



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Mamba 30 State Com

#709H

OH

Plan: Plan #0.1

Standard Planning Report

20 September, 2018

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #709H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3580.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3580.0usft
Site:	Mamba 30 State Com	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

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

Well	#709H		
Well Position	+N/-S	370.0 usft	Northing:
	+E/-W	-4,439.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level:
			3,555.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	9/19/2018	6.84
			Dip Angle
			(°)
			60.00
			Field Strength
			(nT)
			47,778.89825378

Design	Plan #0.1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			356.96

Plan Survey Tool Program	Date	9/20/2018		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(usft)	(usft)			
1	0.0	17,400.4 Plan #0.1 (OH)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,227.1	4.54	197.42	3,226.9	-8.6	-2.7	2.00	2.00	0.00	197.42	
11,772.7	4.54	197.42	11,745.6	-654.4	-205.3	0.00	0.00	0.00	0.00	
11,999.8	0.00	0.00	11,972.5	-663.0	-208.0	2.00	-2.00	0.00	180.00	KOP (Mamba 30 Stat
12,749.8	90.00	359.68	12,450.0	-185.5	-210.7	12.00	12.00	-0.04	359.68	
17,400.4	90.00	359.68	12,450.0	4,465.0	-237.0	0.00	0.00	0.00	0.00	PBHL (Mamba 30 Sta

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Site:	Mamba 30 State Com	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	2.00	197.42	3,100.0	-1.7	-0.5	-1.6	2.00	2.00	0.00
3,200.0	4.00	197.42	3,199.8	-6.7	-2.1	-6.5	2.00	2.00	0.00
3,227.1	4.54	197.42	3,226.9	-8.6	-2.7	-8.4	2.00	2.00	0.00
3,300.0	4.54	197.42	3,299.5	-14.1	-4.4	-13.8	0.00	0.00	0.00
3,400.0	4.54	197.42	3,399.2	-21.7	-6.8	-21.3	0.00	0.00	0.00
3,500.0	4.54	197.42	3,498.9	-29.2	-9.2	-28.7	0.00	0.00	0.00
3,600.0	4.54	197.42	3,598.6	-36.8	-11.5	-36.1	0.00	0.00	0.00
3,700.0	4.54	197.42	3,698.3	-44.3	-13.9	-43.5	0.00	0.00	0.00
3,800.0	4.54	197.42	3,798.0	-51.9	-16.3	-50.9	0.00	0.00	0.00
3,900.0	4.54	197.42	3,897.6	-59.4	-18.6	-58.4	0.00	0.00	0.00
4,000.0	4.54	197.42	3,997.3	-67.0	-21.0	-65.8	0.00	0.00	0.00
4,100.0	4.54	197.42	4,097.0	-74.6	-23.4	-73.2	0.00	0.00	0.00
4,200.0	4.54	197.42	4,196.7	-82.1	-25.8	-80.6	0.00	0.00	0.00
4,300.0	4.54	197.42	4,296.4	-89.7	-28.1	-88.1	0.00	0.00	0.00
4,400.0	4.54	197.42	4,396.1	-97.2	-30.5	-95.5	0.00	0.00	0.00
4,500.0	4.54	197.42	4,495.8	-104.8	-32.9	-102.9	0.00	0.00	0.00
4,600.0	4.54	197.42	4,595.4	-112.3	-35.2	-110.3	0.00	0.00	0.00
4,700.0	4.54	197.42	4,695.1	-119.9	-37.6	-117.7	0.00	0.00	0.00
4,800.0	4.54	197.42	4,794.8	-127.5	-40.0	-125.2	0.00	0.00	0.00
4,900.0	4.54	197.42	4,894.5	-135.0	-42.4	-132.6	0.00	0.00	0.00
5,000.0	4.54	197.42	4,994.2	-142.6	-44.7	-140.0	0.00	0.00	0.00
5,100.0	4.54	197.42	5,093.9	-150.1	-47.1	-147.4	0.00	0.00	0.00
5,200.0	4.54	197.42	5,193.6	-157.7	-49.5	-154.8	0.00	0.00	0.00

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Wellbore:	OH		
Design:	Plan #0.1		

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)
5,300.0	4.54	197.42	5,293.2	-165.2	-51.8	-162.3	0.00	0.00	0.00
5,400.0	4.54	197.42	5,392.9	-172.8	-54.2	-169.7	0.00	0.00	0.00
5,500.0	4.54	197.42	5,492.6	-180.4	-56.6	-177.1	0.00	0.00	0.00
5,600.0	4.54	197.42	5,592.3	-187.9	-59.0	-184.5	0.00	0.00	0.00
5,700.0	4.54	197.42	5,692.0	-195.5	-61.3	-191.9	0.00	0.00	0.00
5,800.0	4.54	197.42	5,791.7	-203.0	-63.7	-199.4	0.00	0.00	0.00
5,900.0	4.54	197.42	5,891.4	-210.6	-66.1	-206.8	0.00	0.00	0.00
6,000.0	4.54	197.42	5,991.1	-218.1	-68.4	-214.2	0.00	0.00	0.00
6,100.0	4.54	197.42	6,090.7	-225.7	-70.8	-221.6	0.00	0.00	0.00
6,200.0	4.54	197.42	6,190.4	-233.3	-73.2	-229.1	0.00	0.00	0.00
6,300.0	4.54	197.42	6,290.1	-240.8	-75.6	-236.5	0.00	0.00	0.00
6,400.0	4.54	197.42	6,389.8	-248.4	-77.9	-243.9	0.00	0.00	0.00
6,500.0	4.54	197.42	6,489.5	-255.9	-80.3	-251.3	0.00	0.00	0.00
6,600.0	4.54	197.42	6,589.2	-263.5	-82.7	-258.7	0.00	0.00	0.00
6,700.0	4.54	197.42	6,688.9	-271.0	-85.0	-266.2	0.00	0.00	0.00
6,800.0	4.54	197.42	6,788.5	-278.6	-87.4	-273.6	0.00	0.00	0.00
6,900.0	4.54	197.42	6,888.2	-286.2	-89.8	-281.0	0.00	0.00	0.00
7,000.0	4.54	197.42	6,987.9	-293.7	-92.1	-288.4	0.00	0.00	0.00
7,100.0	4.54	197.42	7,087.6	-301.3	-94.5	-295.8	0.00	0.00	0.00
7,200.0	4.54	197.42	7,187.3	-308.8	-96.9	-303.3	0.00	0.00	0.00
7,300.0	4.54	197.42	7,287.0	-316.4	-99.3	-310.7	0.00	0.00	0.00
7,400.0	4.54	197.42	7,386.7	-323.9	-101.6	-318.1	0.00	0.00	0.00
7,500.0	4.54	197.42	7,486.3	-331.5	-104.0	-325.5	0.00	0.00	0.00
7,600.0	4.54	197.42	7,586.0	-339.1	-106.4	-332.9	0.00	0.00	0.00
7,700.0	4.54	197.42	7,685.7	-346.6	-108.7	-340.4	0.00	0.00	0.00
7,800.0	4.54	197.42	7,785.4	-354.2	-111.1	-347.8	0.00	0.00	0.00
7,900.0	4.54	197.42	7,885.1	-361.7	-113.5	-355.2	0.00	0.00	0.00
8,000.0	4.54	197.42	7,984.8	-369.3	-115.9	-362.6	0.00	0.00	0.00
8,100.0	4.54	197.42	8,084.5	-376.9	-118.2	-370.1	0.00	0.00	0.00
8,200.0	4.54	197.42	8,184.1	-384.4	-120.6	-377.5	0.00	0.00	0.00
8,300.0	4.54	197.42	8,283.8	-392.0	-123.0	-384.9	0.00	0.00	0.00
8,400.0	4.54	197.42	8,383.5	-399.5	-125.3	-392.3	0.00	0.00	0.00
8,500.0	4.54	197.42	8,483.2	-407.1	-127.7	-399.7	0.00	0.00	0.00
8,600.0	4.54	197.42	8,582.9	-414.6	-130.1	-407.2	0.00	0.00	0.00
8,700.0	4.54	197.42	8,682.6	-422.2	-132.5	-414.6	0.00	0.00	0.00
8,800.0	4.54	197.42	8,782.3	-429.8	-134.8	-422.0	0.00	0.00	0.00
8,900.0	4.54	197.42	8,881.9	-437.3	-137.2	-429.4	0.00	0.00	0.00
9,000.0	4.54	197.42	8,981.6	-444.9	-139.6	-436.8	0.00	0.00	0.00
9,100.0	4.54	197.42	9,081.3	-452.4	-141.9	-444.3	0.00	0.00	0.00
9,200.0	4.54	197.42	9,181.0	-460.0	-144.3	-451.7	0.00	0.00	0.00
9,300.0	4.54	197.42	9,280.7	-467.5	-146.7	-459.1	0.00	0.00	0.00
9,400.0	4.54	197.42	9,380.4	-475.1	-149.1	-466.5	0.00	0.00	0.00
9,500.0	4.54	197.42	9,480.1	-482.7	-151.4	-474.0	0.00	0.00	0.00
9,600.0	4.54	197.42	9,579.7	-490.2	-153.8	-481.4	0.00	0.00	0.00
9,700.0	4.54	197.42	9,679.4	-497.8	-156.2	-488.8	0.00	0.00	0.00
9,800.0	4.54	197.42	9,779.1	-505.3	-158.5	-496.2	0.00	0.00	0.00
9,900.0	4.54	197.42	9,878.8	-512.9	-160.9	-503.6	0.00	0.00	0.00
10,000.0	4.54	197.42	9,978.5	-520.4	-163.3	-511.1	0.00	0.00	0.00
10,100.0	4.54	197.42	10,078.2	-528.0	-165.6	-518.5	0.00	0.00	0.00
10,200.0	4.54	197.42	10,177.9	-535.6	-168.0	-525.9	0.00	0.00	0.00
10,300.0	4.54	197.42	10,277.5	-543.1	-170.4	-533.3	0.00	0.00	0.00
10,400.0	4.54	197.42	10,377.2	-550.7	-172.8	-540.7	0.00	0.00	0.00
10,500.0	4.54	197.42	10,476.9	-558.2	-175.1	-548.2	0.00	0.00	0.00
10,600.0	4.54	197.42	10,576.6	-565.8	-177.5	-555.6	0.00	0.00	0.00

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Site:	Mamba 30 State Com	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

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)
10,700.0	4.54	197.42	10,676.3	-573.3	-179.9	-563.0	0.00	0.00	0.00
10,800.0	4.54	197.42	10,776.0	-580.9	-182.2	-570.4	0.00	0.00	0.00
10,900.0	4.54	197.42	10,875.7	-588.5	-184.6	-577.8	0.00	0.00	0.00
11,000.0	4.54	197.42	10,975.3	-596.0	-187.0	-585.3	0.00	0.00	0.00
11,100.0	4.54	197.42	11,075.0	-603.6	-189.4	-592.7	0.00	0.00	0.00
11,200.0	4.54	197.42	11,174.7	-611.1	-191.7	-600.1	0.00	0.00	0.00
11,300.0	4.54	197.42	11,274.4	-618.7	-194.1	-607.5	0.00	0.00	0.00
11,400.0	4.54	197.42	11,374.1	-626.2	-196.5	-615.0	0.00	0.00	0.00
11,500.0	4.54	197.42	11,473.8	-633.8	-198.8	-622.4	0.00	0.00	0.00
11,600.0	4.54	197.42	11,573.5	-641.4	-201.2	-629.8	0.00	0.00	0.00
11,700.0	4.54	197.42	11,673.1	-648.9	-203.6	-637.2	0.00	0.00	0.00
11,772.7	4.54	197.42	11,745.6	-654.4	-205.3	-642.6	0.00	0.00	0.00
11,800.0	4.00	197.42	11,772.8	-656.4	-205.9	-644.5	2.00	-2.00	0.00
11,900.0	2.00	197.42	11,872.7	-661.3	-207.5	-649.4	2.00	-2.00	0.00
11,999.8	0.00	0.00	11,972.5	-663.0	-208.0	-651.0	2.00	-2.00	0.00
KOP (Mamba 30 State #709H)									
12,025.0	3.02	359.68	11,997.7	-662.3	-208.0	-650.4	12.00	12.00	0.00
12,050.0	6.02	359.68	12,022.6	-660.4	-208.0	-648.4	12.00	12.00	0.00
12,075.0	9.02	359.68	12,047.4	-657.1	-208.0	-645.1	12.00	12.00	0.00
12,100.0	12.02	359.68	12,071.9	-652.5	-208.1	-640.6	12.00	12.00	0.00
12,125.0	15.02	359.68	12,096.2	-646.7	-208.1	-634.7	12.00	12.00	0.00
12,150.0	18.02	359.68	12,120.2	-639.6	-208.1	-627.6	12.00	12.00	0.00
12,175.0	21.02	359.68	12,143.8	-631.2	-208.2	-619.3	12.00	12.00	0.00
12,200.0	24.02	359.68	12,166.9	-621.7	-208.2	-609.7	12.00	12.00	0.00
12,225.0	27.02	359.68	12,189.4	-610.9	-208.3	-599.0	12.00	12.00	0.00
12,250.0	30.02	359.68	12,211.4	-598.9	-208.4	-587.1	12.00	12.00	0.00
12,275.0	33.02	359.68	12,232.7	-585.9	-208.4	-574.0	12.00	12.00	0.00
12,300.0	36.02	359.68	12,253.3	-571.7	-208.5	-559.9	12.00	12.00	0.00
12,325.0	39.02	359.68	12,273.1	-556.5	-208.6	-544.6	12.00	12.00	0.00
12,350.0	42.02	359.68	12,292.1	-540.2	-208.7	-528.4	12.00	12.00	0.00
12,375.0	45.02	359.68	12,310.2	-523.0	-208.8	-511.2	12.00	12.00	0.00
12,400.0	48.02	359.68	12,327.4	-504.9	-208.9	-493.1	12.00	12.00	0.00
FTP (Mamba 30 State #709H)									
12,425.0	51.02	359.68	12,343.7	-485.9	-209.0	-474.1	12.00	12.00	0.00
12,450.0	54.02	359.68	12,358.9	-466.0	-209.1	-454.3	12.00	12.00	0.00
12,475.0	57.02	359.68	12,373.0	-445.4	-209.2	-433.7	12.00	12.00	0.00
12,500.0	60.02	359.68	12,386.1	-424.1	-209.4	-412.4	12.00	12.00	0.00
12,525.0	63.02	359.68	12,398.0	-402.1	-209.5	-390.5	12.00	12.00	0.00
12,550.0	66.02	359.68	12,408.8	-379.6	-209.6	-367.9	12.00	12.00	0.00
12,575.0	69.02	359.68	12,418.3	-356.5	-209.7	-344.9	12.00	12.00	0.00
12,600.0	72.02	359.68	12,426.7	-332.9	-209.9	-321.3	12.00	12.00	0.00
12,625.0	75.02	359.68	12,433.7	-308.9	-210.0	-297.4	12.00	12.00	0.00
12,650.0	78.02	359.68	12,439.6	-284.6	-210.1	-273.1	12.00	12.00	0.00
12,675.0	81.02	359.68	12,444.1	-260.1	-210.3	-248.5	12.00	12.00	0.00
12,700.0	84.02	359.68	12,447.4	-235.3	-210.4	-223.8	12.00	12.00	0.00
12,725.0	87.02	359.68	12,449.3	-210.4	-210.6	-198.9	12.00	12.00	0.00
12,749.8	90.00	359.68	12,450.0	-185.5	-210.7	-174.1	12.00	12.00	0.00
12,800.0	90.00	359.68	12,450.0	-135.4	-211.0	-124.0	0.00	0.00	0.00
12,900.0	90.00	359.68	12,450.0	-35.4	-211.5	-24.1	0.00	0.00	0.00
13,000.0	90.00	359.68	12,450.0	64.6	-212.1	75.8	0.00	0.00	0.00
13,100.0	90.00	359.68	12,450.0	164.6	-212.7	175.7	0.00	0.00	0.00
13,200.0	90.00	359.68	12,450.0	264.6	-213.2	275.6	0.00	0.00	0.00
13,300.0	90.00	359.68	12,450.0	364.6	-213.8	375.4	0.00	0.00	0.00
13,400.0	90.00	359.68	12,450.0	464.6	-214.4	475.3	0.00	0.00	0.00

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #709H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3580.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3580.0usft
Site:	Mamba 30 State Com	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

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)
13,500.0	90.00	359.68	12,450.0	564.6	-214.9	575.2	0.00	0.00	0.00
13,600.0	90.00	359.68	12,450.0	664.6	-215.5	675.1	0.00	0.00	0.00
13,700.0	90.00	359.68	12,450.0	764.6	-216.1	775.0	0.00	0.00	0.00
13,800.0	90.00	359.68	12,450.0	864.6	-216.6	874.9	0.00	0.00	0.00
13,900.0	90.00	359.68	12,450.0	964.6	-217.2	974.8	0.00	0.00	0.00
14,000.0	90.00	359.68	12,450.0	1,064.6	-217.8	1,074.7	0.00	0.00	0.00
14,100.0	90.00	359.68	12,450.0	1,164.6	-218.3	1,174.5	0.00	0.00	0.00
14,200.0	90.00	359.68	12,450.0	1,264.6	-218.9	1,274.4	0.00	0.00	0.00
14,300.0	90.00	359.68	12,450.0	1,364.6	-219.5	1,374.3	0.00	0.00	0.00
14,400.0	90.00	359.68	12,450.0	1,464.6	-220.0	1,474.2	0.00	0.00	0.00
14,500.0	90.00	359.68	12,450.0	1,564.6	-220.6	1,574.1	0.00	0.00	0.00
14,600.0	90.00	359.68	12,450.0	1,664.6	-221.2	1,674.0	0.00	0.00	0.00
14,700.0	90.00	359.68	12,450.0	1,764.6	-221.7	1,773.9	0.00	0.00	0.00
14,800.0	90.00	359.68	12,450.0	1,864.6	-222.3	1,873.8	0.00	0.00	0.00
14,900.0	90.00	359.68	12,450.0	1,964.6	-222.9	1,973.6	0.00	0.00	0.00
15,000.0	90.00	359.68	12,450.0	2,064.6	-223.4	2,073.5	0.00	0.00	0.00
15,100.0	90.00	359.68	12,450.0	2,164.6	-224.0	2,173.4	0.00	0.00	0.00
15,200.0	90.00	359.68	12,450.0	2,264.6	-224.6	2,273.3	0.00	0.00	0.00
15,300.0	90.00	359.68	12,450.0	2,364.6	-225.1	2,373.2	0.00	0.00	0.00
15,400.0	90.00	359.68	12,450.0	2,464.6	-225.7	2,473.1	0.00	0.00	0.00
15,500.0	90.00	359.68	12,450.0	2,564.6	-226.3	2,573.0	0.00	0.00	0.00
15,600.0	90.00	359.68	12,450.0	2,664.6	-226.8	2,672.9	0.00	0.00	0.00
15,700.0	90.00	359.68	12,450.0	2,764.6	-227.4	2,772.8	0.00	0.00	0.00
15,800.0	90.00	359.68	12,450.0	2,864.6	-227.9	2,872.6	0.00	0.00	0.00
15,900.0	90.00	359.68	12,450.0	2,964.6	-228.5	2,972.5	0.00	0.00	0.00
16,000.0	90.00	359.68	12,450.0	3,064.6	-229.1	3,072.4	0.00	0.00	0.00
16,100.0	90.00	359.68	12,450.0	3,164.6	-229.6	3,172.3	0.00	0.00	0.00
16,200.0	90.00	359.68	12,450.0	3,264.6	-230.2	3,272.2	0.00	0.00	0.00
16,300.0	90.00	359.68	12,450.0	3,364.6	-230.8	3,372.1	0.00	0.00	0.00
16,400.0	90.00	359.68	12,450.0	3,464.6	-231.3	3,472.0	0.00	0.00	0.00
16,500.0	90.00	359.68	12,450.0	3,564.6	-231.9	3,571.9	0.00	0.00	0.00
16,600.0	90.00	359.68	12,450.0	3,664.6	-232.5	3,671.7	0.00	0.00	0.00
16,700.0	90.00	359.68	12,450.0	3,764.6	-233.0	3,771.6	0.00	0.00	0.00
16,800.0	90.00	359.68	12,450.0	3,864.6	-233.6	3,871.5	0.00	0.00	0.00
16,900.0	90.00	359.68	12,450.0	3,964.6	-234.2	3,971.4	0.00	0.00	0.00
17,000.0	90.00	359.68	12,450.0	4,064.6	-234.7	4,071.3	0.00	0.00	0.00
17,100.0	90.00	359.68	12,450.0	4,164.6	-235.3	4,171.2	0.00	0.00	0.00
17,200.0	90.00	359.68	12,450.0	4,264.6	-235.9	4,271.1	0.00	0.00	0.00
17,300.0	90.00	359.68	12,450.0	4,364.6	-236.4	4,371.0	0.00	0.00	0.00
17,400.4	90.00	359.68	12,450.0	4,465.0	-237.0	4,471.3	0.00	0.00	0.00

PBHL (Mamba 30 State #709H)

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #709H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25 @ 3580.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25 @ 3580.0usft
Site:	Mamba 30 State Com	North Reference:	Grid
Well:	#709H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
KOP (Mamba 30 State # - plan hits target center - Point	0.00	0.00	11,972.5	-663.0	-208.0	430,514.00	762,406.00	32° 10' 53.552 N	103° 37' 7.602 W
PBHL (Mamba 30 State - plan hits target center - Point	0.00	0.00	12,450.0	4,465.0	-237.0	435,642.00	762,377.00	32° 11' 44.298 N	103° 37' 7.543 W
FTP (Mamba 30 State # - plan misses target center by 163.4usft at 12400.0usft MD (12327.4 TVD, -504.9 N, -208.9 E) - Point	0.00	0.00	12,450.0	-613.0	-208.0	430,564.00	762,406.00	32° 10' 54.047 N	103° 37' 7.598 W

HOBBS OGD
OCT 30 2018
RECEIVED



Lea County, NM (NAD 83 NME)

Mamba 30 State Com #709H

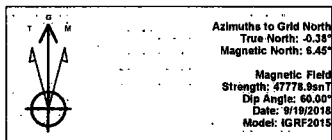
Plan #0.1

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: #709H

KB = 25 @ 3580.0usft 3555.0
Northing 431177.00 Easting 762614.00 Latitude 32° 11' 0.099 N Longitude 103° 37' 5.130 W



To convert a Magnetic Direction to a Grid Direction, Add 6.45°
To convert a Magnetic Direction to a True Direction, Add 6.84° East
To convert a True Direction to a Grid Direction, Subtract 0.38°

SECTION DETAILS

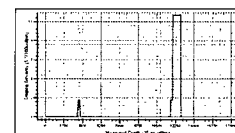
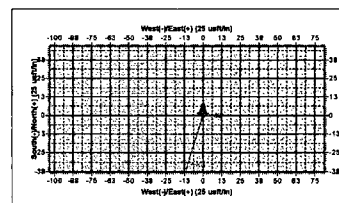
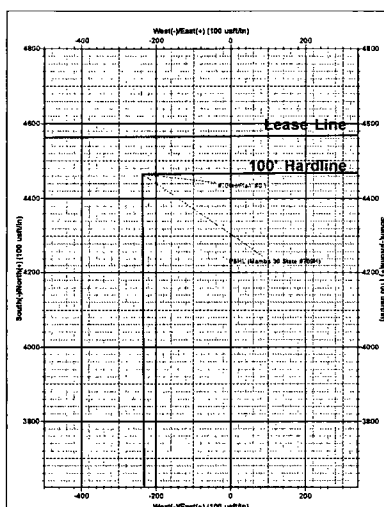
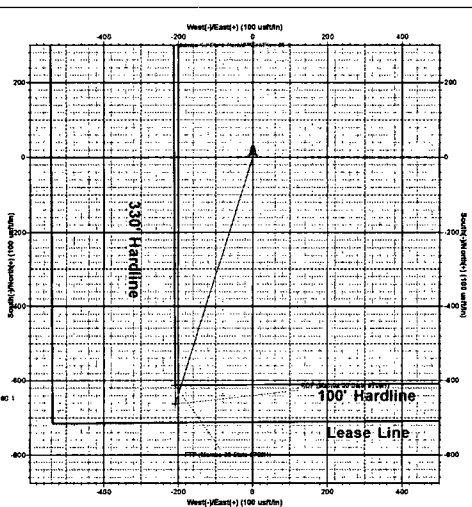
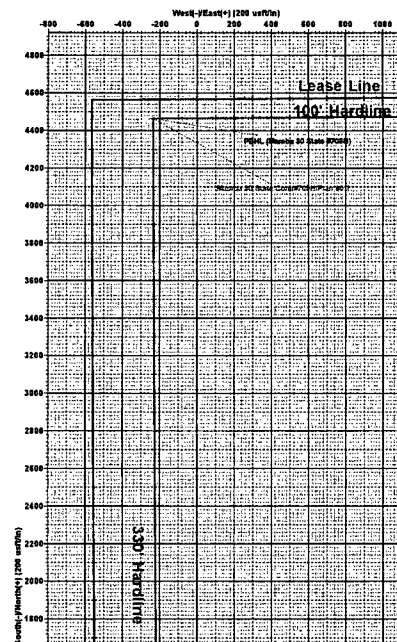
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0	
3	3227.1	4.54	197.42	3226.9	-8.6	-2.7	2.00	197.42	-8.4	
4	11772.7	4.54	197.42	11745.6	-654.4	-205.3	0.00	0.00	-642.6	
5	11999.8	0.00	0.00	11972.5	-663.0	-208.0	2.00	180.00	-651.0	KOP (Mamba 30 State #709H)
6	12749.8	90.00	359.68	12450.0	-185.5	-210.7	12.00	359.68	-174.1	
7	17400.4	90.00	359.68	12450.0	4465.0	-237.0	0.00	0.00	4471.3	PBHL (Mamba 30 State #709H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
KOP (Mamba 30 State #709H)	11972.5	-663.0	-208.0	430514.00	762406.00
PBHL (Mamba 30 State #709H)	12450.0	4465.0	-237.0	430564.00	762377.00
FTP (Mamba 30 State #709H)	12450.0	-613.0	-208.0	430564.00	762406.00



Lea County, NM (NAD 83 NME)
Mamba 30 State Com #709H
Plan #0.1
Date: 9/19/2016
Model: IGRF2015