

HOBBS OCD
APR 13 2018
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Lea County, NM (NAD 83 NME)

Hawk 35 Fed #701H

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: #701H

3508.0	
KB = 25 @ 3533.0usft	
Northing	Longitude
430092.00	103° 32' 58.362 W
Easting	Latitude
783830.00	32° 10' 47.900 N

Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.47°
Magnetic Field
Strength: 47865.5nT
Dip Angle: 60.02°
Date: 12/5/2017
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.47°
 To convert a Magnetic Direction to a True Direction, Add 6.89° East
 To convert a True Direction to a Grid Direction, Subtract 0.42°

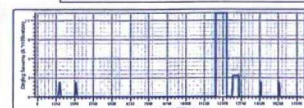
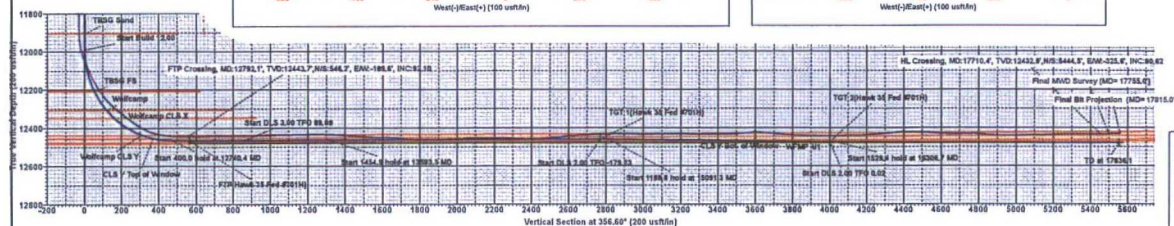
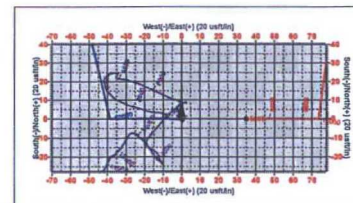
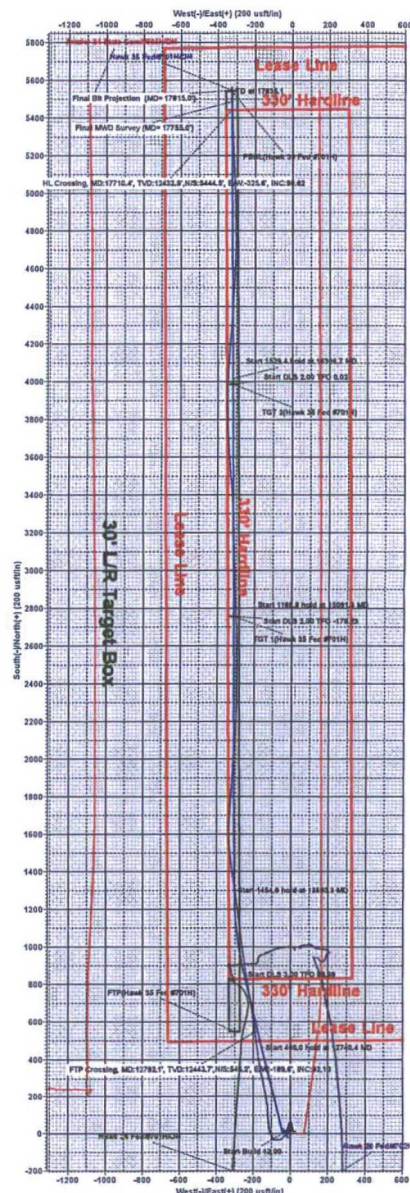
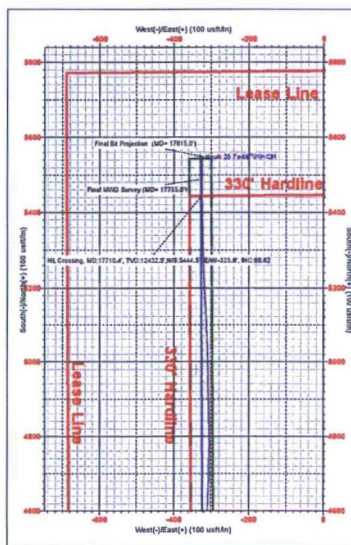
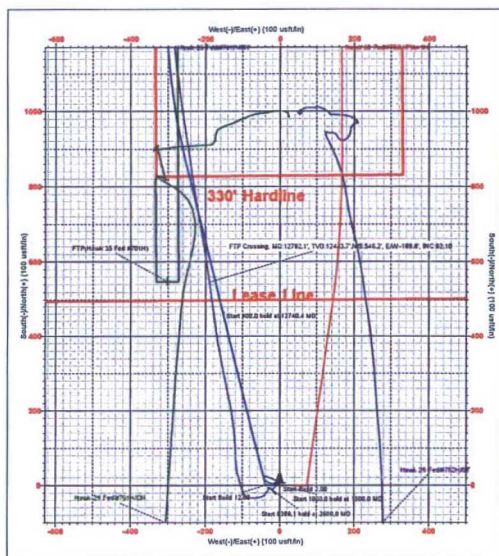
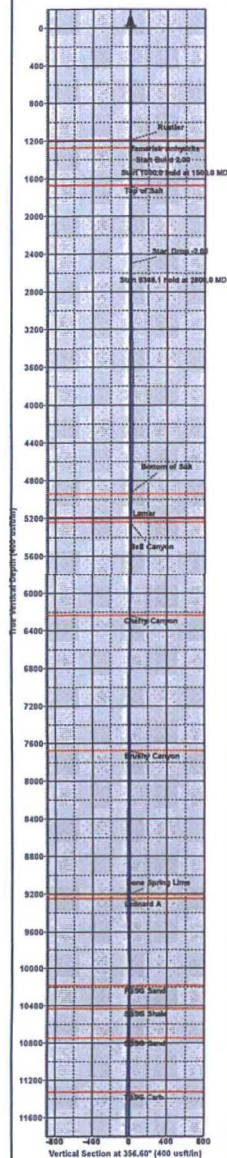
SECTION DETAILS											Target	Annotation
Sec	MD	Inc	Azi	TVD	+N/E	+E/W	Dleg	Tface	Vsect	0.0		
1	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0		
2	1400.0	0.00	0.00	1400.0	0.0	0.0	0.00	0.0	0.0	0.0		
3	1500.0	2.00	270.00	1500.0	0.0	-1.7	2.00	270.00	0.0	0.0		
4	2000.0	0.00	270.00	2000.0	0.0	-36.0	0.00	0.00	0.0	2.2		
5	2600.0	0.00	0.00	2599.4	0.0	-38.4	2.00	180.00	0.0	2.1		
6	1199.1	0.00	0.00	1198.8	0.0	-38.4	0.00	0.00	0.0	2.3		
7	12740.4	90.15	346.10	12466.0	464.7	-153.4	12.00	346.10	473.0	0.0		
8	13140.4	90.15	346.10	12464.9	853.0	-249.5	0.00	0.00	0.0	866.3		
9	13093.1	89.15	359.69	12463.7	1301.4	-305.4	3.00	89.59	1317.2	0.0		
10	15040.3	90.15	359.69	12460.0	2766.3	-313.0	0.00	0.00	0.0	2770.0		
11	15091.3	89.29	359.68	12460.2	2766.3	-313.5	2.00	-179.23	2813.0	0.0		
12	16290.1	89.29	359.68	12476.0	3988.0	-320.2	0.00	0.00	0.0	4000.0		
13	16306.7	89.82	359.68	12475.2	2714.7	-320.4	2.00	0.00	0.0	4026.0		
14	17636.1	89.82	359.68	12460.0	5544.0	-329.0	0.00	0.00	0.0	5553.8		

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
TGT 1(Hawk 35 Fed #701H)	12460.0	2756.3	-313.3	432848.30	783516.71
TGT 2(Hawk 35 Fed #701H)	12475.0	3988.0	-320.2	434080.00	783509.77
PBH(Hawk 35 Fed #701H)	12480.0	5544.0	-329.0	435636.00	783501.00
FTPH(Hawk 35 Fed #701H)	12466.0	548.0	-301.0	430640.00	783529.00





EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Hawk 35 Fed

#701H

OH

Design: OH

PVA Report

01 February, 2018



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
Well:	#701H	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	Hawk 35 Fed		
Site Position:		Northing:	430,092.00 usft
From:	Map	Easting:	783,830.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 47.900 N
		Longitude:	103° 32' 58.362 W
		Grid Convergence:	0.42 °

Well	#701H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 10' 47.900 N
		Longitude:	103° 32' 58.362 W
		Ground Level:	3,508.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	12/5/2017	6.89
			Dip Angle (°)
			60.02
			Field Strength (nT)
			47,865.51324327

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 (°)
			356.60



PVA Report

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Well:	#701H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey Program		Date 2/1/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
173.0	1,280.0	Olebrook MWD (OH)	MWD	MWD - Standard
1,433.0	17,815.0	Intrepid MWD (OH)	MWD	MWD - Standard

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
173.0	0.53	291.03	173.0	0.3	-0.7	0.31	0.31	0.00	-0.8	0.0
265.0	0.62	204.54	265.0	0.0	-1.4	0.86	0.10	-94.01	-0.6	-1.2
391.0	0.18	279.95	391.0	-0.6	-1.8	0.48	-0.35	59.85	-1.7	0.9
486.0	0.44	281.01	486.0	-0.5	-2.3	0.27	0.27	1.12	-2.2	0.9
612.0	0.79	273.01	612.0	-0.4	-3.7	0.29	0.28	-6.35	-3.7	0.6
706.0	0.62	257.28	706.0	-0.4	-4.8	0.27	-0.18	-16.73	-4.8	-0.6
801.0	0.79	281.45	801.0	-0.4	-6.0	0.36	0.18	25.44	-5.8	1.6
896.0	0.44	288.83	896.0	-0.2	-6.9	0.38	-0.37	7.77	-6.5	2.4
959.0	0.62	316.78	959.0	0.1	-7.4	0.49	0.29	44.37	-5.2	5.3
1,053.0	0.44	305.62	1,053.0	0.7	-8.1	0.22	-0.19	-11.87	-7.0	4.1
1,147.0	0.53	349.47	1,147.0	1.4	-8.4	0.40	0.10	46.65	-2.9	8.0
1,241.0	0.44	1.34	1,240.9	2.2	-8.5	0.14	-0.10	12.63	-2.0	8.5
1,280.0	0.35	348.59	1,279.9	2.4	-8.5	0.32	-0.23	-32.69	-4.1	7.9
1,433.0	0.60	139.40	1,432.9	2.3	-8.1	0.60	0.16	98.57	6.9	-4.5
1,619.0	0.90	299.70	1,618.9	2.3	-8.7	0.80	0.16	86.18	-3.6	-0.6
1,806.0	1.10	277.80	1,805.9	3.2	-11.8	0.23	0.11	-11.71	0.2	-3.3
1,993.0	1.00	265.50	1,992.9	3.3	-15.2	0.13	-0.05	-6.58	4.0	-3.0
2,180.0	1.20	295.20	2,179.8	4.0	-18.6	0.32	0.11	15.88	4.5	-6.6
2,366.0	1.50	280.30	2,365.8	5.3	-22.7	0.25	0.16	-8.01	8.1	-6.9
2,553.0	1.60	292.90	2,552.7	6.8	-27.6	0.19	0.05	6.74	7.0	-10.3



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
Well:	#701H	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)	
2,740.0	1.60	292.50	2,739.7	8.8	-32.4	0.01	0.00	-0.21	2.2	-10.4	
2,927.0	1.50	309.50	2,926.6	11.3	-36.7	0.25	-0.05	9.09	-5.9	-9.8	
3,114.0	1.80	324.10	3,113.5	15.3	-40.3	0.27	0.16	7.81	-13.5	-7.4	
3,301.0	1.80	355.50	3,300.4	20.6	-42.2	0.52	0.00	16.79	-20.8	2.2	
3,489.0	1.80	82.70	3,488.4	23.9	-39.5	1.32	0.00	46.38	-1.9	23.9	
3,583.0	1.90	71.10	3,582.3	24.6	-36.6	0.41	0.11	-12.34	-9.7	22.7	
3,770.0	0.40	202.50	3,769.3	25.0	-33.9	1.17	-0.80	70.27	24.8	-5.4	
3,958.0	0.70	215.60	3,957.3	23.5	-34.8	0.17	0.16	6.97	21.1	-10.8	
4,146.0	0.40	164.00	4,145.3	21.9	-35.3	0.29	-0.16	-27.45	20.2	9.0	
4,334.0	0.20	7.00	4,333.3	21.6	-35.1	0.31	-0.11	-83.51	-21.8	-0.6	
4,521.0	0.90	108.10	4,520.3	21.5	-33.7	0.51	0.37	54.06	2.2	21.9	
4,706.0	1.60	91.50	4,705.2	20.9	-29.7	0.42	0.38	-8.97	-8.1	21.2	
4,892.0	3.70	115.90	4,891.0	18.2	-21.7	1.26	1.13	13.12	-7.0	23.7	
5,027.0	3.50	114.30	5,025.7	14.6	-14.0	0.17	-0.15	-1.19	-16.2	23.4	
5,156.0	3.10	113.60	5,154.5	11.6	-7.2	0.31	-0.31	-0.54	-23.9	23.1	
5,344.0	1.90	105.20	5,342.3	8.8	0.4	0.67	-0.64	-4.47	-35.1	18.7	
5,533.0	0.30	311.90	5,531.3	8.3	3.1	1.15	-0.85	-81.11	25.3	-33.9	
5,722.0	0.30	319.20	5,720.3	9.0	2.4	0.02	0.00	3.86	19.8	-36.7	
5,909.0	1.90	235.40	5,907.3	7.6	-0.5	1.01	0.86	-44.81	35.5	15.3	
6,097.0	1.80	230.70	6,095.2	4.0	-5.3	0.10	-0.05	-2.50	28.1	17.9	
6,288.0	1.80	219.20	6,286.1	-0.3	-9.6	0.19	0.00	-6.02	18.0	22.5	
6,479.0	1.80	222.70	6,477.0	-4.8	-13.5	0.06	0.00	1.83	13.4	21.6	
6,668.0	1.60	222.20	6,665.9	-8.9	-17.3	0.11	-0.11	-0.26	7.6	21.6	
6,857.0	0.60	175.20	6,854.9	-11.9	-19.0	0.67	-0.53	-24.87	-13.5	18.4	
7,047.0	0.40	166.40	7,044.9	-13.5	-18.7	0.11	-0.11	-4.63	-17.8	15.9	
7,234.0	0.40	137.60	7,231.9	-14.6	-18.1	0.11	0.00	-15.40	-24.5	5.1	
7,422.0	0.50	125.40	7,419.9	-15.6	-17.0	0.07	0.05	-6.49	-26.4	-0.3	



PVA Report

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Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
Well:	#701H	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)	
7,610.0	0.70	116.20	7,607.8	-16.6	-15.3	0.12	0.11	-4.89	-28.0	-4.7	
7,797.0	0.60	132.30	7,794.8	-17.7	-13.6	0.11	-0.05	8.61	-30.3	3.6	
7,985.0	0.30	162.50	7,982.8	-18.9	-12.7	0.20	-0.16	16.06	-25.7	18.8	
8,172.0	0.30	166.00	8,169.8	-19.8	-12.4	0.01	0.00	1.87	-25.5	20.4	
8,360.0	0.40	158.00	8,357.8	-20.9	-12.1	0.06	0.05	-4.26	-29.2	16.6	
8,546.0	0.40	147.10	8,543.8	-22.0	-11.5	0.04	0.00	-5.86	-33.1	10.6	
8,731.0	0.30	143.50	8,728.8	-23.0	-10.8	0.06	-0.05	-1.95	-34.9	8.5	
8,917.0	0.30	138.40	8,914.8	-23.7	-10.2	0.01	0.00	-2.74	-36.4	5.3	
9,105.0	0.20	322.30	9,102.8	-23.8	-10.1	0.27	-0.05	-93.67	36.2	-7.8	
9,293.0	0.60	308.70	9,290.8	-23.0	-11.1	0.22	0.21	-7.23	35.7	0.8	
9,481.0	1.00	303.80	9,478.8	-21.4	-13.2	0.22	0.21	-2.61	32.9	3.8	
9,669.0	1.80	334.10	9,666.7	-17.9	-15.8	0.57	0.43	16.12	25.9	-12.5	
9,854.0	2.30	318.30	9,851.6	-12.5	-19.6	0.41	0.27	-8.54	21.8	-5.7	
10,042.0	1.90	302.60	10,039.5	-8.0	-24.7	0.37	-0.21	-8.35	15.8	-0.6	
10,229.0	2.20	209.70	10,226.4	-9.4	-29.1	1.59	0.16	-49.68	-3.6	12.7	
10,416.0	1.80	213.90	10,413.3	-15.0	-32.5	0.23	-0.21	2.25	-9.2	13.2	
10,604.0	1.10	239.10	10,601.2	-18.4	-35.7	0.50	-0.37	13.40	-7.1	17.1	
10,790.0	1.00	227.70	10,787.2	-20.4	-38.5	0.12	-0.05	-6.13	-13.8	15.0	
10,978.0	1.20	186.50	10,975.2	-23.4	-39.9	0.42	0.11	-21.91	-23.4	1.2	
11,165.0	1.30	229.30	11,162.1	-26.8	-41.7	0.49	0.05	22.89	-20.0	18.1	
11,351.0	2.30	243.70	11,348.0	-29.8	-46.7	0.59	0.54	7.74	-20.6	23.0	
11,538.0	4.00	262.40	11,534.8	-32.3	-56.5	1.05	0.91	10.00	-22.2	29.7	
11,643.0	4.30	263.60	11,639.5	-33.2	-64.0	0.30	0.29	1.14	-29.1	30.2	
11,752.0	4.80	267.20	11,748.1	-33.9	-72.6	0.53	0.46	3.30	-35.8	32.3	
11,846.0	5.40	267.80	11,841.8	-34.3	-81.0	0.64	0.64	0.64	-43.8	32.7	
11,941.0	6.00	301.80	11,936.3	-31.8	-89.7	3.55	0.63	35.79	-26.7	54.1	
11,988.0	13.30	337.40	11,982.7	-25.5	-93.9	19.37	15.53	75.74	2.2	61.0	



PVA Report

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12,037.0	21.50	336.00	12,029.4	-12.1	-99.7	16.76	16.73	-2.86	-11.4	61.4	
12,084.0	25.00	341.10	12,072.6	5.2	-108.4	8.58	7.45	10.85	-18.4	63.6	
12,132.0	26.20	346.50	12,115.8	25.1	-112.2	5.46	2.50	11.25	-23.1	65.9	
12,179.0	29.40	352.60	12,157.4	46.6	-116.1	9.10	6.81	12.98	-24.0	67.0	
12,227.0	34.00	356.60	12,198.3	71.7	-118.4	10.53	9.58	8.33	-26.1	65.2	
12,274.0	38.10	357.10	12,236.3	99.3	-119.9	8.75	8.72	1.06	-30.5	60.6	
12,322.0	46.10	356.50	12,271.8	131.4	-121.7	16.69	16.67	-1.25	-35.9	54.4	
12,369.0	51.80	352.40	12,302.7	166.7	-125.2	13.79	12.13	-8.72	-43.3	47.5	
12,416.0	53.10	349.80	12,331.3	203.5	-131.0	5.18	2.77	-5.53	-47.0	42.8	
12,463.0	54.70	348.30	12,359.0	240.8	-138.2	4.27	3.40	-3.19	-45.8	40.1	
12,511.0	57.40	348.10	12,385.8	279.7	-146.3	5.64	5.62	-0.42	-40.4	38.5	
12,558.0	64.60	348.10	12,408.6	319.9	-154.8	15.32	15.32	0.00	-34.4	36.7	
12,607.0	72.00	348.90	12,426.7	364.5	-163.9	15.18	15.10	1.63	-28.9	34.7	
12,654.0	82.40	352.30	12,437.1	409.7	-171.3	23.22	22.13	7.23	-26.0	30.9	
12,702.0	85.80	352.80	12,442.1	457.0	-177.5	7.16	7.08	1.04	-23.8	25.3	
12,792.0	92.10	351.80	12,443.7	546.1	-189.6	7.09	7.00	-1.11	-22.1	15.5	
12,792.1	92.10	351.80	12,443.7	546.2	-189.6	0.00	0.00	0.00	-22.1	15.5	
FTP Crossing, MD:12792.1', TVD:12443.7', N/S:546.2', E/W:-189.6', INC:92.10											
12,810.4	91.79	351.57	12,443.1	564.3	-192.2	2.09	-1.67	-1.25	-22.6	13.7	
FTP(Hawk 35 Fed #701H)											
12,888.0	90.50	350.60	12,441.5	641.0	-204.2	2.09	-1.67	-1.25	-24.0	7.0	
12,981.0	89.00	350.40	12,441.9	732.7	-219.6	1.63	-1.61	-0.22	-23.3	-0.1	
13,075.0	90.70	351.10	12,442.2	825.5	-234.7	1.96	1.81	0.74	-22.8	-7.7	
13,169.0	91.90	351.10	12,440.0	918.3	-249.2	1.28	1.28	0.00	-24.7	-14.9	
13,263.0	91.60	352.50	12,437.2	1,011.3	-262.6	1.52	-0.32	1.49	-27.3	-18.8	
13,356.0	90.60	352.30	12,435.4	1,103.5	-274.9	1.10	-1.08	-0.22	-28.9	-19.0	
13,449.0	92.20	352.90	12,433.1	1,195.6	-286.9	1.84	1.72	0.65	-30.9	-14.9	



PVA Report

Company:	EOG Resources - Midland					Local Co-ordinate Reference:			Well #701H		
Project:	Lea County, NM (NAD 83 NME)					TVD Reference:			KB = 25 @ 3533.0usft		
Site:	Hawk 35 Fed					MD Reference:			KB = 25 @ 3533.0usft		
Well:	#701H					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)	
13,543.0	88.00	351.60	12,433.0	1,288.8	-299.6	4.68	-4.47	-1.38	-30.8	-5.6	
13,636.0	85.10	352.10	12,438.5	1,380.7	-312.7	3.16	-3.12	0.54	-25.0	6.9	
13,697.0	85.50	352.10	12,443.5	1,440.9	-321.1	0.66	0.66	0.00	-19.9	14.8	
13,729.0	85.80	352.70	12,446.0	1,472.5	-325.3	2.09	0.94	1.87	-17.5	18.9	
13,760.0	87.30	353.60	12,447.8	1,503.2	-329.0	5.64	4.84	2.90	-15.5	22.4	
13,853.0	89.20	358.50	12,450.7	1,595.9	-335.4	5.65	2.04	5.27	-12.3	28.4	
13,883.0	87.50	2.60	12,451.5	1,625.9	-335.1	14.79	-5.67	13.67	-11.3	28.0	
13,915.0	87.30	4.20	12,453.0	1,657.8	-333.2	5.03	-0.62	5.00	-9.8	25.9	
13,946.0	82.80	3.00	12,455.7	1,688.6	-331.3	15.02	-14.52	-3.87	-6.9	23.8	
13,962.0	83.60	3.00	12,457.6	1,704.5	-330.4	5.00	5.00	0.00	-5.0	22.9	
13,976.0	83.30	3.60	12,459.2	1,718.4	-329.6	4.77	-2.14	4.29	-3.3	22.0	
13,997.0	83.80	3.80	12,461.5	1,739.2	-328.3	2.56	2.38	0.95	-0.9	20.5	
14,040.0	91.50	3.50	12,463.3	1,782.0	-325.6	17.92	17.91	-0.70	0.8	17.6	
14,071.0	92.40	4.40	12,462.2	1,813.0	-323.4	4.10	2.90	2.90	-0.2	15.3	
14,092.0	92.80	4.10	12,461.3	1,833.9	-321.9	2.38	1.90	-1.43	-1.1	13.6	
14,110.0	91.30	3.20	12,460.6	1,851.8	-320.7	9.72	-8.33	-5.00	-1.7	12.4	
14,125.0	90.80	3.10	12,460.4	1,866.8	-319.9	3.40	-3.33	-0.67	-1.9	11.5	
14,134.0	90.80	2.90	12,460.2	1,875.8	-319.4	2.22	0.00	-2.22	-2.0	10.9	
14,149.0	90.90	2.90	12,460.0	1,890.8	-318.7	0.67	0.67	0.00	-2.2	10.1	
14,181.0	91.70	4.20	12,459.3	1,922.7	-316.7	4.77	2.50	4.06	-2.9	7.9	
14,227.0	93.80	5.10	12,457.1	1,968.5	-313.0	4.97	4.57	1.96	-5.0	3.9	
14,321.0	89.40	3.20	12,454.4	2,062.2	-306.2	5.10	-4.68	-2.02	-7.3	-3.3	
14,368.0	89.40	3.30	12,454.9	2,109.1	-303.5	0.21	0.00	0.21	-6.7	-6.3	
14,415.0	90.00	2.70	12,455.2	2,156.0	-301.1	1.81	1.28	-1.28	-6.4	-9.0	
14,508.0	89.70	1.70	12,455.4	2,249.0	-297.5	1.12	-0.32	-1.08	-5.9	-13.0	
14,555.0	88.90	1.70	12,456.0	2,295.9	-296.1	1.70	-1.70	0.00	-5.2	-14.7	
14,602.0	88.40	0.90	12,457.1	2,342.9	-295.0	2.01	-1.06	-1.70	-4.0	-16.0	



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
Well:	#701H	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)
14,652.0	87.60	359.80	12,458.9	2,392.9	-294.7	2.72	-1.60	-2.20	-2.1	-16.6
14,696.0	93.40	0.30	12,458.5	2,436.9	-294.7	13.23	13.18	1.14	-2.3	-16.9
14,727.0	95.60	0.00	12,456.0	2,467.8	-294.6	7.16	7.10	-0.97	-4.7	-17.1
14,757.0	96.00	0.50	12,453.0	2,497.6	-294.5	2.13	1.33	1.67	-7.6	-17.4
14,789.0	96.00	359.90	12,449.7	2,529.4	-294.4	1.86	0.00	-1.87	-10.9	-17.7
14,840.0	95.90	359.30	12,444.4	2,580.2	-294.7	1.19	-0.20	-1.18	-16.0	-17.7
14,883.0	94.20	357.90	12,440.6	2,623.0	-295.8	5.11	-3.95	-3.26	-19.7	-16.8
14,905.0	92.70	357.70	12,439.3	2,644.9	-296.6	6.88	-6.82	-0.91	-21.0	-16.1
14,930.0	93.10	357.80	12,438.0	2,669.9	-297.6	1.65	1.60	0.40	-22.2	-15.2
14,976.0	92.40	357.90	12,435.8	2,715.8	-299.3	1.54	-1.52	0.22	-24.3	-13.8
15,016.0	92.49	357.39	12,434.1	2,755.7	-300.9	1.29	0.21	-1.28	-25.9	-12.3
TGT 1(Hawk 35 Fed #701H)										
15,023.0	92.50	357.30	12,433.8	2,762.7	-301.3	1.29	0.21	-1.28	-26.2	-12.0
15,070.0	90.80	357.50	12,432.4	2,809.6	-303.4	3.64	-3.62	0.43	-27.9	-10.2
15,090.0	90.50	357.70	12,432.2	2,829.6	-304.2	1.80	-1.50	1.00	-28.4	-9.5
15,117.0	90.40	357.40	12,432.0	2,856.6	-305.4	1.17	-0.37	-1.11	-28.9	-8.5
15,163.0	89.60	357.80	12,432.0	2,902.5	-307.3	1.94	-1.74	0.87	-29.5	-6.8
15,210.0	89.50	358.20	12,432.4	2,949.5	-309.0	0.88	-0.21	0.85	-29.7	-5.4
15,257.0	89.90	358.40	12,432.6	2,996.5	-310.4	0.95	0.85	0.43	-30.0	-4.3
15,304.0	90.80	358.70	12,432.3	3,043.5	-311.5	2.02	1.91	0.64	-30.9	-3.4
15,350.0	90.20	359.30	12,431.9	3,089.5	-312.3	1.84	-1.30	1.30	-31.9	-2.8
15,445.0	89.90	359.30	12,431.8	3,184.5	-313.5	0.32	-0.32	0.00	-33.2	-2.2
15,539.0	88.50	358.30	12,433.2	3,278.4	-315.5	1.83	-1.49	-1.06	-33.0	-0.8
15,633.0	90.30	356.50	12,434.1	3,372.3	-319.7	2.71	1.91	-1.91	-33.2	3.0
15,726.0	93.20	354.50	12,431.3	3,465.0	-327.0	3.79	3.12	-2.15	-37.2	9.7
15,820.0	93.10	355.70	12,426.1	3,558.5	-335.0	1.28	-0.11	1.28	-43.5	17.2
15,913.0	85.80	356.40	12,427.0	3,651.2	-341.4	7.89	-7.85	0.75	-43.8	23.1



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
Well:	#701H	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)	
16,007.0	84.70	356.70	12,434.8	3,744.7	-347.1	1.21	-1.17	0.32	-37.2	28.2	
16,052.0	87.10	358.50	12,438.0	3,789.5	-349.0	6.66	5.33	4.00	-34.5	29.8	
16,100.0	88.20	359.20	12,440.0	3,837.5	-349.9	2.72	2.29	1.46	-33.1	30.5	
16,193.0	88.40	0.80	12,442.8	3,930.4	-349.9	1.73	0.22	1.72	-31.5	30.0	
16,240.0	90.20	2.70	12,443.3	3,977.4	-348.5	5.57	3.83	4.04	-31.6	28.3	
16,251.5	90.64	2.87	12,443.2	3,988.9	-347.9	4.11	3.83	1.49	-31.8	27.7	
TGT 2(Hawk 35 Fed #701H)											
16,287.0	92.00	3.40	12,442.4	4,024.3	-346.0	4.11	3.83	1.49	-32.8	25.5	
16,334.0	91.00	3.10	12,441.2	4,071.2	-343.3	2.22	-2.13	-0.64	-34.2	22.6	
16,381.0	91.20	3.10	12,440.3	4,118.2	-340.8	0.43	0.43	0.00	-35.3	19.8	
16,428.0	94.10	5.80	12,438.1	4,165.0	-337.1	8.43	6.17	5.74	-37.6	15.8	
16,475.0	94.70	5.10	12,434.5	4,211.6	-332.7	1.96	1.28	-1.49	-41.3	11.2	
16,517.0	94.50	4.00	12,431.1	4,253.3	-329.4	2.65	-0.48	-2.62	-44.8	7.7	
16,568.0	94.40	3.50	12,427.2	4,304.1	-326.0	1.00	-0.20	-0.98	-48.9	4.0	
16,580.0	93.50	3.50	12,426.4	4,316.0	-325.3	7.50	-7.50	0.00	-49.8	3.2	
16,602.0	92.80	3.60	12,425.2	4,338.0	-324.0	3.21	-3.18	0.45	-51.1	1.8	
16,631.0	92.00	2.80	12,423.9	4,366.9	-322.3	3.90	-2.76	-2.76	-52.4	0.0	
16,662.0	90.50	1.80	12,423.3	4,397.9	-321.1	5.81	-4.84	-3.23	-53.1	-1.4	
16,694.0	91.70	3.30	12,422.6	4,429.8	-319.7	6.00	3.75	4.69	-53.9	-3.0	
16,725.0	90.30	3.50	12,422.1	4,460.8	-317.8	4.56	-4.52	0.65	-54.5	-5.0	
16,740.0	88.60	3.30	12,422.2	4,475.7	-316.9	11.41	-11.33	-1.33	-54.4	-6.0	
16,756.0	87.30	3.60	12,422.8	4,491.7	-316.0	8.34	-8.12	1.87	-53.9	-7.1	
16,787.0	86.10	3.80	12,424.6	4,522.6	-314.0	3.92	-3.87	0.65	-52.2	-9.2	
16,818.0	85.90	3.10	12,426.8	4,553.4	-312.1	2.34	-0.65	-2.26	-50.1	-11.3	
16,849.0	86.40	3.10	12,428.9	4,584.3	-310.5	1.61	1.61	0.00	-48.1	-13.1	
16,880.0	88.00	2.70	12,430.4	4,615.2	-308.9	5.32	5.16	-1.29	-46.7	-14.9	
16,911.0	89.90	2.00	12,430.9	4,646.2	-307.6	6.53	6.13	-2.26	-46.3	-16.3	



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
Well:	#701H	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)	
16,943.0	91.80	1.50	12,430.5	4,678.2	-306.6	6.14	5.94	-1.56	-46.8	-17.5	
16,974.0	90.50	1.20	12,429.8	4,709.2	-305.9	4.30	-4.19	-0.97	-47.6	-18.4	
17,005.0	90.30	1.50	12,429.6	4,740.2	-305.2	1.16	-0.65	0.97	-47.9	-19.3	
17,036.0	88.00	1.40	12,430.1	4,771.2	-304.4	7.43	-7.42	-0.32	-47.5	-20.2	
17,067.0	85.10	358.70	12,431.9	4,802.1	-304.4	12.77	-9.35	-8.71	-45.7	-20.5	
17,099.0	83.50	357.80	12,435.1	4,833.9	-305.3	5.73	-5.00	-2.81	-42.6	-19.8	
17,110.0	83.20	357.70	12,436.4	4,844.8	-305.8	2.87	-2.73	-0.91	-41.4	-19.4	
17,130.0	83.80	357.90	12,438.7	4,864.7	-306.5	3.16	3.00	1.00	-39.2	-18.7	
17,162.0	88.00	358.50	12,440.9	4,896.6	-307.5	13.26	13.12	1.87	-37.0	-17.8	
17,193.0	89.80	359.20	12,441.5	4,927.6	-308.2	6.23	5.81	2.26	-36.5	-17.4	
17,224.0	90.60	359.20	12,441.4	4,958.6	-308.6	2.58	2.58	0.00	-36.7	-17.1	
17,255.0	91.80	358.90	12,440.8	4,989.6	-309.1	3.99	3.87	-0.97	-37.5	-16.8	
17,287.0	92.00	358.40	12,439.7	5,021.5	-309.9	1.68	0.62	-1.56	-38.6	-16.2	
17,318.0	91.60	358.10	12,438.8	5,052.5	-310.8	1.61	-1.29	-0.97	-39.7	-15.4	
17,349.0	90.20	357.80	12,438.3	5,083.5	-311.9	4.62	-4.52	-0.97	-40.3	-14.5	
17,380.0	92.20	357.20	12,437.6	5,114.4	-313.3	6.74	6.45	-1.94	-41.0	-13.3	
17,412.0	92.50	357.10	12,436.3	5,146.4	-314.8	0.99	0.94	-0.31	-42.5	-11.9	
17,459.0	90.90	356.60	12,434.9	5,193.3	-317.4	3.57	-3.40	-1.06	-44.0	-9.6	
17,505.0	91.30	357.40	12,434.0	5,239.2	-319.8	1.94	0.87	1.74	-45.0	-7.4	
17,552.0	90.90	357.40	12,433.1	5,286.1	-322.0	0.85	-0.85	0.00	-46.1	-5.6	
17,598.0	89.50	358.60	12,433.0	5,332.1	-323.6	4.01	-3.04	2.61	-46.4	-4.2	
17,645.0	89.80	359.00	12,433.3	5,379.1	-324.6	1.06	0.64	0.85	-46.2	-3.5	
17,692.0	90.50	359.10	12,433.1	5,426.1	-325.3	1.50	1.49	0.21	-46.5	-3.0	
17,710.4	90.62	359.28	12,432.9	5,444.5	-325.6	1.14	0.63	0.95	-46.7	-2.8	
HL Crossing, MD:17710.4', TVD:12432.9', N/S:5444.5', E/W:-325.6', INC:90.62											
17,755.0	90.90	359.70	12,432.4	5,489.1	-326.0	1.14	0.63	0.95	-47.5	-2.7	
Final MWD Survey (MD= 17755.0')											



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
Well:	#701H	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)	
17,809.2	90.90	359.70	12,431.5	5,543.3	-326.3	0.00	0.00	0.00	-48.5	-2.7	
PBHL(Hawk 35 Fed #701H)											
17,815.0	90.90	359.70	12,431.4	5,549.1	-326.3	0.00	0.00	0.00	-48.8	-2.7	
Final Bit Projection (MD= 17815.0')											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,792.1	12,443.7	546.2	-189.6	FTP Crossing, MD:12792.1', TVD:12443.7', N/S:546.2', E/W:-189.6', INC:92.10
17,710.4	12,432.9	5,444.5	-325.6	HL Crossing, MD:17710.4', TVD:12432.9', N/S:5444.5', E/W:-325.6', INC:90.62
17,755.0	12,432.4	5,489.1	-326.0	Final MWD Survey (MD= 17755.0')
17,815.0	12,431.4	5,549.1	-326.3	Final Bit Projection (MD= 17815.0')

Checked By: _____ Approved By: _____ Date: _____