

HOBBS OCD
FEB 01 2018
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25-43933



Lea County, NM (NAD 83 NME)

Ruby 2 State Com #705H

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

KB = 25' @ 3320.0usft
Northing 393653.00 Easting 817342.00
3295.0
Latitude 32° 4' 44.753 N Longitude 103° 28' 31.963 W

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	2060.0	0.00	0.00	2060.0	0.0	0.0	0.00	0.00	0.0	
3	2460.0	8.00	77.90	2458.7	5.8	27.3	2.00	77.90	-1.1	
4	2853.8	8.00	77.90	2800.0	163.2	761.3	0.00	0.00	-31.4	
5	8253.8	0.00	0.00	8198.7	169.0	788.5	2.00	180.00	-32.5	
6	12292.7	0.00	0.00	12237.6	169.0	788.5	0.00	0.00	-32.5	
7	13038.1	89.45	179.50	12715.1	-303.8	792.6	12.00	179.50	434.2	
8	15334.2	89.45	179.50	12737.0	-2599.7	812.7	0.00	0.00	2700.0	TGT 1 (Ruby 2 State Com #705H)
9	17557.7	89.47	179.50	12758.0	-4823.0	832.0	0.00	11.67	4894.2	PBHL (Ruby 2 State Com #705H)



Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.39°
Magnetic Field
Strength: 47843.7nT
Dip Angle: 89.85°
Date: 9/6/2017
Model: IGRF2015

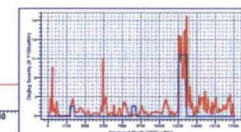
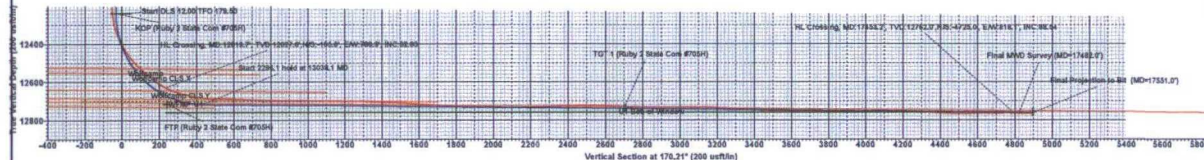
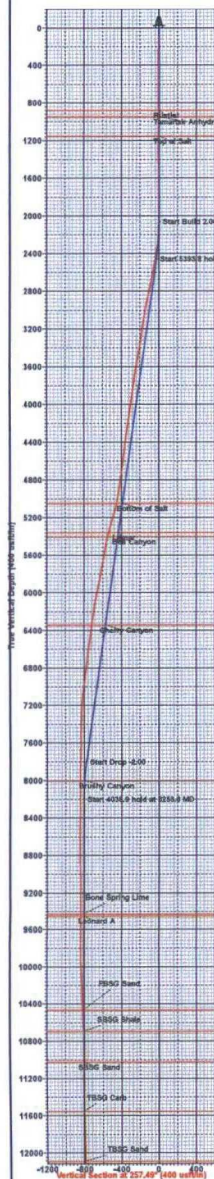
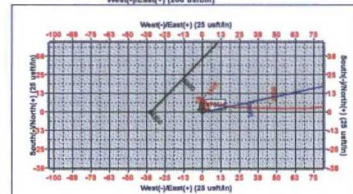
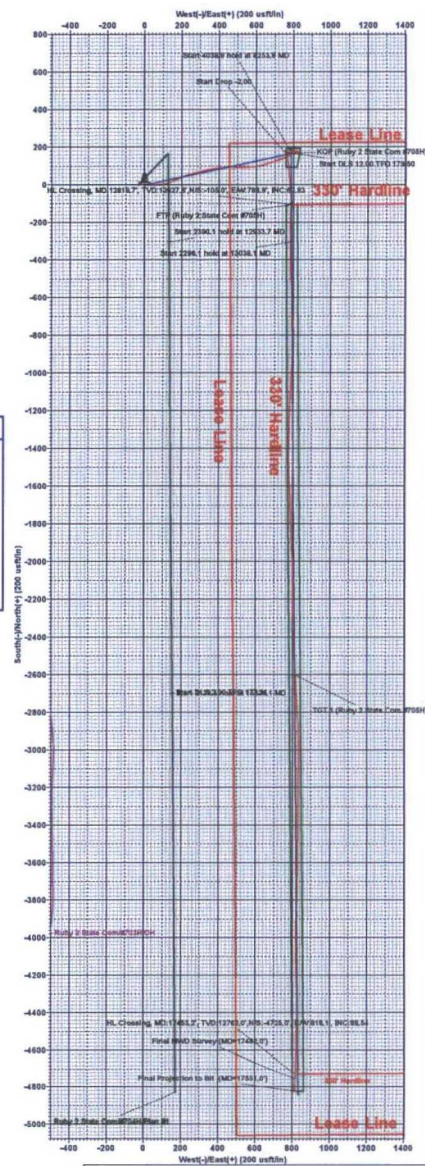
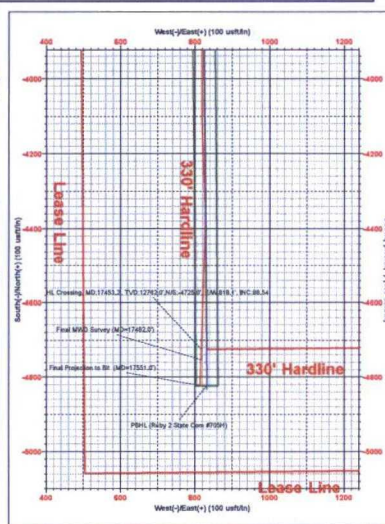
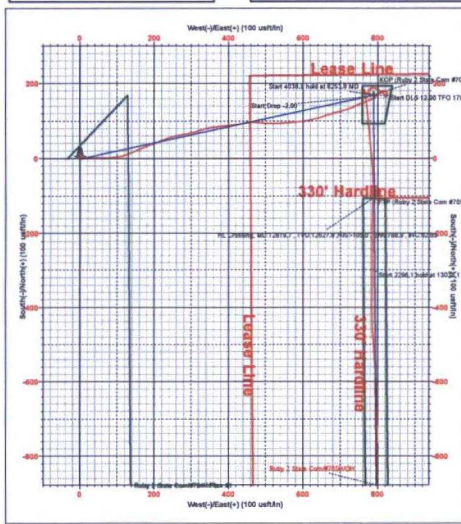
To convert a Magnetic Direction to a Grid Direction, Add 6.39°
To convert a Magnetic Direction to a True Direction, Add 6.86° East
To convert a True Direction to a Grid Direction, Subtract 0.47°

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
TGT 1 (Ruby 2 State Com #705H)	12737.0	-2599.7	812.7	391083.30	818154.66
PBHL (Ruby 2 State Com #705H)	12758.0	-4823.0	832.0	388830.00	818174.00
FTF (Ruby 2 State Com #705H)	12715.0	-106.0	791.0	393647.00	818133.00
KOP (Ruby 2 State Com #705H)	12237.6	169.0	788.5	393822.04	818130.51



Lea County, NM (NAD 83 NME)
Ruby 2 State Com #705H
Plan #1
1/10/2018 11:01 AM
1/10/2018 11:01 AM

30-025-43933

EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Ruby 2 State Com

#705H

OH

Design: OH

PVA Report

27 September, 2017

HOBBS OCD
FEB 01 2018
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PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3320.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3320.0usft
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		Ruby 2 State Com					
Site Position:		Northing:		393,589.99	usft	Latitude:	32° 4' 47.315 N
From:	Map	Easting:		775,148.00	usft	Longitude:	103° 34' 42.355 W
Position Uncertainty:	0.0 usft	Slot Radius:		13-3/16	"	Grid Convergence:	0.40 °

Well		#705H				
Well Position	+N/-S	0.0 usft	Northing:	393,653.00 usft	Latitude:	32° 4' 44.753 N
	+E/-W	0.0 usft	Easting:	817,342.00 usft	Longitude:	103° 26' 31.963 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,295.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/6/2017	6.86	59.95	47,843.67057431

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	170.21

Survey Program		Date 9/27/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
162.0	17,551.0	MWD (OH)	MWD	MWD - Standard

PVA Report

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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	
162.0	1.10	50.41	162.0	1.0	1.2	0.68	0.68	0.00	-1.6	0.0	
195.0	1.00	29.41	195.0	1.4	1.6	1.20	-0.30	-63.64	-2.0	-0.7	
223.0	0.50	103.41	223.0	1.6	1.8	3.53	-1.79	264.29	-1.4	2.0	
280.0	1.00	38.41	280.0	2.0	2.4	1.60	0.88	-114.04	-3.0	-0.6	
340.0	0.60	73.41	340.0	2.5	3.0	1.02	-0.67	58.33	-3.6	1.5	
371.0	2.70	106.41	371.0	2.3	3.9	7.16	6.77	106.45	-3.0	3.3	
402.0	0.90	7.41	401.9	2.3	4.6	9.60	-5.81	-319.35	-2.9	-4.2	
434.0	0.00	112.41	433.9	2.6	4.6	2.81	-2.81	0.00	-2.6	-4.6	
466.0	0.40	103.41	465.9	2.6	4.7	1.25	1.25	0.00	-4.0	3.6	
498.0	0.50	349.41	497.9	2.7	4.8	2.36	0.31	-356.25	-1.7	-5.2	
562.0	1.00	10.41	561.9	3.5	4.9	0.88	0.78	32.81	-4.3	-4.2	
625.0	0.20	304.41	624.9	4.1	4.9	1.49	-1.27	-104.76	1.7	-6.1	
656.0	0.50	16.41	655.9	4.3	4.9	1.54	0.97	232.26	-5.5	-3.5	
688.0	0.50	343.41	687.9	4.5	4.9	0.89	0.00	-103.12	-2.9	-6.0	
719.0	0.50	344.41	718.9	4.8	4.8	0.03	0.00	3.23	-3.3	-5.9	
750.0	0.60	358.41	749.9	5.1	4.7	0.54	0.32	45.16	-4.9	-4.9	
781.0	0.20	159.41	780.9	5.2	4.8	2.55	-1.29	519.35	3.2	6.3	
813.0	0.70	344.41	812.9	5.3	4.7	2.81	1.56	-546.87	-3.9	-6.0	
844.0	0.20	155.41	843.9	5.5	4.7	2.90	-1.61	551.61	3.0	6.5	
875.0	0.40	261.41	874.9	5.4	4.6	1.59	0.65	341.94	5.4	-4.6	
906.0	0.50	312.41	905.9	5.5	4.4	1.28	0.32	164.52	-0.4	-7.0	
937.0	0.60	297.41	936.9	5.6	4.2	0.56	0.32	-48.39	1.1	-6.9	
970.0	0.50	292.41	969.9	5.8	3.9	0.34	-0.30	-15.15	1.4	-6.8	
1,060.0	0.53	323.41	1,059.9	6.3	3.3	0.31	0.03	34.44	-3.1	-6.4	
1,246.0	0.44	316.03	1,245.9	7.5	2.3	0.06	-0.05	-3.97	-3.8	-6.8	
1,431.0	0.57	316.64	1,430.9	8.6	1.1	0.07	0.07	0.33	-5.5	-6.8	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3320.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3320.0usft
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)	
1,617.0	0.53	284.12	1,616.9	9.5	-0.3	0.17	-0.02	-17.48	-2.6	-9.2	
1,805.0	0.62	283.07	1,804.9	10.0	-2.2	0.05	0.05	-0.56	-4.4	-9.2	
1,992.0	0.35	246.42	1,991.9	10.0	-3.7	0.21	-0.14	-19.60	0.6	-10.6	
2,180.0	3.60	119.68	2,179.8	6.8	0.9	2.03	1.73	-67.41	4.4	4.7	
2,367.0	9.45	91.47	2,365.5	3.5	21.4	3.48	3.13	-15.09	-5.4	0.2	
2,554.0	11.08	91.20	2,549.5	2.7	54.7	0.87	0.87	-0.14	-14.9	-5.5	
2,648.0	11.34	87.78	2,641.7	2.9	73.0	0.76	0.28	-3.64	-20.0	-9.2	
2,836.0	11.74	78.99	2,825.9	7.3	110.2	0.96	0.21	-4.68	-29.8	-15.5	
3,023.0	10.64	62.73	3,009.4	18.8	144.2	1.78	-0.59	-8.70	-34.9	-21.6	
3,211.0	8.18	69.93	3,194.9	31.4	172.2	1.45	-1.31	3.83	-42.1	-11.3	
3,399.0	9.54	70.90	3,380.6	41.1	199.5	0.73	0.72	0.52	-45.3	-7.2	
3,587.0	9.58	67.12	3,566.0	52.2	228.7	0.33	0.02	-2.01	-50.2	-6.3	
3,774.0	8.35	78.20	3,750.8	61.1	256.3	1.13	-0.66	5.93	-53.4	6.3	
3,962.0	8.13	78.55	3,936.8	66.5	282.7	0.12	-0.12	0.19	-54.1	6.4	
4,149.0	8.57	75.74	4,121.8	72.5	309.1	0.32	0.24	-1.50	-55.5	4.1	
4,337.0	7.52	72.66	4,308.0	79.7	334.5	0.60	-0.56	-1.64	-55.9	2.7	
4,525.0	7.43	81.71	4,494.4	85.1	358.2	0.63	-0.05	4.81	-53.0	11.6	
4,713.0	8.44	83.29	4,680.6	88.4	384.0	0.55	0.54	0.84	-52.5	10.9	
4,900.0	8.09	87.25	4,865.6	90.7	410.7	0.36	-0.19	2.12	-52.8	11.2	
5,082.0	11.78	78.81	5,044.9	94.9	441.8	2.17	2.03	-4.64	-59.9	1.1	
5,103.0	11.96	78.37	5,065.4	95.8	446.0	0.96	0.86	-2.10	-61.3	0.6	
5,143.0	12.88	81.62	5,104.5	97.2	454.5	2.89	2.30	8.13	-64.3	4.0	
5,166.0	14.73	86.37	5,126.8	97.8	459.9	9.43	8.04	20.65	-66.1	9.0	
5,198.0	17.71	93.58	5,157.6	97.8	468.9	11.22	9.31	22.53	-69.1	16.6	
5,229.0	18.64	97.09	5,187.0	96.8	478.5	4.63	3.00	11.32	-73.7	19.8	
5,291.0	17.85	93.23	5,245.9	95.1	497.8	2.33	-1.27	-6.23	-86.2	11.8	
5,385.0	15.03	87.95	5,336.1	94.7	524.4	3.39	-3.00	-5.62	-100.8	0.1	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3320.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3320.0usft
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)	
5,479.0	11.60	86.55	5,427.5	95.7	546.0	3.66	-3.65	-1.49	-109.6	-4.6	
5,573.0	11.12	85.14	5,519.7	97.1	564.5	0.59	-0.51	-1.50	-115.1	-9.1	
5,667.0	10.73	84.00	5,612.0	98.7	582.2	0.47	-0.41	-1.21	-119.8	-13.0	
5,760.0	10.59	82.85	5,703.4	100.7	599.3	0.27	-0.15	-1.24	-123.9	-16.6	
5,855.0	10.68	79.69	5,796.7	103.4	616.6	0.62	0.09	-3.33	-127.1	-24.3	
5,948.0	10.64	75.47	5,888.1	107.1	633.4	0.84	-0.04	-4.54	-129.3	-33.6	
6,042.0	10.55	72.04	5,980.5	111.9	650.0	0.68	-0.10	-3.65	-131.4	-40.4	
6,136.0	10.37	71.69	6,073.0	117.2	666.2	0.20	-0.19	-0.37	-135.3	-39.8	
6,229.0	8.31	74.07	6,164.7	121.7	680.6	2.25	-2.22	2.56	-139.0	-33.0	
6,323.0	8.00	74.77	6,257.8	125.3	693.4	0.35	-0.33	0.74	-139.7	-30.5	
6,417.0	7.87	73.63	6,350.9	128.8	705.9	0.22	-0.14	-1.21	-139.0	-32.4	
6,511.0	7.65	72.48	6,444.0	132.5	718.1	0.29	-0.23	-1.22	-138.0	-34.0	
6,605.0	7.87	70.73	6,537.1	136.5	730.1	0.34	0.23	-1.86	-136.6	-36.7	
6,699.0	7.69	59.12	6,630.3	141.9	741.6	1.68	-0.19	-12.35	-126.7	-60.3	
6,792.0	7.65	70.11	6,722.5	147.2	752.8	1.58	-0.04	11.82	-135.3	-32.4	
6,886.0	7.82	70.11	6,815.6	151.5	764.6	0.18	0.18	0.00	-135.0	-30.6	
6,980.0	8.18	69.85	6,908.7	155.9	776.9	0.38	0.38	-0.28	-135.0	-29.4	
7,073.0	8.26	59.04	7,000.7	161.7	788.9	1.66	0.09	-11.62	-128.1	-51.0	
7,167.0	6.24	44.97	7,094.0	168.7	798.3	2.85	-2.15	-14.97	-112.7	-74.9	
7,355.0	1.85	39.96	7,281.5	178.3	807.5	2.34	-2.34	-2.66	-98.0	-69.5	
7,543.0	1.49	79.69	7,469.4	181.1	811.8	0.63	-0.19	21.13	-98.4	10.0	
7,730.0	1.10	87.60	7,656.4	181.6	816.0	0.23	-0.21	4.23	-74.6	19.4	
7,918.0	1.19	102.37	7,844.3	181.2	819.7	0.16	0.05	7.86	-47.5	27.5	
8,105.0	0.70	122.85	8,031.3	180.2	822.6	0.31	-0.26	10.95	-26.0	31.2	
8,293.0	1.10	160.81	8,219.3	177.9	824.1	0.37	0.21	20.19	-3.4	36.5	
8,481.0	0.92	161.78	8,407.2	174.7	825.2	0.10	-0.10	0.52	-6.1	36.6	
8,669.0	1.32	87.51	8,595.2	173.4	827.8	0.74	0.21	-39.51	-39.5	2.6	

PVA Report

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8,856.0	2.73	232.53	8,782.2	170.8	826.4	2.08	0.75	77.55	31.1	21.7	
9,043.0	1.63	227.17	8,969.0	166.3	821.0	0.60	-0.59	-2.87	21.9	24.1	
9,230.0	0.35	70.02	9,156.0	164.6	819.5	1.05	-0.68	-84.04	-27.7	-14.7	
9,418.0	0.57	85.58	9,344.0	164.9	821.0	0.13	0.12	8.28	-32.1	-6.6	
9,605.0	0.84	44.45	9,531.0	166.0	822.9	0.30	0.14	-21.99	-21.9	-26.7	
9,793.0	1.05	317.35	9,719.0	168.2	822.7	0.70	0.11	-46.33	23.8	-24.6	
9,973.0	2.42	316.29	9,898.9	172.2	819.0	0.76	0.76	-0.59	18.8	-24.2	
10,167.0	4.22	300.65	10,092.6	178.8	810.0	1.03	0.93	-8.06	13.5	-19.3	
10,355.0	2.73	307.42	10,280.2	185.0	800.5	0.82	-0.79	3.60	-0.2	-20.0	
10,542.0	2.02	275.42	10,467.1	188.0	793.7	0.79	-0.38	-17.11	3.3	-19.4	
10,729.0	2.95	274.72	10,653.9	188.7	785.6	0.50	0.50	-0.37	-4.5	-19.4	
10,917.0	4.22	222.69	10,841.5	184.1	776.1	1.78	0.68	-27.68	2.6	-19.3	
11,104.0	3.87	120.74	11,028.3	175.8	776.8	3.36	-0.19	-54.52	13.5	-0.2	
11,292.0	0.26	229.46	11,216.1	172.2	782.0	2.11	-1.92	57.83	-2.9	-6.7	
11,479.0	0.70	203.62	11,403.1	170.9	781.2	0.26	0.24	-13.82	-1.2	-7.5	
11,665.0	1.80	291.77	11,589.1	171.0	778.0	1.03	0.59	47.39	-10.5	2.1	
11,853.0	1.36	299.15	11,777.0	173.2	773.3	0.26	-0.23	3.93	-15.3	3.8	
12,004.0	1.85	309.52	11,928.0	175.6	769.9	0.38	0.32	6.87	-18.5	6.8	
12,137.0	2.95	326.40	12,060.8	179.8	766.3	0.97	0.83	12.69	-21.2	12.6	
12,231.0	2.37	340.02	12,154.7	183.6	764.3	0.91	-0.62	14.49	-22.0	17.8	
12,277.0	0.44	295.29	12,200.7	184.6	763.8	4.52	-4.20	-97.24	-29.0	-3.5	
12,325.0	6.64	168.20	12,248.6	182.0	764.2	14.40	12.92	-264.77	17.7	-21.1	
12,371.0	13.93	167.76	12,293.8	173.9	766.0	15.85	15.85	-0.96	12.6	-20.4	
12,418.0	20.48	169.16	12,338.7	160.3	768.7	13.96	13.94	2.98	5.5	-19.2	
12,464.0	25.23	172.59	12,381.1	142.7	771.5	10.72	10.33	7.46	-2.0	-17.6	
12,512.0	30.64	174.70	12,423.5	120.3	773.9	11.46	11.27	4.40	-8.8	-15.7	
12,558.0	37.80	175.76	12,461.5	94.6	776.1	15.62	15.57	2.30	-15.5	-14.1	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3320.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3320.0usft
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)	
12,606.0	44.18	174.09	12,497.7	63.2	778.9	13.49	13.29	-3.48	-22.8	-12.4	
12,652.0	47.60	174.70	12,529.7	30.4	782.1	7.50	7.43	1.33	-29.5	-9.6	
12,700.0	51.21	175.05	12,561.0	-5.9	785.3	7.54	7.52	0.73	-34.4	-6.5	
12,746.0	54.55	176.37	12,588.7	-42.5	788.1	7.61	7.26	2.87	-36.9	-3.5	
12,794.0	58.81	180.15	12,615.1	-82.6	789.3	11.05	8.87	7.87	-37.6	-1.2	
12,819.7	62.83	181.67	12,627.6	-105.0	788.9	16.48	15.65	5.90	-37.6	-1.3	
HL Crossing, MD:12819.7', TVD:12627.6', N/S:-105.0', E/W:788.9', INC:62.83											
12,840.0	66.02	182.79	12,636.4	-123.3	788.2	16.48	15.70	5.53	-37.9	-2.0	
12,887.0	73.98	182.17	12,652.4	-167.4	786.3	16.98	16.94	-1.32	-39.4	-4.6	
12,933.0	78.11	179.89	12,663.5	-212.0	785.5	10.19	8.98	-4.96	-40.8	-6.3	
12,981.0	78.99	179.62	12,673.1	-259.0	785.7	1.91	1.83	-0.56	-39.2	-6.6	
13,028.0	82.11	180.33	12,680.8	-305.4	785.7	6.80	6.64	1.51	-34.3	-7.0	
13,075.0	91.30	181.03	12,683.5	-352.3	785.2	19.61	19.55	1.49	-32.0	-7.9	
13,207.0	86.99	176.28	12,685.4	-484.2	788.2	4.86	-3.27	-3.60	-31.3	-6.0	
13,301.0	85.14	175.84	12,691.9	-577.7	794.7	2.02	-1.97	-0.47	-25.8	-0.4	
13,394.0	89.58	178.83	12,696.2	-670.5	799.0	5.75	4.77	3.22	-22.4	3.2	
13,488.0	88.66	179.97	12,697.6	-764.5	800.0	1.56	-0.98	1.21	-21.8	3.3	
13,582.0	90.51	181.73	12,698.3	-858.4	798.6	2.72	1.97	1.87	-22.1	1.1	
13,676.0	89.63	182.61	12,698.2	-952.4	795.0	1.32	-0.94	0.94	-23.1	-3.2	
13,769.0	89.54	182.70	12,698.9	-1,045.3	790.7	0.14	-0.10	0.10	-23.3	-8.4	
13,863.0	89.93	183.14	12,699.3	-1,139.1	785.9	0.63	0.41	0.47	-23.8	-14.0	
13,957.0	88.44	182.00	12,700.6	-1,233.0	781.7	2.00	-1.59	-1.21	-23.3	-19.0	
14,051.0	87.65	181.38	12,703.8	-1,326.9	779.0	1.07	-0.84	-0.66	-21.0	-22.6	
14,145.0	87.34	180.77	12,707.9	-1,420.8	777.2	0.73	-0.33	-0.65	-17.8	-25.2	
14,239.0	85.41	177.51	12,713.9	-1,514.6	778.6	4.02	-2.05	-3.47	-12.7	-24.6	
14,333.0	86.11	175.49	12,720.8	-1,608.2	784.3	2.27	0.74	-2.15	-6.6	-19.7	
14,427.0	87.16	178.22	12,726.4	-1,701.9	789.5	3.11	1.12	2.90	-2.0	-15.4	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3320.0usft
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3320.0usft
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)	
14,521.0	90.42	179.45	12,728.3	-1,795.8	791.4	3.71	3.47	1.31	-1.0	-14.3	
14,614.0	88.57	176.46	12,729.2	-1,888.7	794.7	3.78	-1.99	-3.22	-1.0	-11.8	
14,708.0	88.44	177.60	12,731.6	-1,982.6	799.6	1.22	-0.14	1.21	0.5	-7.7	
14,802.0	92.09	180.33	12,731.2	-2,076.5	801.3	4.85	3.88	2.90	-0.8	-6.8	
14,896.0	93.19	180.24	12,726.9	-2,170.4	800.8	1.17	1.17	-0.10	-6.0	-8.1	
14,990.0	92.79	179.71	12,722.0	-2,264.3	800.8	0.71	-0.43	-0.56	-11.8	-8.9	
15,084.0	90.24	177.60	12,719.5	-2,358.2	803.0	3.52	-2.71	-2.24	-15.2	-7.5	
15,177.0	88.57	177.43	12,720.4	-2,451.1	807.1	1.80	-1.80	-0.18	-15.1	-4.3	
15,271.0	87.43	176.55	12,723.7	-2,544.9	812.0	1.53	-1.21	-0.94	-12.8	-0.2	
15,365.0	87.65	176.19	12,727.7	-2,638.7	818.0	0.45	0.23	-0.38	-9.6	4.9	
15,459.0	90.11	176.90	12,729.6	-2,732.5	823.6	2.72	2.62	0.76	-8.7	9.8	
15,552.0	89.76	176.55	12,729.7	-2,825.3	828.9	0.53	-0.38	-0.38	-9.5	14.3	
15,646.0	89.98	178.92	12,729.9	-2,919.2	832.6	2.53	0.23	2.52	-10.1	17.2	
15,739.0	90.37	180.41	12,729.6	-3,012.2	833.2	1.66	0.42	1.60	-11.3	16.9	
15,834.0	86.86	180.50	12,731.9	-3,107.2	832.4	3.70	-3.69	0.09	-9.9	15.4	
15,928.0	86.24	180.85	12,737.6	-3,201.0	831.3	0.76	-0.66	0.37	-5.1	13.4	
16,021.0	86.86	180.50	12,743.2	-3,293.8	830.2	0.77	0.67	-0.38	-0.4	11.5	
16,115.0	88.31	180.15	12,747.1	-3,387.7	829.7	1.59	1.54	-0.37	2.6	10.2	
16,209.0	88.92	180.85	12,749.4	-3,481.7	828.9	0.99	0.65	0.74	4.0	8.5	
16,303.0	89.89	179.97	12,750.4	-3,575.7	828.2	1.39	1.03	-0.94	4.1	7.0	
16,397.0	89.05	180.59	12,751.2	-3,669.7	827.7	1.11	-0.89	0.66	4.1	5.8	
16,491.0	90.29	182.26	12,751.8	-3,763.7	825.4	2.21	1.32	1.78	3.7	2.6	
16,585.0	91.52	182.17	12,750.3	-3,857.6	821.8	1.31	1.31	-0.10	1.4	-1.8	
16,679.0	90.51	181.20	12,748.6	-3,951.5	819.0	1.49	-1.07	-1.03	-1.2	-5.4	
16,773.0	89.19	179.53	12,748.9	-4,045.5	818.4	2.26	-1.40	-1.78	-1.8	-6.8	
16,867.0	88.35	178.48	12,750.9	-4,139.5	820.0	1.43	-0.89	-1.12	-0.7	-6.0	
16,961.0	85.45	176.81	12,756.0	-4,233.2	823.9	3.56	-3.09	-1.78	3.5	-3.0	

PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Ruby 2 State Com
 Well: #705H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #705H
 TVD Reference: KB = 25' @ 3320.0usft
 MD Reference: KB = 25' @ 3320.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)	
17,054.0	87.52	178.57	12,761.7	-4,326.0	827.6	2.92	2.23	1.89	8.3	0.0	
17,149.0	90.42	181.38	12,763.4	-4,420.9	827.7	4.25	3.05	2.96	9.2	-0.8	
17,242.0	91.03	181.91	12,762.2	-4,513.9	825.0	0.87	0.66	0.57	7.1	-4.3	
17,336.0	90.77	182.08	12,760.7	-4,607.8	821.7	0.33	-0.28	0.18	4.8	-8.4	
17,430.0	88.48	181.56	12,761.4	-4,701.8	818.8	2.50	-2.44	-0.55	4.5	-12.2	
17,453.2	88.54	181.83	12,762.0	-4,725.0	818.1	1.20	0.27	1.17	4.9	-13.1	
HL Crossing, MD:17453.2', TVD:12762.0', N/S:-4725.0', E/W:818.1', INC:88.54											
17,482.0	88.62	182.17	12,762.7	-4,753.7	817.1	1.20	0.27	1.17	5.3	-14.3	
Final MWD Survey (MD=17482.0')											
17,551.0	88.62	182.17	12,764.3	-4,822.7	814.5	0.00	0.00	0.00	6.3	-17.5	
Final Projection to Bit (MD=17551.0')											

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
12,819.7	12,627.6	-105.0	788.9	HL Crossing, MD:12819.7', TVD:12627.6', N/S:-105.0', E/W:788.9', INC:62.83	
17,453.2	12,762.0	-4,725.0	818.1	HL Crossing, MD:17453.2', TVD:12762.0', N/S:-4725.0', E/W:818.1', INC:88.54	
17,482.0	12,762.7	-4,753.7	817.1	Final MWD Survey (MD=17482.0')	
17,551.0	12,764.3	-4,822.7	814.5	Final Projection to Bit (MD=17551.0')	

Checked By: _____ Approved By: _____ Date: _____