250.9	-177.7	172.2	0.31	-0.19	-1.85	-72.0	19.4	
6,356.0	7.39	149.00	6,342.1	-187.9	178.4	0.19	-0.18	0.20	-65.2	18.3	
6,450.0	7.47	148.65	6,435.3	-198.3	184.7	0.10	0.09	-0.37	-58.4	16.6	
6,544.0	7.47	150.58	6,528.5	-208.9	190.9	0.27	0.00	2.05	-51.0	16.8	
6,639.0	7.21	149.00	6,622.8	-219.4	197.0	0.35	-0.27	-1.66	-44.3	13.8	
6,733.0	6.95	150.32	6,716.0	-229.4	202.8	0.33	-0.28	1.40	-36.6	13.1	
6,826.0	6.16	148.39	6,808.4	-238.5	208.2	0.88	-0.85	-2.08	-28.7	10.6	
6,921.0	6.16	147.51	6,902.9	-247.1	213.6	0.10	0.00	-0.93	-19.9	9.1	
7,015.0	5.89	148.30	6,996.4	-255.5	218.9	0.30	-0.29	0.84	-13.0	8.5	
7,110.0	5.54	149.62	7,090.9	-263.6	223.8	0.39	-0.37	1.39	-8.6	7.7	
7,204.0	6.07	135.03	7,184.4	-271.0	229.6	1.66	0.56	-15.52	-9.3	5.9	
7,297.0	5.72	133.62	7,276.9	-277.7	236.4	0.41	-0.38	-1.52	-11.8	7.0	
7,391.0	4.13	125.36	7,370.6	-282.9	242.5	1.85	-1.69	-8.79	-16.6	6.0	
7,484.0	2.46	117.62	7,463.4	-285.8	247.0	1.85	-1.80	-8.32	-21.4	3.9	
7,578.0	1.06	89.67	7,557.4	-286.7	249.7	1.70	-1.49	-29.73	-23.4	-7.5	
7,672.0	1.41	90.29	7,651.4	-286.7	251.7	0.37	0.37	0.66	-25.5	-7.3	
7,766.0	0.53	282.33	7,745.3	-286.6	252.5	2.05	-0.94	-178.68	27.1	1.6	



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7,859.0	0.88	293.78	7,838.3	-286.2	251.4	0.40	0.38	12.29	25.8	-3.8	
7,952.0	0.70	287.52	7,931.3	-285.8	250.2	0.21	-0.19	-6.71	24.7	-1.0	
8,046.0	0.62	275.12	8,025.3	-285.6	249.1	0.17	-0.09	-13.19	23.3	4.2	
8,139.0	0.53	264.05	8,118.3	-285.6	248.2	0.15	-0.10	-11.90	21.1	8.5	
8,232.0	0.44	223.80	8,211.3	-285.9	247.5	0.37	-0.10	-43.28	10.0	18.9	
8,326.0	0.53	196.55	8,305.3	-286.5	247.2	0.26	0.10	-28.99	-1.0	22.1	
8,420.0	0.62	181.87	8,399.3	-287.5	247.0	0.18	0.10	-15.62	-7.5	21.0	
8,514.0	1.06	178.44	8,493.3	-288.8	247.0	0.47	0.47	-3.65	-10.1	20.5	
8,608.0	1.32	185.04	8,587.3	-290.8	247.0	0.31	0.28	7.02	-9.6	21.6	
8,700.0	1.14	181.08	8,679.3	-292.8	246.8	0.22	-0.20	-4.30	-13.1	20.8	
8,794.0	0.97	198.40	8,773.2	-294.4	246.6	0.38	-0.18	18.43	-8.0	24.0	
8,887.0	1.23	203.40	8,866.2	-296.1	245.9	0.30	0.28	5.38	-7.6	24.7	
8,980.0	1.06	196.55	8,959.2	-297.8	245.3	0.23	-0.18	-7.37	-12.4	23.5	
9,073.0	1.14	190.92	9,052.2	-299.6	244.9	0.14	0.09	-6.05	-16.4	22.1	
9,167.0	0.70	203.40	9,146.2	-301.0	244.5	0.51	-0.47	13.28	-12.7	25.3	
9,262.0	0.88	222.48	9,241.2	-302.1	243.7	0.33	0.19	20.08	-5.0	28.3	
9,356.0	0.62	298.94	9,335.2	-302.4	242.8	1.01	-0.28	81.34	25.6	12.2	
9,451.0	0.97	278.09	9,430.2	-302.0	241.6	0.49	0.37	-24.05	17.6	21.0	
9,545.0	1.14	279.61	9,524.1	-301.8	239.8	0.19	0.18	3.74	17.1	19.9	
9,639.0	0.88	199.89	9,618.1	-302.3	238.7	1.39	-0.28	-84.81	-17.4	18.5	
9,733.0	1.41	179.15	9,712.1	-304.2	238.4	0.71	0.56	-22.06	-25.0	11.8	
9,827.0	1.06	172.99	9,806.1	-306.2	238.6	0.40	-0.37	-6.55	-28.2	8.9	
9,922.0	1.67	224.50	9,901.1	-308.0	237.7	1.38	0.64	54.22	-12.5	28.3	
10,016.0	3.78	266.07	9,995.0	-309.2	233.7	2.94	2.24	44.22	5.3	30.4	
10,110.0	4.13	267.04	10,088.7	-309.6	227.2	0.38	0.37	1.03	-0.7	30.3	
10,204.0	1.32	276.53	10,182.6	-309.7	222.7	3.02	-2.99	10.10	-0.1	30.6	
10,298.0	2.11	11.28	10,276.6	-307.9	222.0	2.74	0.84	100.80	28.8	-1.4	



Midland PVA

Company: EOG Resources - Midland Project: Lea County, NM (NAD 83 NME) Site: Mamba 30 State Com Well: #702H Wellbore: OH Design: OH			Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:					Well #702H KB= 25 @ 3563.0usft KB= 25 @ 3563.0usft Grid Minimum Curvature EDM 5000.14		
Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
10,393.0	1.93	18.57	10,371.5	-304.6	222.8	0.33	-0.19	7.67	25.1	-4.8
10,487.0	1.23	40.46	10,465.5	-302.4	224.0	0.97	-0.74	23.29	19.0	-13.2
10,582.0	1.49	111.38	10,560.5	-302.0	225.8	1.68	0.27	74.65	-7.8	-21.3
10,676.0	1.32	72.18	10,654.4	-302.1	228.0	1.02	-0.18	-41.70	5.4	-22.3
10,771.0	1.67	56.10	10,749.4	-301.0	230.2	0.57	0.37	-16.93	8.9	-20.2
10,864.0	1.85	77.11	10,842.4	-299.9	232.8	0.72	0.19	22.59	-1.7	-21.6
10,958.0	1.76	98.29	10,936.3	-299.8	235.7	0.71	-0.10	22.53	-12.2	-18.9
11,053.0	2.29	113.84	11,031.3	-300.8	238.8	0.80	0.56	16.37	-20.2	-14.6
11,147.0	2.37	112.70	11,125.2	-302.3	242.4	0.10	0.09	-1.21	-23.7	-15.0
11,241.0	1.32	55.05	11,219.1	-302.4	245.0	2.13	-1.12	-61.33	-2.1	-29.7
11,336.0	1.76	33.16	11,314.1	-300.6	246.7	0.77	0.46	-23.04	6.6	-28.7
11,430.0	1.93	20.24	11,408.1	-297.9	248.1	0.48	0.18	-13.74	9.9	-26.9
11,524.0	2.11	30.17	11,502.0	-294.9	249.5	0.42	0.19	10.56	1.8	-27.9
11,618.0	2.46	67.61	11,595.9	-292.6	252.2	1.60	0.37	39.83	-18.9	-22.2
11,713.0	1.67	75.79	11,690.9	-291.5	255.5	0.89	-0.83	8.61	-25.3	-19.0
11,750.0	1.32	75.00	11,727.9	-291.3	256.4	0.95	-0.95	-2.14	-26.0	-19.4
11,851.0	1.67	82.56	11,828.8	-290.8	259.0	0.40	0.35	7.49	-30.9	-15.6
11,944.0	2.11	95.39	11,921.8	-290.8	262.0	0.65	0.47	13.80	-36.6	-8.1
11,990.0	4.55	352.32	11,967.7	-289.0	262.6	11.80	5.30	-224.07	14.5	-34.7
KOP 11990.0' MD; 11967.7' TVD; -289.0'; 262.6'; 4.55										
12,038.0	10.02	339.90	12,015.3	-283.2	260.9	11.80	11.40	-25.87	17.3	-30.6
12,133.0	29.55	348.95	12,104.3	-252.2	253.5	20.75	20.56	9.53	-3.0	-28.4
12,177.0	34.79	354.45	12,141.5	-229.0	250.2	13.64	11.92	12.51	-15.3	-25.8
FTP Crossing 12177.0' MD; 12141.5' TVD; -229.0'; 250.2'; 34.79										
12,227.0	40.98	359.15	12,181.0	-198.4	248.6	13.64	12.37	9.40	-28.4	-23.5
12,321.0	46.34	355.19	12,249.0	-133.8	245.3	6.40	5.70	-4.21	-43.5	-22.8
12,413.0	47.66	356.77	12,311.7	-66.5	240.6	1.91	1.43	1.72	-45.8	-17.5

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25 @ 3563.0usft
Site:	Mamba 30 State Com	MD Reference:	KB= 25 @ 3563.0usft
Well:	#702H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,508.0	60.76	0.38	12,367.2	10.3	238.9	14.13	13.79	3.80	-39.5	-14.8	
12,602.0	81.43	4.42	12,397.5	98.7	242.8	22.36	21.99	4.30	-40.4	-18.9	
12,695.0	85.30	2.22	12,408.2	190.9	248.1	4.78	4.16	-2.37	-40.7	-25.7	
12,742.0	80.99	356.33	12,413.8	237.5	247.5	15.45	-9.17	-12.53	-34.8	-25.9	
12,789.0	80.46	355.37	12,421.4	283.8	244.2	2.31	-1.13	-2.04	-27.1	-22.9	
12,882.0	81.95	355.10	12,435.6	375.4	238.5	1.63	1.60	-0.29	-12.6	-15.9	
12,930.0	89.87	357.57	12,439.0	423.1	233.5	17.28	16.50	5.15	-9.2	-13.1	
12,976.0	89.69	357.65	12,439.2	469.1	231.6	0.43	-0.39	0.17	-8.9	-11.6	
13,074.0	91.71	359.94	12,438.0	567.0	229.5	3.12	2.06	2.34	-9.8	-10.3	
13,171.0	91.28	0.47	12,435.5	664.0	229.9	0.70	-0.44	0.55	-12.1	-11.5	
13,261.0	90.48	0.90	12,434.1	754.0	230.9	1.01	-0.89	0.48	-13.2	-13.3	
13,356.0	88.99	357.74	12,434.6	848.9	229.8	3.68	-1.57	-3.33	-12.4	-13.0	
13,451.0	89.96	357.21	12,435.4	943.8	225.6	1.16	1.02	-0.56	-11.3	-9.6	
13,545.0	88.81	359.06	12,436.4	1,037.8	222.6	2.32	-1.22	1.97	-10.0	-7.4	
13,639.0	88.55	359.15	12,438.6	1,131.8	221.1	0.29	-0.28	0.10	-7.5	-6.7	
13,733.0	87.32	358.62	12,442.0	1,225.7	219.3	1.42	-1.31	-0.56	-4.0	-5.6	
13,826.0	86.79	358.18	12,446.8	1,318.5	216.7	0.74	-0.57	-0.47	0.8	-3.8	
13,921.0	89.96	359.67	12,449.5	1,413.4	214.9	3.69	3.34	1.57	3.5	-2.9	
14,015.0	95.32	359.76	12,445.1	1,507.3	214.4	5.70	5.70	0.10	-0.9	-3.2	
14,110.0	96.38	358.71	12,435.4	1,601.8	213.2	1.57	1.12	-1.11	-10.5	-2.7	
14,205.0	92.24	358.00	12,428.3	1,696.5	210.4	4.42	-4.36	-0.75	-17.7	-0.8	
14,299.0	90.66	359.67	12,425.9	1,790.4	208.5	2.45	-1.68	1.78	-20.1	0.3	
14,393.0	87.05	359.59	12,427.8	1,884.4	207.9	3.84	-3.84	-0.09	-18.2	0.1	
14,488.0	86.35	358.97	12,433.3	1,979.2	206.7	0.98	-0.74	-0.65	-12.7	0.5	
14,582.0	86.09	358.44	12,439.5	2,073.0	204.8	0.63	-0.28	-0.56	-6.5	1.9	
14,676.0	87.58	358.53	12,444.7	2,166.8	202.1	1.59	1.59	0.10	-1.3	3.5	
14,771.0	90.31	358.97	12,446.4	2,261.8	200.1	2.91	2.87	0.46	0.4	4.8	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25 @ 3563.0usft
Site:	Mamba 30 State Com	MD Reference:	KB= 25 @ 3563.0usft
Well:	#702H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
14,865.0	89.78	358.36	12,448.3	2,355.7	197.9	0.86	-0.56	-0.65	0.3	6.2	
14,959.0	90.92	359.50	12,445.8	2,449.7	196.1	1.72	1.21	1.21	-0.2	7.2	
15,054.0	86.17	358.36	12,448.2	2,544.6	194.3	5.14	-5.00	-1.20	2.2	8.1	
15,148.0	87.67	358.09	12,453.2	2,638.5	191.4	1.62	1.60	-0.29	7.2	10.3	
15,242.0	89.08	357.83	12,455.9	2,732.4	188.1	1.53	1.50	-0.28	9.9	12.8	
15,335.0	92.15	358.53	12,454.9	2,825.3	185.1	3.39	3.30	0.75	8.9	15.0	
15,430.0	93.12	359.15	12,450.5	2,920.2	183.2	1.21	1.02	0.65	4.5	16.1	
15,524.0	89.69	0.82	12,448.2	3,014.1	183.2	4.06	-3.65	1.78	2.2	15.3	
15,617.0	89.43	1.26	12,448.9	3,107.1	184.9	0.55	-0.28	0.47	2.9	12.9	
15,711.0	89.52	359.85	12,449.8	3,201.1	185.8	1.50	0.10	-1.50	3.8	11.1	
15,804.0	90.40	0.20	12,449.9	3,294.1	185.8	1.02	0.95	0.38	3.8	10.3	
15,898.0	90.04	0.90	12,449.5	3,388.1	186.7	0.84	-0.38	0.74	3.3	8.6	
15,993.0	90.84	0.55	12,448.8	3,483.1	187.9	0.92	0.84	-0.37	2.4	6.6	
16,087.0	90.13	359.94	12,448.0	3,577.1	188.3	1.00	-0.76	-0.65	1.5	5.4	
16,181.0	90.48	0.73	12,447.5	3,671.1	188.9	0.92	0.37	0.84	0.9	4.1	
16,275.0	89.08	0.99	12,447.8	3,765.0	190.3	1.51	-1.49	0.28	1.2	1.9	
16,369.0	91.36	1.17	12,447.5	3,859.0	192.1	2.43	2.43	0.19	0.7	-0.7	
16,463.0	88.20	0.64	12,447.8	3,953.0	193.6	3.41	-3.36	-0.56	0.9	-3.0	
16,557.0	88.55	0.03	12,450.5	4,047.0	194.1	0.75	0.37	-0.65	3.5	-4.3	
16,650.0	88.64	359.24	12,452.8	4,139.9	193.5	0.85	0.10	-0.85	5.7	-4.5	
16,744.0	87.41	358.80	12,456.0	4,233.9	191.9	1.39	-1.31	-0.47	8.8	-3.7	
16,839.0	88.46	359.06	12,459.4	4,328.8	190.1	1.14	1.11	0.27	12.1	-2.7	
16,933.0	90.13	0.03	12,460.6	4,422.8	189.4	2.05	1.78	1.03	13.1	-2.8	
17,027.0	89.34	358.53	12,461.0	4,516.8	189.2	1.80	-0.84	-1.60	13.4	-2.4	
17,122.0	89.34	358.80	12,462.1	4,611.7	186.0	0.28	0.00	0.28	14.4	-1.0	
17,216.0	90.57	359.50	12,462.2	4,705.7	184.6	1.51	1.31	0.74	14.4	-0.4	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25 @ 3563.0usft
Site:	Mamba 30 State Com	MD Reference:	KB= 25 @ 3563.0usft
Well:	#702H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	D Leg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
17,285.0	91.45	359.32	12,461.0	4,774.7	183.9	1.30	1.28	-0.26	13.1	-0.2
Last MWD Survey (MD = 17285.0)										
17,350.0	91.45	359.32	12,459.3	4,839.7	183.1	0.00	0.00	0.00	11.4	0.0
Projection to Bit (MD = 17350.0)										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,990.0	11,967.7	-289.0	262.6	KOP 11990.0' MD; 11967.7' TVD; -289.0'; 262.6'; 4.55
12,177.0	12,141.5	-229.0	250.2	FTP Crossing 12177.0' MD; 12141.5' TVD; -229.0'; 250.2'; 34.79
17,285.0	12,461.0	4,774.7	183.9	Last MWD Survey (MD = 17285.0)
17,350.0	12,459.3	4,839.7	183.1	Projection to Bit (MD = 17350.0)

Checked By: _____	Approved By: _____	Date: _____
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Lea County, NM (NAD 83 NME)

Mamba 30 State Com #702H

Plan #1

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: #702H

KB= 25 @ 3553.0usft 3538.0
Northing 430815.00 Easting 765823.00 Latitude 32° 10' 56.305 N Longitude 103° 36' 27.820 W

SECTION DETAILS

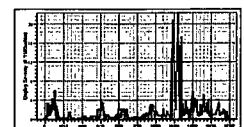
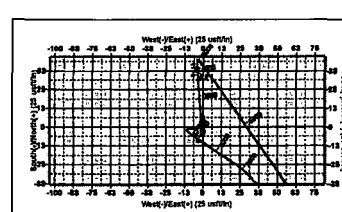
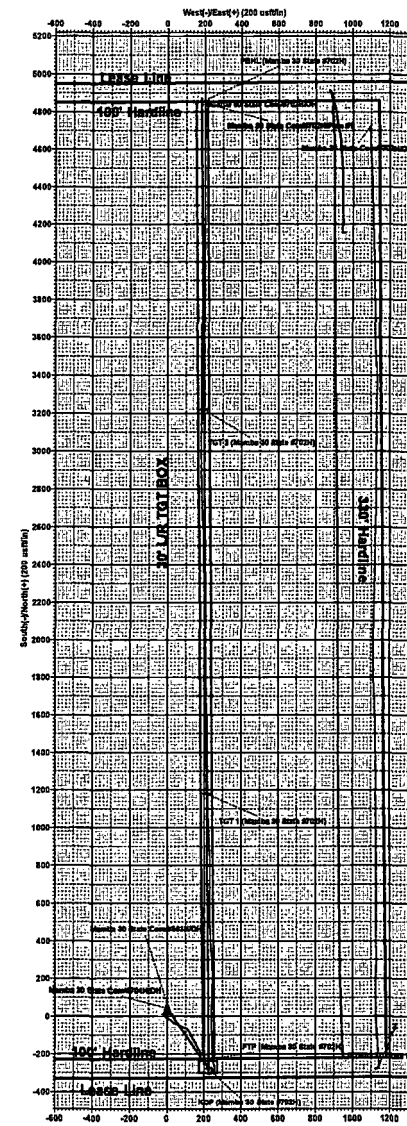
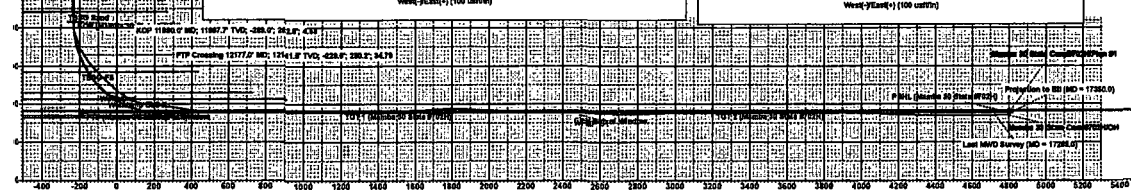
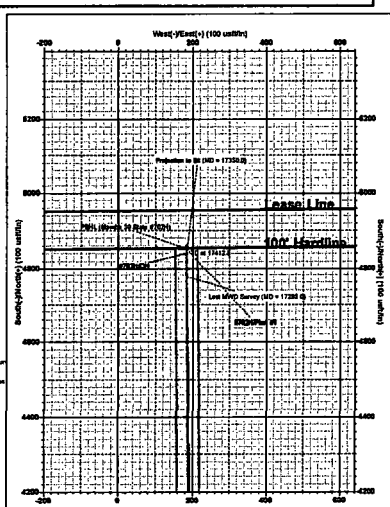
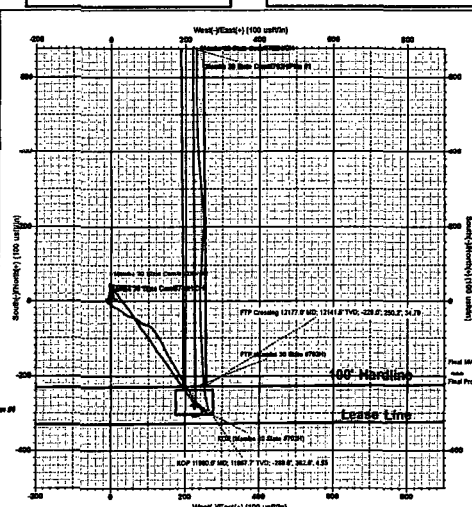
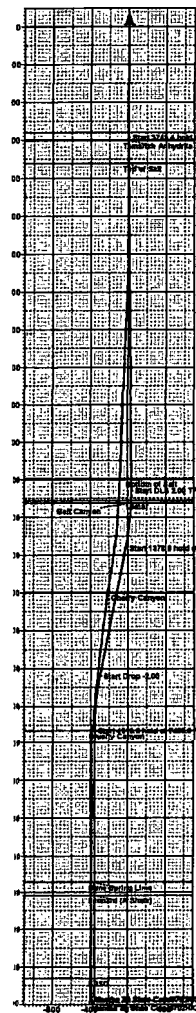
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target
1	1173.0	0.70	355.49	1172.9	-1.3	-0.7	0.00	0.00	-1.4	
2	4918.4	0.70	355.49	4918.0	44.3	-4.3	0.00	0.00	42.8	
3	5532.4	11.67	144.81	5528.0	-2.9	31.4	2.00	150.96	3.0	
4	6911.3	11.67	144.81	6878.4	-230.9	192.2	0.00	0.00	-191.2	
5	7495.0	0.00	0.00	7458.0	-279.3	226.3	2.00	180.00	-232.4	
6	12008.5	0.00	0.00	11971.5	-279.3	226.3	0.00	0.00	-232.4	
7	12759.9	90.17	359.52	12449.0	199.6	222.3	12.00	359.52	237.4	
8	13741.1	90.17	359.52	12446.0	1180.8	214.0	0.00	0.00	1200.0	TGT 1 (Mamba 30 State #702H)
9	13749.8	90.00	359.52	12446.0	1189.5	213.9	2.00	-179.61	1208.5	
10	15779.9	90.00	359.52	12446.0	3219.5	196.8	0.00	0.00	3200.0	TGT 2 (Mamba 30 State #702H)
11	15783.4	89.93	359.52	12446.0	3223.0	196.8	2.00	180.00	3203.4	
12	17412.5	89.93	359.52	12448.0	4852.0	183.0	0.00	0.00	4801.5	PBHL (Mamba 30 State #702H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
TGT 1 (Mamba 30 State #702H)	12448.0	1180.8	214.0	431995.50	766037.00
TGT 2 (Mamba 30 State #702H)	12446.0	3219.5	196.8	434034.50	765918.79
PBHL (Mamba 30 State #702H)	12449.0	4852.0	183.0	430567.00	766006.00
FTP (Mamba 30 State #702H)	12449.0	-228.0	226.0	430586.00	766049.00
KCP (Mamba 30 State #702H)	11971.5	-279.3	224.5	430635.70	766047.50



Lea County, NM (NAD 83 NME)
Mamba 30 State Com #702H
Plan #1
4/12/2010 10:20 AM