



Amended

30-025-43818

HOBBS OCD

JUL 18 2018

RECEIVED

EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Ares 4 State

#702H

OH

Plan: Plan #0.4

Standard Planning Report

17 July, 2018

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Ares 4 State
Well: #702H
Wellbore: OH
Design: Plan #0.4

Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25' @ 3610.0usft
MD Reference: KB = 25' @ 3610.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project Lea County, NM (NAD 83 NME)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site Ares 4 State

Site Position: Northing: 451,993.00 usft Latitude: 32° 14' 25.072 N
From: Map Easting: 777,413.00 usft Longitude: 103° 34' 11.215 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16" Grid Convergence: 0.41°

Well #702H

Well Position +N/-S 663.0 usft Northing: 452,656.00 usft Latitude: 32° 14' 31.688 N
 +E/-W -792.0 usft Easting: 776,621.00 usft Longitude: 103° 34' 20.381 W
Position Uncertainty 0.0 usft Wellhead Elevation: Ground Level: 3,585.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/19/2017	6.96	60.08	47,955.87085626

Design Plan #0.4

Audit Notes:
Version: Phase: PLAN Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	8.57

Plan Survey Tool Program Date 7/17/2018

Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1 0.0	17,525.4	Plan #0.4 (OH)	MWD	
			OWSG MWD - Standard	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,433.5	8.67	144.51	4,431.8	-26.7	19.0	2.00	2.00	0.00	144.51	
11,690.2	8.67	144.51	11,605.7	-917.3	654.0	0.00	0.00	0.00	0.00	
12,123.7	0.00	0.00	12,037.5	-944.0	673.0	2.00	-2.00	0.00	180.00	KOP (Ares 4 State #7
12,873.7	90.00	359.53	12,515.0	-466.6	669.1	12.00	12.00	-0.06	359.53	
17,525.4	90.00	359.53	12,515.0	4,185.0	631.0	0.00	0.00	0.00	0.00	PBHL (Ares 4 State #

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Local Co-ordinate Reference: Well #702H
 TVD Reference: KB = 25' @ 3610.0usft
 MD Reference: KB = 25' @ 3610.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	2.00	144.51	4,100.0	-1.4	1.0	-1.3	2.00	2.00	0.00
4,200.0	4.00	144.51	4,199.8	-5.7	4.1	-5.0	2.00	2.00	0.00
4,300.0	6.00	144.51	4,299.5	-12.8	9.1	-11.3	2.00	2.00	0.00
4,400.0	8.00	144.51	4,398.7	-22.7	16.2	-20.0	2.00	2.00	0.00
4,433.5	8.67	144.51	4,431.8	-26.7	19.0	-23.5	2.00	2.00	0.00
4,500.0	8.67	144.51	4,497.6	-34.8	24.8	-30.7	0.00	0.00	0.00
4,600.0	8.67	144.51	4,596.4	-47.1	33.6	-41.6	0.00	0.00	0.00
4,700.0	8.67	144.51	4,695.3	-59.4	42.3	-52.4	0.00	0.00	0.00
4,800.0	8.67	144.51	4,794.2	-71.6	51.1	-63.2	0.00	0.00	0.00
4,900.0	8.67	144.51	4,893.0	-83.9	59.8	-74.1	0.00	0.00	0.00
5,000.0	8.67	144.51	4,991.9	-96.2	68.6	-84.9	0.00	0.00	0.00
5,100.0	8.67	144.51	5,090.7	-108.5	77.3	-95.7	0.00	0.00	0.00
5,200.0	8.67	144.51	5,189.6	-120.7	86.1	-106.6	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)
5,300.0	8.67	144.51	5,288.4	-133.0	94.8	-117.4	0.00	0.00	0.00
5,400.0	8.67	144.51	5,387.3	-145.3	103.6	-128.2	0.00	0.00	0.00
5,500.0	8.67	144.51	5,486.2	-157.6	112.3	-139.0	0.00	0.00	0.00
5,600.0	8.67	144.51	5,585.0	-169.8	121.1	-149.9	0.00	0.00	0.00
5,700.0	8.67	144.51	5,683.9	-182.1	129.8	-160.7	0.00	0.00	0.00
5,800.0	8.67	144.51	5,782.7	-194.4	138.6	-171.5	0.00	0.00	0.00
5,900.0	8.67	144.51	5,881.6	-206.7	147.3	-182.4	0.00	0.00	0.00
6,000.0	8.67	144.51	5,980.4	-218.9	156.1	-193.2	0.00	0.00	0.00
6,100.0	8.67	144.51	6,079.3	-231.2	164.8	-204.0	0.00	0.00	0.00
6,200.0	8.67	144.51	6,178.2	-243.5	173.6	-214.9	0.00	0.00	0.00
6,300.0	8.67	144.51	6,277.0	-255.7	182.3	-225.7	0.00	0.00	0.00
6,400.0	8.67	144.51	6,375.9	-268.0	191.1	-236.5	0.00	0.00	0.00
6,500.0	8.67	144.51	6,474.7	-280.3	199.8	-247.4	0.00	0.00	0.00
6,600.0	8.67	144.51	6,573.6	-292.6	208.6	-258.2	0.00	0.00	0.00
6,700.0	8.67	144.51	6,672.4	-304.8	217.3	-269.0	0.00	0.00	0.00
6,800.0	8.67	144.51	6,771.3	-317.1	226.1	-279.9	0.00	0.00	0.00
6,900.0	8.67	144.51	6,870.2	-329.4	234.8	-290.7	0.00	0.00	0.00
7,000.0	8.67	144.51	6,969.0	-341.7	243.6	-301.5	0.00	0.00	0.00
7,100.0	8.67	144.51	7,067.9	-353.9	252.3	-312.4	0.00	0.00	0.00
7,200.0	8.67	144.51	7,166.7	-366.2	261.1	-323.2	0.00	0.00	0.00
7,300.0	8.67	144.51	7,265.6	-378.5	269.8	-334.0	0.00	0.00	0.00
7,400.0	8.67	144.51	7,364.5	-390.8	278.6	-344.9	0.00	0.00	0.00
7,500.0	8.67	144.51	7,463.3	-403.0	287.3	-355.7	0.00	0.00	0.00
7,600.0	8.67	144.51	7,562.2	-415.3	296.1	-366.5	0.00	0.00	0.00
7,700.0	8.67	144.51	7,661.0	-427.6	304.8	-377.4	0.00	0.00	0.00
7,800.0	8.67	144.51	7,759.9	-439.9	313.6	-388.2	0.00	0.00	0.00
7,900.0	8.67	144.51	7,858.7	-452.1	322.3	-399.0	0.00	0.00	0.00
8,000.0	8.67	144.51	7,957.6	-464.4	331.1	-409.9	0.00	0.00	0.00
8,100.0	8.67	144.51	8,056.5	-476.7	339.8	-420.7	0.00	0.00	0.00
8,200.0	8.67	144.51	8,155.3	-489.0	348.6	-431.5	0.00	0.00	0.00
8,300.0	8.67	144.51	8,254.2	-501.2	357.3	-442.4	0.00	0.00	0.00
8,400.0	8.67	144.51	8,353.0	-513.5	366.1	-453.2	0.00	0.00	0.00
8,500.0	8.67	144.51	8,451.9	-525.8	374.8	-464.0	0.00	0.00	0.00
8,600.0	8.67	144.51	8,550.7	-538.1	383.6	-474.8	0.00	0.00	0.00
8,700.0	8.67	144.51	8,649.6	-550.3	392.3	-485.7	0.00	0.00	0.00
8,800.0	8.67	144.51	8,748.5	-562.6	401.1	-496.5	0.00	0.00	0.00
8,900.0	8.67	144.51	8,847.3	-574.9	409.8	-507.3	0.00	0.00	0.00
9,000.0	8.67	144.51	8,946.2	-587.1	418.6	-518.2	0.00	0.00	0.00
9,100.0	8.67	144.51	9,045.0	-599.4	427.3	-529.0	0.00	0.00	0.00
9,200.0	8.67	144.51	9,143.9	-611.7	436.1	-539.8	0.00	0.00	0.00
9,300.0	8.67	144.51	9,242.7	-624.0	444.8	-550.7	0.00	0.00	0.00
9,400.0	8.67	144.51	9,341.6	-636.2	453.6	-561.5	0.00	0.00	0.00
9,500.0	8.67	144.51	9,440.5	-648.5	462.3	-572.3	0.00	0.00	0.00
9,600.0	8.67	144.51	9,539.3	-660.8	471.1	-583.2	0.00	0.00	0.00
9,700.0	8.67	144.51	9,638.2	-673.1	479.8	-594.0	0.00	0.00	0.00
9,800.0	8.67	144.51	9,737.0	-685.3	488.6	-604.8	0.00	0.00	0.00
9,900.0	8.67	144.51	9,835.9	-697.6	497.3	-615.7	0.00	0.00	0.00
10,000.0	8.67	144.51	9,934.7	-709.9	506.1	-626.5	0.00	0.00	0.00
10,100.0	8.67	144.51	10,033.6	-722.2	514.8	-637.3	0.00	0.00	0.00
10,200.0	8.67	144.51	10,132.5	-734.4	523.6	-648.2	0.00	0.00	0.00
10,300.0	8.67	144.51	10,231.3	-746.7	532.3	-659.0	0.00	0.00	0.00
10,400.0	8.67	144.51	10,330.2	-759.0	541.1	-669.8	0.00	0.00	0.00
10,500.0	8.67	144.51	10,429.0	-771.3	549.8	-680.7	0.00	0.00	0.00
10,600.0	8.67	144.51	10,527.9	-783.5	558.6	-691.5	0.00	0.00	0.00

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10,700.0	8.67	144.51	10,626.7	-795.8	567.3	-702.3	0.00	0.00	0.00
10,800.0	8.67	144.51	10,725.6	-808.1	576.1	-713.2	0.00	0.00	0.00
10,900.0	8.67	144.51	10,824.5	-820.4	584.8	-724.0	0.00	0.00	0.00
11,000.0	8.67	144.51	10,923.3	-832.6	593.6	-734.8	0.00	0.00	0.00
11,100.0	8.67	144.51	11,022.2	-844.9	602.3	-745.7	0.00	0.00	0.00
11,200.0	8.67	144.51	11,121.0	-857.2	611.1	-756.5	0.00	0.00	0.00
11,300.0	8.67	144.51	11,219.9	-869.4	619.9	-767.3	0.00	0.00	0.00
11,400.0	8.67	144.51	11,318.7	-881.7	628.6	-778.1	0.00	0.00	0.00
11,500.0	8.67	144.51	11,417.6	-894.0	637.4	-789.0	0.00	0.00	0.00
11,600.0	8.67	144.51	11,516.5	-906.3	646.1	-799.8	0.00	0.00	0.00
11,690.2	8.67	144.51	11,605.7	-917.3	654.0	-809.6	0.00	0.00	0.00
11,700.0	8.47	144.51	11,615.3	-918.5	654.8	-810.6	2.00	-2.00	0.00
11,800.0	6.47	144.51	11,714.5	-929.1	662.4	-820.0	2.00	-2.00	0.00
11,900.0	4.47	144.51	11,814.0	-936.9	667.9	-826.8	2.00	-2.00	0.00
12,000.0	2.47	144.51	11,913.8	-941.8	671.4	-831.2	2.00	-2.00	0.00
12,100.0	0.47	144.51	12,013.8	-943.9	672.9	-833.0	2.00	-2.00	0.00
12,123.7	0.00	0.00	12,037.5	-944.0	673.0	-833.1	2.00	-2.00	0.00
KOP (Ares 4 State #702H)									
12,125.0	0.15	359.53	12,038.8	-944.0	673.0	-833.1	12.00	12.00	0.00
12,150.0	3.15	359.53	12,063.8	-943.3	673.0	-832.4	12.00	12.00	0.00
12,175.0	6.15	359.53	12,088.7	-941.2	673.0	-830.4	12.00	12.00	0.00
12,200.0	9.15	359.53	12,113.5	-937.9	673.0	-827.1	12.00	12.00	0.00
12,225.0	12.15	359.53	12,138.0	-933.3	672.9	-822.5	12.00	12.00	0.00
12,250.0	15.15	359.53	12,162.3	-927.4	672.9	-816.7	12.00	12.00	0.00
12,275.0	18.15	359.53	12,186.3	-920.2	672.8	-809.6	12.00	12.00	0.00
12,300.0	21.15	359.53	12,209.8	-911.8	672.7	-801.3	12.00	12.00	0.00
12,325.0	24.15	359.53	12,232.9	-902.2	672.7	-791.8	12.00	12.00	0.00
12,350.0	27.15	359.53	12,255.4	-891.4	672.6	-781.1	12.00	12.00	0.00
12,375.0	30.15	359.53	12,277.3	-879.4	672.5	-769.3	12.00	12.00	0.00
12,400.0	33.15	359.53	12,298.6	-866.3	672.4	-756.4	12.00	12.00	0.00
12,425.0	36.15	359.53	12,319.2	-852.1	672.2	-742.3	12.00	12.00	0.00
12,450.0	39.15	359.53	12,339.0	-836.8	672.1	-727.2	12.00	12.00	0.00
12,475.0	42.15	359.53	12,357.9	-820.5	672.0	-711.2	12.00	12.00	0.00
12,500.0	45.15	359.53	12,376.0	-803.3	671.8	-694.1	12.00	12.00	0.00
12,525.0	48.15	359.53	12,393.2	-785.1	671.7	-676.2	12.00	12.00	0.00
FTP (Ares 4 State #702H)									
12,550.0	51.15	359.53	12,409.4	-766.0	671.5	-657.3	12.00	12.00	0.00
12,575.0	54.15	359.53	12,424.5	-746.2	671.4	-637.7	12.00	12.00	0.00
12,600.0	57.15	359.53	12,438.6	-725.5	671.2	-617.3	12.00	12.00	0.00
12,625.0	60.15	359.53	12,451.6	-704.2	671.0	-596.3	12.00	12.00	0.00
12,650.0	63.15	359.53	12,463.5	-682.2	670.9	-574.5	12.00	12.00	0.00
12,675.0	66.15	359.53	12,474.2	-659.6	670.7	-552.2	12.00	12.00	0.00
12,700.0	69.15	359.53	12,483.7	-636.5	670.5	-529.4	12.00	12.00	0.00
12,725.0	72.15	359.53	12,492.0	-612.9	670.3	-506.1	12.00	12.00	0.00
12,750.0	75.15	359.53	12,499.0	-588.9	670.1	-482.4	12.00	12.00	0.00
12,775.0	78.15	359.53	12,504.8	-564.6	669.9	-458.4	12.00	12.00	0.00
12,800.0	81.15	359.53	12,509.3	-540.0	669.7	-434.1	12.00	12.00	0.00
12,825.0	84.15	359.53	12,512.5	-515.2	669.5	-409.6	12.00	12.00	0.00
12,850.0	87.15	359.53	12,514.4	-490.3	669.3	-385.0	12.00	12.00	0.00
12,873.7	90.00	359.53	12,515.0	-466.6	669.1	-361.6	12.00	12.00	0.00
12,900.0	90.00	359.53	12,515.0	-440.3	668.9	-335.6	0.00	0.00	0.00
13,000.0	90.00	359.53	12,515.0	-340.3	668.1	-236.9	0.00	0.00	0.00
13,100.0	90.00	359.53	12,515.0	-240.3	667.2	-138.1	0.00	0.00	0.00
13,200.0	90.00	359.53	12,515.0	-140.3	666.4	-39.4	0.00	0.00	0.00

Database:	EDM 5000.14	Local Co-ordinate Reference:	Well #702H
Company:	EOG Resources - Midland	TVD Reference:	KB = 25' @ 3610.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB = 25' @ 3610.0usft
Site:	Ares 4 State	North Reference:	Grid
Well:	#702H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.4		

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)
13,300.0	90.00	359.53	12,515.0	-40.3	665.6	59.4	0.00	0.00	0.00
13,400.0	90.00	359.53	12,515.0	59.7	664.8	158.2	0.00	0.00	0.00
13,500.0	90.00	359.53	12,515.0	159.7	664.0	256.9	0.00	0.00	0.00
13,600.0	90.00	359.53	12,515.0	259.7	663.1	355.7	0.00	0.00	0.00
13,700.0	90.00	359.53	12,515.0	359.7	662.3	454.4	0.00	0.00	0.00
13,800.0	90.00	359.53	12,515.0	459.7	661.5	553.2	0.00	0.00	0.00
13,900.0	90.00	359.53	12,515.0	559.7	660.7	651.9	0.00	0.00	0.00
14,000.0	90.00	359.53	12,515.0	659.7	659.9	750.7	0.00	0.00	0.00
14,100.0	90.00	359.53	12,515.0	759.7	659.0	849.5	0.00	0.00	0.00
14,200.0	90.00	359.53	12,515.0	859.7	658.2	948.2	0.00	0.00	0.00
14,300.0	90.00	359.53	12,515.0	959.7	657.4	1,047.0	0.00	0.00	0.00
14,400.0	90.00	359.53	12,515.0	1,059.7	656.6	1,145.7	0.00	0.00	0.00
14,500.0	90.00	359.53	12,515.0	1,159.7	655.8	1,244.5	0.00	0.00	0.00
14,600.0	90.00	359.53	12,515.0	1,259.7	655.0	1,343.2	0.00	0.00	0.00
14,700.0	90.00	359.53	12,515.0	1,359.7	654.1	1,442.0	0.00	0.00	0.00
14,800.0	90.00	359.53	12,515.0	1,459.7	653.3	1,540.8	0.00	0.00	0.00
14,900.0	90.00	359.53	12,515.0	1,559.7	652.5	1,639.5	0.00	0.00	0.00
15,000.0	90.00	359.53	12,515.0	1,659.7	651.7	1,738.3	0.00	0.00	0.00
15,100.0	90.00	359.53	12,515.0	1,759.7	650.9	1,837.0	0.00	0.00	0.00
15,200.0	90.00	359.53	12,515.0	1,859.6	650.0	1,935.8	0.00	0.00	0.00
15,300.0	90.00	359.53	12,515.0	1,959.6	649.2	2,034.5	0.00	0.00	0.00
15,400.0	90.00	359.53	12,515.0	2,059.6	648.4	2,133.3	0.00	0.00	0.00
15,500.0	90.00	359.53	12,515.0	2,159.6	647.6	2,232.1	0.00	0.00	0.00
15,600.0	90.00	359.53	12,515.0	2,259.6	646.8	2,330.8	0.00	0.00	0.00
15,700.0	90.00	359.53	12,515.0	2,359.6	645.9	2,429.6	0.00	0.00	0.00
15,800.0	90.00	359.53	12,515.0	2,459.6	645.1	2,528.3	0.00	0.00	0.00
15,900.0	90.00	359.53	12,515.0	2,559.6	644.3	2,627.1	0.00	0.00	0.00
16,000.0	90.00	359.53	12,515.0	2,659.6	643.5	2,725.8	0.00	0.00	0.00
16,100.0	90.00	359.53	12,515.0	2,759.6	642.7	2,824.6	0.00	0.00	0.00
16,200.0	90.00	359.53	12,515.0	2,859.6	641.9	2,923.3	0.00	0.00	0.00
16,300.0	90.00	359.53	12,515.0	2,959.6	641.0	3,022.1	0.00	0.00	0.00
16,400.0	90.00	359.53	12,515.0	3,059.6	640.2	3,120.9	0.00	0.00	0.00
16,500.0	90.00	359.53	12,515.0	3,159.6	639.4	3,219.6	0.00	0.00	0.00
16,600.0	90.00	359.53	12,515.0	3,259.6	638.6	3,318.4	0.00	0.00	0.00
16,700.0	90.00	359.53	12,515.0	3,359.6	637.8	3,417.1	0.00	0.00	0.00
16,800.0	90.00	359.53	12,515.0	3,459.6	636.9	3,515.9	0.00	0.00	0.00
16,900.0	90.00	359.53	12,515.0	3,559.6	636.1	3,614.6	0.00	0.00	0.00
17,000.0	90.00	359.53	12,515.0	3,659.6	635.3	3,713.4	0.00	0.00	0.00
17,100.0	90.00	359.53	12,515.0	3,759.6	634.5	3,812.2	0.00	0.00	0.00
17,200.0	90.00	359.53	12,515.0	3,859.6	633.7	3,910.9	0.00	0.00	0.00
17,300.0	90.00	359.53	12,515.0	3,959.6	632.8	4,009.7	0.00	0.00	0.00
17,400.0	90.00	359.53	12,515.0	4,059.6	632.0	4,108.4	0.00	0.00	0.00
17,500.0	90.00	359.53	12,515.0	4,159.6	631.2	4,207.2	0.00	0.00	0.00
17,525.4	90.00	359.53	12,515.0	4,185.0	631.0	4,232.3	0.00	0.00	0.00

PBHL (Ares 4 State #702H)

Database: EDM 5000.14
Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Ares 4 State
Well: #702H
Wellbore: OH
Design: Plan #0.4

Local Co-ordinate Reference: Well #702H
TVD Reference: KB = 25' @ 3610.0usft
MD Reference: KB = 25' @ 3610.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
KOP (Ares 4 State #702 - plan hits target center - Point	0.00	0.00	12,037.5	-944.0	673.0	451,712.00	777,294.00	32° 14' 22.299 N	103° 34' 12.623 W
PBHL (Ares 4 State #702 - plan hits target center - Polygon	0.00	0.01	12,515.0	4,185.0	631.0	456,841.00	777,252.00	32° 15' 13.055 N	103° 34' 12.688 W
Point 1			12,515.0	-0.3	-30.0	456,840.70	777,222.00		
Point 2			12,515.0	0.3	30.0	456,841.30	777,282.00		
Point 3			12,515.0	-5,078.6	72.4	451,762.39	777,323.95		
Point 4			12,515.0	-5,078.5	117.4	451,762.49	777,368.95		
Point 5			12,515.0	-5,153.5	117.7	451,687.49	777,369.25		
Point 6			12,515.0	-5,154.1	-32.3	451,686.90	777,219.25		
Point 7			12,515.0	-5,079.1	-32.6	451,761.90	777,218.95		
Point 8			12,515.0	-5,078.9	12.4	451,762.10	777,263.95		
Point 9			12,515.0	-0.3	-30.0	456,840.70	777,222.00		
FTP (Ares 4 State #702 - plan misses target center by 163.4usft at 12525.0usft MD (12393.2 TVD, -785.1 N, 671.7 E) - Point	0.00	0.00	12,515.0	-894.0	673.0	451,762.00	777,294.00	32° 14' 22.794 N	103° 34' 12.619 W

HOBBS OCD

Amended

JUL 18 2018

RECEIVED



Lea County, NM (NAD 83 NME)

Ares 4 State #702H

Plan #0.4

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

Ground Level: 3588.0
 KB = 25' @ 3610.0usR
 Northing 852888.00 Easting 776421.00 Latitude 32° 14' 31.888 N Longitude 103° 34' 20.381 W

SECTION DETAILS

Sec	MD	Sec	Adj	TVD	+H-S	+E-W	Diag	TFace	VFace	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	4000.0	0.00	0.00	4000.0	0.0	0.0	0.00	0.00	0.0		
3	4633.8	0.87	144.81	4633.8	-28.7	19.0	2.00	144.81	-23.8		
4	11890.2	8.87	144.81	11890.7	-817.3	684.0	0.00	0.00	-808.8		
5	12123.7	0.00	0.00	12087.5	-844.8	673.0	2.00	180.00	-832.1		KOP (Area 4 State #702H)
6	12873.7	80.00	388.83	12818.0	-488.8	608.0	12.00	388.83	-561.8		
7	17826.4	80.00	388.83	12818.0	4188.0	631.0	0.00	0.00	4232.3		PBHL (Area 4 State #702H)



Azimuths to Grid North
 True North: -0.41°
 Magnetic North: 8.84°
 Magnetic Field
 Strength: 47868.8usR
 Dip Angle: 60.08°
 Date: 5/18/2017
 Model: IGRF2016

To convert a Magnetic Direction to a Grid Direction, Add 8.54°
 To convert a Magnetic Direction to a True Direction, Add 8.95° East
 To convert a True Direction to a Grid Direction, Subtract 0.41°

CASINO DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+H-S	+E-W	Northing	Easting
KOP (Area 4 State #702H)	12037.0	-844.0	673.0	681712.00	777284.00
PBHL (Area 4 State #702H)	12818.0	4188.0	631.0	688841.00	777282.00
FTP (Area 4 State #702H)	12918.0	-894.0	673.0	681782.00	777284.00

