



Lea County, NM (NAD 83 NME)

Ares 4 State #705H

Nabors 1208

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: #705H

Ground Level: 3582.0
KB= 31' @ 3613.0usft (Nabors 1208)
Northing 452448.00 Easting 776134.00 Latitude 32° 14' 29.664 N Longitude 103° 34' 26.568 W



Azimuths to Grid North
True North: -0.41°
Magnetic North: 6.49°

Magnetic Field
Strength: 47888.6anT
Dip Angle: 60.07°
Date: 1/11/2018
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.49°
To convert a Magnetic Direction to a True Direction, Add 6.89° East
To convert a True Direction to a Grid Direction, Subtract 0.41°

SECTION DETAILS

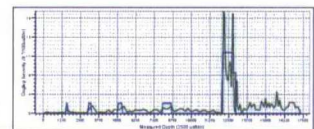
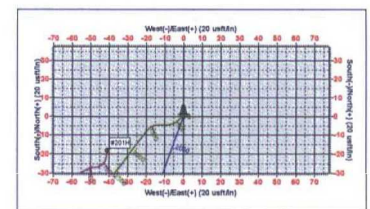
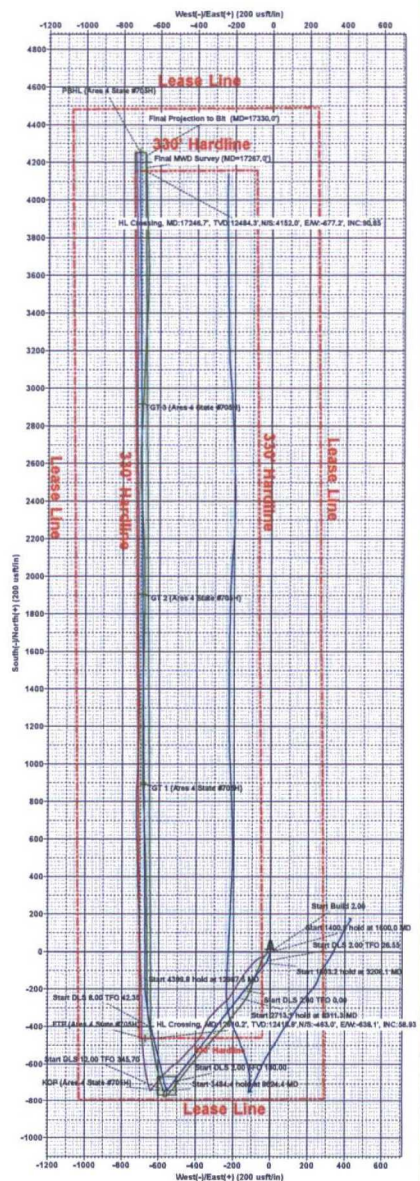
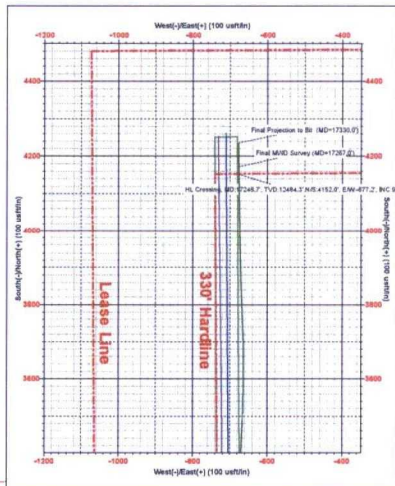
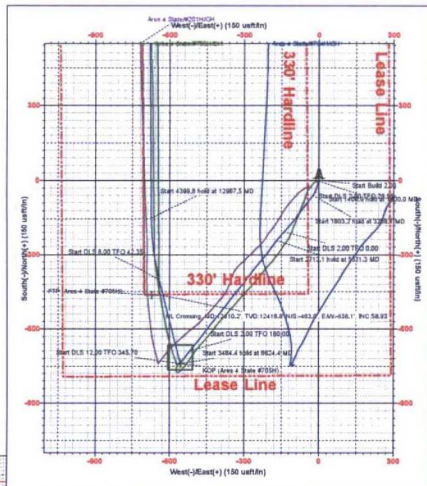
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSecl	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0		
3	1600.0	2.00	200.00	1600.0	-1.6	-0.8	2.00	200.00	-1.5		
4	3050.3	2.00	200.00	3050.3	-47.6	-17.3	0.00	0.00	-44.1		
5	3208.1	6.00	216.00	3208.1	-58.5	-25.2	2.00	26.55	-54.5		
6	5011.3	6.00	216.00	5000.0	-208.0	-141.3	0.00	0.00	-181.9		
7	5311.3	12.00	216.00	5296.2	-245.0	-170.1	2.00	0.00	-213.5		
8	8024.4	12.00	216.00	7890.0	-689.5	-517.4	0.00	0.00	-684.6		
9	8624.4	0.00	0.00	8545.6	-738.9	-556.0	2.00	180.00	-636.9		
10	12108.8	0.00	0.00	12030.0	-738.9	-556.0	0.00	0.00	-636.9		
11	12728.3	74.36	345.70	12488.7	-401.0	-642.1	12.00	345.70	-389.5		
12	12987.5	90.00	359.51	12525.0	-147.6	-474.4	8.00	42.35	-34.2		
13	17387.3	90.00	359.51	12525.0	4252.0	-712.0	0.00	0.00	4311.2		PBHL (Ares 4 State #705H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
PBHL (Ares 4 State #705H)	12525.0	4252.0	-712.0	456700.00	775422.00
FTP (Ares 4 State #705H)	12525.0	-483.0	-472.0	451985.00	775462.00
KOP (Ares 4 State #705H)	12030.0	-738.9	-556.0	451709.15	775578.02
TGT 1 (Ares 4 State #705H)	12525.0	891.0	-683.5	453339.00	775450.50
TGT 2 (Ares 4 State #705H)	12525.0	1904.2	-692.1	454352.20	775441.90
TGT 3 (Ares 4 State #705H)	12525.0	2818.0	-700.7	455366.00	775433.30



Lea County, NM (NAD 83 NME)
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

HOBBS OCD

MAR 27 2018

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Ares 4 State

#705H

OH

Design: OH

PVA Report

23 February, 2018

PVA Report

Company: EOG Resources - Midland		Local Co-ordinate Reference: Well #705H	
Project: Lea County, NM (NAD 83 NME)		TVD Reference: KB= 31' @ 3613.0usft (Nabors 1208)	
Site: Ares 4 State		MD Reference: KB= 31' @ 3613.0usft (Nabors 1208)	
Well: #705H		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 Ares 4 State			
Site Position:		Northing:	451,993.00 usft
From: Map		Easting:	777,413.00 usft
Position Uncertainty: 0.0 usft		Slot Radius:	13-3/16 "
		Latitude:	32° 14' 25.072 N
		Longitude:	103° 34' 11.215 W
		Grid Convergence:	0.41 °

Well #705H			
Well Position		Northing:	452,448.00 usft
+N/-S 0.0 usft		Easting:	776,134.00 usft
+E/-W 0.0 usft		Longitude:	103° 34' 26.068 W
Position Uncertainty 0.0 usft		Wellhead Elevation:	usft
		Ground Level:	3,582.0 usft

Wellbore OH			
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	1/11/2018	6.89
			Dip Angle (°)
			60.07
			Field Strength (nT)
			47,888.56616777

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
			Direction (°)
			350.49

Survey Program Date 2/23/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
153.0	17,330.0	Total MWD (OH)	MWD
			Description
			OWSG MWD - Standard

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
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Site:	Ares 4 State	MD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	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	0.0
153.0	0.30	244.80	153.0	-0.2	-0.4	0.20	0.20	0.00	-0.4	0.0	
341.0	0.80	234.80	341.0	-1.1	-1.9	0.27	0.27	-5.32	-2.2	-0.2	
531.0	0.70	226.70	531.0	-2.7	-3.8	0.08	-0.05	-4.26	-4.6	-0.6	
718.0	0.70	251.70	718.0	-3.8	-5.7	0.16	0.00	13.37	-6.6	1.8	
905.0	0.90	262.40	904.9	-4.4	-8.3	0.13	0.11	5.72	-8.8	3.3	
1,091.0	0.60	280.30	1,090.9	-4.4	-10.7	0.20	-0.16	9.62	-9.7	6.2	
1,278.0	1.00	264.60	1,277.9	-4.4	-13.3	0.24	0.21	-8.40	-13.6	3.1	
1,453.0	0.80	261.30	1,452.9	-4.7	-16.0	0.12	-0.11	-1.89	-16.5	2.2	
1,640.0	1.80	221.50	1,639.8	-7.1	-19.2	0.69	0.53	-21.28	-15.1	-10.8	
1,826.0	2.30	216.80	1,825.7	-12.3	-23.4	0.28	0.27	-2.53	-14.6	-14.2	
2,013.0	1.90	219.40	2,012.6	-17.7	-27.6	0.22	-0.21	1.39	-16.0	-15.5	
2,199.0	1.90	214.50	2,198.5	-22.6	-31.3	0.09	0.00	-2.63	-14.4	-18.7	
2,385.0	1.70	221.40	2,384.4	-27.2	-34.9	0.16	-0.11	3.71	-16.4	-18.8	
2,572.0	1.50	222.00	2,571.3	-31.1	-38.4	0.11	-0.11	0.32	-15.7	-21.0	
2,759.0	1.20	223.00	2,758.3	-34.4	-41.3	0.16	-0.16	0.53	-14.5	-23.3	
2,945.0	1.20	214.40	2,944.2	-37.4	-43.8	0.10	0.00	-4.62	-8.4	-27.1	
3,132.0	2.80	204.80	3,131.1	-43.2	-46.8	0.87	0.86	-5.13	-1.0	-27.9	
3,318.0	5.50	193.20	3,316.6	-56.0	-50.7	1.51	1.45	-6.24	8.1	-20.8	
3,505.0	6.20	203.90	3,502.6	-73.9	-56.9	0.69	0.37	5.72	4.2	-15.5	
3,691.0	6.20	203.00	3,687.6	-92.4	-64.9	0.05	0.00	-0.48	3.1	-10.6	
3,878.0	5.60	204.10	3,873.6	-110.0	-72.5	0.33	-0.32	0.59	2.6	-5.7	
4,065.0	5.30	201.30	4,059.7	-126.4	-79.4	0.21	-0.16	-1.50	3.9	-0.4	
4,251.0	4.80	199.80	4,245.0	-141.7	-85.1	0.28	-0.27	-0.81	6.0	5.5	
4,438.0	6.10	203.30	4,431.1	-158.2	-91.7	0.72	0.70	1.87	7.5	10.6	
4,625.0	6.50	203.30	4,617.0	-177.0	-99.8	0.21	0.21	0.00	5.9	15.5	
4,811.0	6.00	191.50	4,801.9	-196.2	-105.9	0.74	-0.27	-6.34	0.0	22.9	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Site:	Ares 4 State	MD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
4,979.0	6.20	203.10	4,969.0	-213.2	-111.3	0.74	0.12	6.90	3.9	28.8	
5,118.0	7.10	207.10	5,107.0	-227.7	-118.1	0.73	0.65	2.88	6.0	32.1	
5,303.0	9.10	212.30	5,290.2	-250.3	-131.1	1.15	1.08	2.81	14.8	35.6	
5,487.0	11.50	217.80	5,471.2	-277.1	-150.2	1.41	1.30	2.99	23.6	35.6	
5,672.0	11.20	216.70	5,652.6	-306.0	-172.2	0.20	-0.16	-0.59	25.0	36.5	
5,857.0	12.00	219.10	5,833.8	-335.4	-195.1	0.50	0.43	1.30	27.8	35.5	
6,041.0	11.40	219.40	6,014.0	-364.3	-218.7	0.33	-0.33	0.16	28.9	34.5	
6,227.0	12.80	221.40	6,195.9	-393.9	-244.0	0.79	0.75	1.08	29.7	31.8	
6,412.0	11.80	220.70	6,376.6	-423.6	-269.9	0.55	-0.54	-0.38	28.3	30.1	
6,598.0	13.00	221.60	6,558.3	-453.7	-296.1	0.65	0.65	0.48	27.4	27.6	
6,783.0	11.50	220.10	6,739.0	-483.4	-321.8	0.83	-0.81	-0.81	25.9	26.3	
6,968.0	12.40	222.40	6,920.0	-512.1	-347.1	0.55	0.49	1.24	27.0	23.1	
7,155.0	12.50	221.60	7,102.6	-542.1	-374.1	0.11	0.05	-0.43	25.1	20.7	
7,341.0	11.90	218.90	7,284.4	-572.1	-399.5	0.45	-0.32	-1.45	23.5	20.3	
7,528.0	13.50	218.80	7,466.9	-604.1	-425.3	0.86	0.86	-0.05	21.2	19.7	
7,717.0	12.20	218.90	7,651.1	-636.8	-451.6	0.69	-0.69	0.05	18.4	19.1	
7,905.0	12.00	221.20	7,834.9	-667.0	-477.0	0.28	-0.11	1.22	18.7	17.0	
8,093.0	10.20	216.30	8,019.4	-695.1	-499.7	1.08	-0.96	-2.61	19.5	18.0	
8,281.0	8.60	212.60	8,204.9	-720.4	-517.2	0.91	-0.85	-1.97	16.1	20.8	
8,470.0	6.90	219.30	8,392.2	-741.1	-532.0	1.02	-0.90	3.54	9.3	20.1	
8,656.0	4.20	221.60	8,577.3	-754.8	-543.6	1.46	-1.45	1.24	-3.7	19.9	
8,841.0	3.50	220.00	8,761.9	-764.2	-551.7	0.38	-0.38	-0.86	-16.7	19.6	
9,027.0	2.50	221.20	8,947.6	-771.6	-558.0	0.54	-0.54	0.65	-26.0	20.1	
9,214.0	2.00	264.60	9,134.5	-775.0	-563.9	0.92	-0.27	23.21	-11.3	35.2	
9,403.0	1.60	322.90	9,323.4	-773.2	-568.8	0.95	-0.21	30.85	19.6	31.0	
9,591.0	2.40	332.00	9,511.3	-767.6	-572.3	0.46	0.43	4.84	17.8	27.9	
9,779.0	2.20	21.20	9,699.1	-760.8	-572.8	1.02	-0.11	26.17	26.5	7.8	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Site:	Ares 4 State	MD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
9,967.0	1.50	17.30	9,887.0	-755.1	-570.8	0.38	-0.37	-2.07	19.9	9.3	
10,156.0	0.50	20.80	10,076.0	-751.9	-569.7	0.53	-0.53	1.85	17.1	8.2	
10,346.0	1.90	18.50	10,266.0	-748.2	-568.4	0.74	0.74	-1.21	12.8	8.9	
10,534.0	1.70	359.50	10,453.9	-742.4	-567.5	0.33	-0.11	-10.11	3.5	11.5	
10,723.0	0.80	359.20	10,642.8	-738.3	-567.5	0.48	-0.48	-0.16	-0.7	11.5	
10,913.0	0.60	212.10	10,832.8	-737.8	-568.1	0.71	-0.11	-77.42	-5.6	-10.8	
11,103.0	1.20	199.50	11,022.8	-740.5	-569.3	0.33	0.32	-6.63	-6.0	-12.0	
11,292.0	0.60	216.60	11,211.8	-743.2	-570.5	0.34	-0.32	9.05	-12.2	-9.1	
11,481.0	0.70	85.60	11,400.8	-743.9	-569.9	0.63	0.05	-69.31	14.3	-4.0	
11,671.0	0.40	121.00	11,590.8	-744.2	-568.2	0.23	-0.16	18.63	7.8	-10.9	
11,860.0	0.40	170.30	11,779.8	-745.2	-567.5	0.18	0.00	26.08	-4.3	-12.5	
12,036.0	0.50	157.20	11,955.8	-746.5	-567.1	0.08	0.06	-7.44	-2.7	-13.2	
12,110.3	5.99	335.47	12,029.9	-743.2	-568.6	8.74	7.39	239.90	-1.3	13.3	
KOP (Ares 4 State #705H)											
12,131.0	7.80	335.50	12,050.5	-741.0	-569.7	8.74	8.74	0.15	-3.3	13.4	
12,179.0	17.40	337.70	12,097.3	-731.3	-573.7	20.02	20.00	4.58	-8.8	14.3	
12,226.0	26.30	339.80	12,140.8	-715.0	-580.0	19.01	18.94	4.47	-16.9	16.0	
12,273.0	32.00	342.20	12,181.9	-693.4	-587.4	12.38	12.13	5.11	-26.4	18.1	
12,320.0	36.10	345.00	12,220.8	-668.1	-594.8	9.34	8.72	5.96	-34.9	20.1	
12,367.0	39.70	346.00	12,257.9	-640.2	-602.0	7.77	7.66	2.13	-42.3	20.6	
12,415.0	42.90	346.80	12,293.9	-609.4	-609.5	6.76	6.67	1.67	-47.6	20.7	
12,462.0	45.80	348.10	12,327.6	-577.3	-616.6	6.47	6.17	2.77	-50.0	20.4	
12,509.0	49.10	349.30	12,359.3	-543.4	-623.4	7.27	7.02	2.55	-49.9	19.0	
12,557.0	53.60	349.90	12,389.3	-506.5	-630.1	9.43	9.37	1.25	-48.0	16.4	
12,604.0	58.40	349.50	12,415.6	-468.2	-637.1	10.24	10.21	-0.85	-44.9	13.2	
12,610.2	58.93	349.71	12,418.8	-463.0	-638.1	9.02	8.52	3.45	-44.3	12.8	
HL Crossing, MD:12610.2', TVD:12418.8',N/S:-463.0', E/W:-638.1', INC:58.93											

PVA Report

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Site:	Ares 4 State	MD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,652.0	62.50	351.10	12,439.2	-427.1	-644.1	9.02	8.54	3.32	-40.0		9.8
12,662.0	63.03	351.06	12,443.8	-418.3	-645.5	5.33	5.32	-0.43	-38.7		8.9
FTP (Ares 4 State #705H)											
12,699.0	65.00	350.90	12,460.0	-385.4	-650.7	5.33	5.32	-0.42	-33.0		5.4
12,747.0	71.10	352.60	12,478.0	-341.4	-657.1	13.13	12.71	3.54	-26.1		2.1
12,794.0	79.40	356.80	12,489.9	-296.2	-661.3	19.66	17.66	8.94	-22.9		-1.4
12,842.0	84.40	359.60	12,496.7	-248.7	-662.7	11.91	10.42	5.83	-22.7		-5.8
12,889.0	84.60	359.10	12,501.2	-201.9	-663.3	1.14	0.43	-1.06	-22.2		-9.2
12,936.0	84.70	359.30	12,505.6	-155.1	-663.9	0.47	0.21	0.43	-19.4		-10.4
12,984.0	85.00	359.50	12,509.9	-107.3	-664.4	0.75	0.62	0.42	-15.1		-10.3
13,078.0	91.00	359.20	12,513.2	-13.4	-665.5	6.39	6.38	-0.32	-11.8		-10.0
13,101.0	91.10	359.50	12,512.7	9.6	-665.8	1.37	0.43	1.30	-12.3		-10.0
13,195.0	91.70	359.30	12,510.5	103.5	-666.7	0.67	0.64	-0.21	-14.5		-9.8
13,290.0	90.00	359.50	12,509.0	198.5	-667.7	1.80	-1.79	0.21	-16.0		-9.6
13,385.0	90.00	359.30	12,509.0	293.5	-668.7	0.21	0.00	-0.21	-16.0		-9.4
13,480.0	90.20	358.80	12,508.9	388.5	-670.3	0.57	0.21	-0.53	-16.1		-8.7
13,575.0	90.90	358.10	12,508.0	483.5	-672.9	1.04	0.74	-0.74	-17.0		-6.9
13,669.0	90.30	357.80	12,507.0	577.4	-676.2	0.71	-0.64	-0.32	-18.0		-4.3
13,764.0	91.00	357.80	12,505.9	672.3	-679.9	0.74	0.74	0.00	-19.1		-1.5
13,858.0	91.60	356.70	12,503.8	766.2	-684.4	1.33	0.64	-1.17	-21.2		2.2
13,953.0	90.40	358.30	12,502.1	861.1	-688.5	2.11	-1.26	1.68	-22.9		5.5
13,982.5	90.65	358.55	12,501.8	890.5	-689.3	1.20	0.85	0.85	-23.2		6.1
TGT 1 (Ares 4 State #705H)											
14,047.0	91.20	359.10	12,500.8	955.0	-690.7	1.20	0.85	0.85	-24.2		6.9
14,142.0	90.20	0.30	12,499.6	1,050.0	-691.2	1.64	-1.05	1.26	-25.4		6.5
14,237.0	88.50	359.90	12,500.7	1,145.0	-691.0	1.84	-1.79	-0.42	-24.3		5.6
14,331.0	89.00	0.30	12,502.8	1,239.0	-690.8	0.68	0.53	0.43	-22.2		4.6

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Site:	Ares 4 State	MD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
14,426.0	89.10	1.10	12,504.3	1,334.0	-689.7	0.85	0.11	0.84	-20.7	2.6	
14,521.0	89.70	1.00	12,505.3	1,428.9	-687.9	0.64	0.63	-0.11	-19.7	0.1	
14,615.0	89.60	1.60	12,505.9	1,522.9	-685.8	0.65	-0.11	0.64	-19.1	-2.9	
14,710.0	91.80	0.80	12,504.7	1,617.9	-683.8	2.46	2.32	-0.84	-20.3	-5.7	
14,804.0	93.50	1.20	12,500.4	1,711.8	-682.2	1.86	1.81	0.43	-24.6	-8.1	
14,899.0	92.50	0.50	12,495.4	1,806.6	-680.8	1.28	-1.05	-0.74	-29.6	-10.3	
14,993.0	89.80	0.10	12,493.5	1,900.6	-680.3	2.90	-2.87	-0.43	-31.5	-11.6	
14,996.4	89.84	0.09	12,493.6	1,904.0	-680.3	1.20	1.16	-0.32	-31.4	-11.7	
TGT 2 (Ares 4 State #705H)											
15,088.0	90.90	359.80	12,493.0	1,995.6	-680.4	1.20	1.16	-0.32	-32.0	-12.3	
15,183.0	91.80	358.10	12,490.7	2,090.5	-682.1	2.02	0.95	-1.79	-34.3	-11.4	
15,277.0	90.90	357.40	12,488.5	2,184.4	-685.8	1.21	-0.96	-0.74	-36.5	-8.5	
15,372.0	89.10	357.10	12,488.5	2,279.3	-690.3	1.92	-1.89	-0.32	-36.5	-4.8	
15,466.0	90.40	356.40	12,488.9	2,373.2	-695.7	1.57	1.38	-0.74	-36.1	-0.3	
15,562.0	90.20	357.40	12,488.4	2,469.0	-700.9	1.06	-0.21	1.04	-36.6	4.1	
15,656.0	90.70	358.80	12,487.7	2,563.0	-704.0	1.58	0.53	1.49	-37.3	6.4	
15,751.0	87.70	1.50	12,489.0	2,657.9	-703.7	4.25	-3.16	2.84	-36.0	5.4	
15,845.0	88.50	2.60	12,492.1	2,751.8	-700.4	1.45	0.85	1.17	-32.9	1.2	
15,940.0	90.90	3.40	12,492.6	2,846.7	-695.4	2.66	2.53	0.84	-32.4	-4.6	
16,010.6	90.38	2.58	12,491.8	2,917.2	-691.7	1.37	-0.74	-1.16	-33.2	-8.9	
TGT 3 (Ares 4 State #705H)											
16,035.0	90.20	2.30	12,491.7	2,941.6	-690.7	1.37	-0.74	-1.16	-33.3	-10.1	
16,130.0	90.90	2.10	12,490.8	3,036.5	-687.0	0.77	0.74	-0.21	-34.2	-14.6	
16,224.0	91.50	2.00	12,488.8	3,130.4	-683.7	0.65	0.64	-0.11	-36.2	-18.7	
16,319.0	92.30	2.30	12,485.7	3,225.3	-680.1	0.90	0.84	0.32	-39.3	-23.1	
16,413.0	93.00	3.30	12,481.3	3,319.1	-675.5	1.30	0.74	1.06	-43.6	-28.5	
16,508.0	91.80	3.50	12,477.4	3,413.8	-669.9	1.28	-1.26	0.21	-47.7	-34.9	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Site:	Ares 4 State	MD Reference:	KB= 31' @ 3613.0usft (Nabors 1208)
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
16,603.0	91.30	1.50	12,474.8	3,508.7	-665.7	2.17	-0.53	-2.11	-50.2	-39.9	
16,698.0	89.30	0.70	12,474.3	3,603.7	-663.9	2.27	-2.11	-0.84	-50.7	-42.5	
16,793.0	89.00	358.70	12,475.7	3,698.7	-664.4	2.13	-0.32	-2.11	-49.3	-42.9	
16,887.0	87.40	357.30	12,478.6	3,792.5	-667.7	2.26	-1.70	-1.49	-46.3	-40.4	
16,982.0	88.20	358.00	12,482.3	3,887.4	-671.6	1.12	0.84	0.74	-42.7	-37.3	
17,077.0	89.10	358.90	12,484.5	3,982.3	-674.2	1.34	0.95	0.95	-40.5	-35.5	
17,172.0	90.30	359.00	12,485.0	4,077.3	-675.9	1.27	1.26	0.11	-40.0	-34.6	
17,246.7	90.85	359.00	12,484.3	4,152.0	-677.2	0.74	0.74	0.00	-40.7	-33.9	
HL Crossing, MD:17246.7', TVD:12484.3', N/S:4152.0', E/W:-677.2', INC:90.85											
17,267.0	91.00	359.00	12,484.0	4,172.3	-677.6	0.74	0.74	0.00	-41.0	-33.8	
Final MWD Survey (MD=17267.0')											
17,330.0	91.00	359.00	12,482.9	4,235.3	-678.7	0.00	0.00	0.00	-42.1	-33.2	
Final Projection to Bit (MD=17330.0') - PBHL (Ares 4 State #705H)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,610.2	12,418.8	-463.0	-638.1	HL Crossing, MD:12610.2', TVD:12418.8', N/S:-463.0', E/W:-638.1', INC:58.93
17,246.7	12,484.3	4,152.0	-677.2	HL Crossing, MD:17246.7', TVD:12484.3', N/S:4152.0', E/W:-677.2', INC:90.85
17,267.0	12,484.0	4,172.3	-677.6	Final MWD Survey (MD=17267.0')
17,330.0	12,482.9	4,235.3	-678.7	Final Projection to Bit (MD=17330.0')

Checked By: _____ Approved By: _____ Date: _____