



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Neptune 10 State Com

#705H

OH

Design: OH

PVA Report

18 December, 2017

HOBBS OCD
MAR 21 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' @ 3632.0usft (HP 647)
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3632.0usft (HP 647)
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	Neptune 10 State Com		
Site Position:		Northing:	446,557.00 usft
From:	Map	Easting:	778,964.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 13' 31.172 N
		Longitude:	103° 33' 53.609 W
		Grid Convergence:	0.41 °

Well	#705H			
Well Position	+N/-S	0.0 usft	Northing:	447,027.00 usft
	+E/-W	0.0 usft	Easting:	779,825.00 usft
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft
			Latitude:	32° 13' 35.762 N
			Longitude:	103° 33' 43.547 W
			Ground Level:	3,607.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/10/2017	6.91	60.06	47,898.21312811

Design	OH			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	
			Tie On Depth:	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.34



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Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey Program	Date	12/18/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
164.0	1,306.0	Olebrook MWD (OH)	MWD	MWD - Standard	
1,360.0	22,618.0	Intrepid MWD (OH)	MWD	MWD - Standard	

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
	164.0	0.70	154.19	164.0	-0.9	0.4	0.43	0.43	0.00	-1.0	0.0
	286.0	0.62	155.95	286.0	-2.2	1.0	0.07	-0.07	1.44	-2.4	0.1
	410.0	0.44	164.86	410.0	-3.2	1.4	0.16	-0.15	7.19	-3.5	0.5
	569.0	1.14	228.55	569.0	-4.9	0.4	0.64	0.44	40.06	-2.9	3.9
	708.0	1.14	199.10	707.9	-7.1	-1.1	0.42	0.00	-21.19	-7.1	1.3
	865.0	0.62	203.58	864.9	-9.4	-1.9	0.33	-0.33	2.85	-9.4	2.0
	991.0	0.97	249.02	990.9	-10.4	-3.2	0.55	0.28	36.06	-6.7	8.5
	1,212.0	0.53	313.27	1,211.9	-10.3	-5.7	0.40	-0.20	29.07	2.9	11.4
	1,306.0	0.09	44.59	1,305.9	-10.0	-6.0	0.57	-0.47	97.15	11.3	-2.8
	1,360.0	0.60	38.60	1,359.9	-9.7	-5.8	0.95	0.94	-11.09	11.2	-1.6
	1,546.0	0.40	295.00	1,545.9	-8.7	-5.7	0.43	-0.11	-55.70	-1.5	10.3
	1,734.0	0.50	290.40	1,733.9	-8.1	-7.1	0.06	0.05	-2.45	-3.8	10.1
	1,921.0	0.50	282.00	1,920.9	-7.7	-8.7	0.04	0.00	-4.49	-6.9	9.3
	2,109.0	0.70	285.60	2,108.9	-7.2	-10.6	0.11	0.11	1.91	-8.2	9.8
	2,296.0	0.90	295.90	2,295.8	-6.3	-13.0	0.13	0.11	5.51	-9.0	11.3
	2,483.0	0.90	313.10	2,482.8	-4.6	-15.4	0.14	0.00	9.20	-8.1	13.9
	2,671.0	1.10	322.90	2,670.8	-2.2	-17.6	0.14	0.11	5.21	-8.9	15.3
	2,858.0	0.60	338.50	2,857.8	0.2	-19.0	0.29	-0.27	8.34	-7.1	17.6
	3,046.0	0.90	354.60	3,045.8	2.6	-19.5	0.19	0.16	8.56	-4.4	19.2
	3,233.0	1.10	9.80	3,232.7	5.8	-19.3	0.18	0.11	8.13	-2.4	20.0



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Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3632.0usft (HP 647)
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)	
3,327.0	1.00	158.50	3,326.7	5.9	-18.9	2.15	-0.11	158.19	12.4	-15.4	
3,421.0	3.10	174.30	3,420.7	2.6	-18.3	2.29	2.23	16.81	4.5	-18.0	
3,515.0	5.20	178.00	3,514.4	-4.2	-17.9	2.25	2.23	3.94	-1.3	-17.8	
3,702.0	5.30	182.40	3,700.6	-21.3	-18.0	0.22	0.05	2.35	-6.1	-16.9	
3,889.0	7.20	179.30	3,886.5	-41.6	-18.2	1.03	1.02	-1.66	-1.2	-16.0	
4,077.0	7.50	179.90	4,073.0	-65.7	-18.0	0.16	0.16	0.32	0.7	-14.3	
4,265.0	7.60	182.10	4,259.3	-90.3	-18.5	0.16	0.05	1.17	1.6	-13.4	
4,453.0	7.50	175.20	4,445.7	-115.0	-17.9	0.48	-0.05	-3.67	4.5	-10.9	
4,641.0	8.30	173.00	4,631.9	-140.7	-15.2	0.45	0.43	-1.17	4.9	-6.6	
4,829.0	8.80	169.40	4,817.8	-168.3	-10.9	0.39	0.27	-1.91	2.7	-0.9	
5,016.0	8.80	181.10	5,002.6	-196.7	-8.6	0.96	0.00	6.26	0.2	2.4	
5,203.0	7.30	188.80	5,187.8	-222.7	-10.7	0.99	-0.80	4.12	0.3	1.8	
5,390.0	8.40	185.60	5,373.0	-248.0	-13.8	0.63	0.59	-1.71	0.7	0.0	
5,578.0	8.80	185.70	5,558.9	-276.0	-16.6	0.21	0.21	0.05	-1.3	-1.1	
5,765.0	8.90	183.80	5,743.7	-304.7	-19.0	0.17	0.05	-1.02	-4.0	-1.9	
5,953.0	8.70	183.20	5,929.5	-333.4	-20.7	0.12	-0.11	-0.32	-6.6	-2.1	
6,141.0	8.30	182.50	6,115.4	-361.1	-22.1	0.22	-0.21	-0.37	-8.2	-2.0	
6,328.0	7.40	181.60	6,300.7	-386.7	-23.0	0.49	-0.48	-0.48	-7.7	-1.6	
6,516.0	7.00	182.30	6,487.2	-410.2	-23.8	0.22	-0.21	0.37	-5.1	-1.0	
6,703.0	7.30	181.60	6,672.7	-433.5	-24.6	0.17	0.16	-0.37	-2.3	-0.4	
6,891.0	7.30	181.50	6,859.2	-457.4	-25.3	0.01	0.00	-0.05	-0.1	0.3	
7,078.0	6.80	181.70	7,044.8	-480.3	-25.9	0.27	-0.27	0.11	3.0	1.0	
7,266.0	6.60	185.50	7,231.5	-502.2	-27.3	0.26	-0.11	2.02	7.4	0.5	
7,453.0	6.60	185.00	7,417.3	-523.6	-29.2	0.03	0.00	-0.27	11.9	-0.3	
7,641.0	5.50	184.70	7,604.2	-543.3	-30.9	0.59	-0.59	-0.16	16.5	-1.0	
7,828.0	3.10	197.30	7,790.7	-557.1	-33.1	1.37	-1.28	6.74	14.9	-5.8	
8,016.0	2.50	175.20	7,978.5	-566.0	-34.3	0.65	-0.32	-11.76	9.2	-1.4	



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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)	
8,204.0	2.20	161.30	8,166.3	-573.5	-32.8	0.34	-0.16	-7.39	1.7	-0.1	
8,391.0	2.00	156.90	8,353.2	-579.9	-30.4	0.14	-0.11	-2.35	-5.2	-0.3	
8,579.0	1.30	158.20	8,541.1	-584.9	-28.3	0.37	-0.37	0.69	-10.6	-0.1	
8,767.0	0.80	123.50	8,729.1	-587.6	-26.4	0.42	-0.27	-18.46	-11.7	-7.3	
8,954.0	1.30	54.30	8,916.1	-587.1	-23.6	0.67	0.27	-37.01	0.1	-14.8	
9,143.0	0.70	301.90	9,105.0	-585.3	-22.8	0.90	-0.32	-59.47	13.3	3.7	
9,329.0	1.60	295.30	9,291.0	-583.5	-26.2	0.49	0.48	-3.55	9.0	5.1	
9,517.0	1.90	304.30	9,478.9	-580.7	-31.1	0.22	0.16	4.79	4.0	4.1	
9,698.0	1.60	283.40	9,659.8	-578.4	-36.0	0.39	-0.17	-11.55	-3.0	4.2	
9,885.0	1.41	173.00	9,846.8	-580.1	-38.3	1.32	-0.10	-59.04	-4.2	-6.7	
10,071.0	1.70	144.80	10,032.7	-584.6	-36.4	0.43	0.16	-15.16	-5.3	-9.0	
10,259.0	2.00	177.30	10,220.6	-590.1	-34.7	0.57	0.16	17.29	-15.0	-3.2	
10,446.0	0.90	297.40	10,407.6	-592.7	-35.8	1.38	-0.59	64.22	4.9	17.4	
10,634.0	0.40	126.70	10,595.6	-592.4	-36.6	0.69	-0.27	-90.80	-6.8	-16.6	
10,822.0	1.50	350.20	10,783.6	-590.4	-36.5	0.96	0.59	-72.61	14.4	6.9	
11,009.0	1.10	50.50	10,970.5	-586.9	-35.5	0.72	-0.21	32.25	10.1	-7.0	
11,197.0	1.10	30.70	11,158.5	-584.2	-33.2	0.20	0.00	-10.53	8.4	-3.7	
11,384.0	0.70	64.90	11,345.5	-582.1	-31.3	0.35	-0.21	18.29	2.2	-6.8	
11,571.0	1.30	90.70	11,532.4	-581.7	-28.1	0.39	0.32	13.80	-4.1	-6.6	
11,759.0	0.70	12.20	11,720.4	-580.6	-25.7	0.72	-0.32	-41.76	4.0	-7.4	
11,866.0	0.40	317.00	11,827.4	-579.7	-25.9	0.54	-0.28	-51.59	7.7	-1.5	
11,942.0	0.10	135.20	11,903.4	-579.5	-26.0	0.66	-0.39	234.47	-7.5	1.2	
12,035.0	0.60	51.40	11,996.4	-579.3	-25.5	0.64	0.54	-90.11	-2.5	-7.4	
12,056.4	2.01	3.75	12,017.8	-578.8	-25.4	7.78	6.58	-222.95	3.3	-6.9	
KOP (Neptune 10 State Com #705H)											
12,129.0	7.60	352.30	12,090.1	-572.8	-26.0	7.78	7.70	-15.77	4.1	-5.7	
12,176.0	16.70	354.80	12,136.0	-563.0	-27.0	19.39	19.36	5.32	3.2	-5.0	



PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Neptune 10 State Com
 Well: #705H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #705H
 TVD Reference: KB= 25' @ 3632.0usft (HP 647)
 MD Reference: KB= 25' @ 3632.0usft (HP 647)
 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)	
12,223.0	24.00	357.20	12,180.1	-546.7	-28.1	15.63	15.53	5.11	0.3	-4.2	
12,270.0	27.60	355.50	12,222.4	-526.3	-29.4	7.82	7.66	-3.62	-2.1	-3.2	
12,315.0	32.30	353.20	12,261.4	-503.9	-31.7	10.75	10.44	-5.11	-3.5	-1.4	
12,362.0	37.20	350.90	12,300.0	-477.4	-35.4	10.79	10.43	-4.89	-4.4	2.0	
12,409.0	43.10	349.70	12,335.9	-447.6	-40.5	12.66	12.55	-2.55	-5.3	6.8	
12,456.0	47.60	353.20	12,368.9	-414.5	-45.5	10.94	9.57	7.45	-5.2	11.7	
12,502.0	52.20	357.50	12,398.5	-379.5	-48.3	12.29	10.00	9.35	-3.9	14.5	
12,549.0	54.20	356.60	12,426.7	-341.9	-50.2	4.52	4.26	-1.91	-1.5	16.2	
12,597.0	56.20	353.10	12,454.1	-302.6	-53.8	7.29	4.17	-7.29	3.5	19.8	
12,600.2	56.48	352.94	12,455.9	-300.0	-54.1	9.78	8.90	-4.89	4.0	20.1	
HL Crossing, MD:12600.2', TVD:12455.9', N/S:-300.0', E/W:-54.1', INC:56.48											
12,619.1	58.17	352.04	12,466.1	-284.2	-56.2	9.78	8.92	-4.78	6.8	22.3	
FTP (Neptune 10 State Com #705H)											
12,644.0	60.40	350.90	12,478.8	-263.0	-59.3	9.78	8.96	-4.58	10.7	25.7	
12,690.0	70.30	351.70	12,497.9	-221.8	-65.6	21.58	21.52	1.74	17.4	31.6	
12,733.0	79.10	353.00	12,509.3	-180.7	-71.1	20.67	20.47	3.02	20.6	36.4	
12,786.0	90.10	354.90	12,514.3	-128.3	-76.7	21.06	20.75	3.58	20.2	41.2	
12,879.0	92.40	359.70	12,512.2	-35.5	-81.1	5.72	2.47	5.16	17.2	44.8	
12,973.0	92.10	1.70	12,508.5	58.4	-79.9	2.15	-0.32	2.13	13.5	43.0	
13,067.0	89.10	2.80	12,507.5	152.4	-76.2	3.40	-3.19	1.17	12.6	38.5	
13,161.0	89.10	3.30	12,509.0	246.2	-71.2	0.53	0.00	0.53	14.1	32.8	
13,254.0	89.00	3.60	12,510.6	339.0	-65.6	0.34	-0.11	0.32	15.6	26.5	
13,348.0	88.90	3.60	12,512.3	432.8	-59.7	0.11	-0.11	0.00	17.4	19.9	
13,441.0	89.50	0.70	12,513.6	525.7	-56.3	3.18	0.65	-3.12	18.6	15.7	
13,534.0	89.80	0.50	12,514.2	618.7	-55.3	0.39	0.32	-0.22	19.2	14.1	
13,627.0	90.20	0.30	12,514.2	711.7	-54.6	0.48	0.43	-0.22	19.2	12.7	
13,721.0	92.10	0.50	12,512.3	805.7	-54.0	2.03	2.02	0.21	17.3	11.3	



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13,814.0	90.80	1.00	12,509.9	898.7	-52.8	1.50	-1.40	0.54	14.9	9.4	
13,908.0	88.40	1.40	12,510.6	992.6	-50.8	2.59	-2.55	0.43	15.6	6.7	
14,002.0	88.40	2.00	12,513.2	1,086.6	-48.0	0.64	0.00	0.64	18.2	3.2	
14,095.0	89.80	1.30	12,514.7	1,179.5	-45.3	1.68	1.51	-0.75	19.7	-0.2	
14,190.0	90.80	0.90	12,514.2	1,274.5	-43.5	1.13	1.05	-0.42	19.2	-2.7	
14,283.0	89.80	0.70	12,513.7	1,367.5	-42.2	1.10	-1.08	-0.22	18.7	-4.7	
14,377.0	88.30	359.90	12,515.2	1,461.5	-41.7	1.81	-1.60	-0.85	20.2	-5.9	
14,471.0	88.30	359.30	12,518.0	1,555.4	-42.4	0.64	0.00	-0.64	23.0	-6.0	
14,564.0	90.20	359.40	12,519.2	1,648.4	-43.4	2.05	2.04	0.11	24.2	-5.6	
14,658.0	90.40	358.90	12,518.7	1,742.4	-44.8	0.57	0.21	-0.53	23.7	-4.9	
14,752.0	91.90	358.40	12,516.9	1,836.3	-47.0	1.68	1.60	-0.53	21.9	-3.4	
14,846.0	92.30	358.50	12,513.4	1,930.2	-49.6	0.44	0.43	0.11	18.4	-1.6	
14,940.0	90.30	358.80	12,511.3	2,024.2	-51.8	2.15	-2.13	0.32	16.3	-0.1	
15,015.8	89.65	358.56	12,511.3	2,099.9	-53.5	0.92	-0.86	-0.32	16.3	1.1	
TGT 1 (Neptune 10 State Com #705H)											
15,033.0	89.50	358.50	12,511.4	2,117.2	-54.0	0.92	-0.86	-0.32	16.4	1.4	
15,126.0	89.80	358.50	12,512.0	2,210.1	-56.4	0.32	0.32	0.00	16.4	3.1	
15,220.0	89.60	358.30	12,512.5	2,304.1	-59.0	0.30	-0.21	-0.21	16.4	5.0	
15,314.0	89.70	359.30	12,513.1	2,398.1	-61.0	1.07	0.11	1.06	16.4	6.2	
15,407.0	89.80	359.40	12,513.5	2,491.1	-62.1	0.15	0.11	0.11	16.2	6.6	
15,501.0	89.30	358.70	12,514.2	2,585.0	-63.6	0.92	-0.53	-0.74	16.4	7.4	
15,594.0	88.80	358.10	12,515.8	2,678.0	-66.2	0.84	-0.54	-0.65	17.4	9.3	
15,688.0	89.80	358.10	12,516.9	2,771.9	-69.3	1.06	1.06	0.00	18.0	11.7	
15,782.0	88.20	357.60	12,518.6	2,865.8	-72.9	1.78	-1.70	-0.53	19.1	14.5	
15,876.0	87.70	0.50	12,521.9	2,959.8	-74.4	3.13	-0.53	3.09	21.9	15.3	
15,970.0	87.60	0.10	12,525.8	3,053.7	-73.9	0.44	-0.11	-0.43	25.2	14.1	
16,064.0	89.90	358.80	12,527.8	3,147.6	-74.8	2.81	2.45	-1.38	26.7	14.3	



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3632.0usft (HP 647)
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3632.0usft (HP 647)
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)	
16,157.0	90.60	358.80	12,527.4	3,240.6	-76.8	0.75	0.75	0.00	25.8	15.5	
16,251.0	90.80	358.10	12,526.3	3,334.6	-79.3	0.77	0.21	-0.74	24.1	17.3	
16,346.0	89.80	357.50	12,525.8	3,429.5	-83.0	1.23	-1.05	-0.63	23.0	20.2	
16,439.0	89.10	358.10	12,526.7	3,522.4	-86.5	0.99	-0.75	0.65	23.3	23.1	
16,533.0	88.80	359.00	12,528.4	3,616.4	-88.9	1.01	-0.32	0.96	24.5	24.8	
16,627.0	89.30	359.50	12,529.9	3,710.4	-90.1	0.75	0.53	0.53	25.5	25.3	
16,721.0	90.00	0.10	12,530.5	3,804.4	-90.5	0.98	0.74	0.64	25.5	24.9	
16,815.0	90.00	359.50	12,530.5	3,898.4	-90.8	0.64	0.00	-0.64	25.0	24.5	
16,908.0	90.30	359.80	12,530.3	3,991.4	-91.4	0.46	0.32	0.32	24.2	24.3	
17,002.0	91.30	1.70	12,529.0	4,085.3	-90.1	2.28	1.06	2.02	22.3	22.4	
17,096.0	90.50	1.40	12,527.5	4,179.3	-87.6	0.91	-0.85	-0.32	20.3	19.1	
17,189.0	91.10	1.20	12,526.2	4,272.3	-85.5	0.68	0.65	-0.22	18.5	16.3	
17,283.0	91.10	1.00	12,524.4	4,366.2	-83.7	0.21	0.00	-0.21	16.1	13.7	
17,376.0	90.40	0.30	12,523.2	4,459.2	-82.6	1.06	-0.75	-0.75	14.3	12.0	
17,470.0	90.00	0.40	12,522.8	4,553.2	-82.0	0.44	-0.43	0.11	13.5	10.7	
17,564.0	89.10	0.10	12,523.6	4,647.2	-81.6	1.01	-0.96	-0.32	13.6	9.5	
17,658.0	88.00	359.40	12,526.0	4,741.2	-82.0	1.39	-1.17	-0.74	15.5	9.2	
17,751.0	89.00	359.40	12,528.4	4,834.1	-83.0	1.08	1.08	0.00	17.4	9.5	
17,845.0	89.30	359.20	12,529.8	4,928.1	-84.2	0.38	0.32	-0.21	18.2	9.9	
17,916.9	90.54	359.97	12,529.9	5,000.0	-84.7	2.03	1.72	1.08	17.9	9.9	
TGT 2 (Neptune 10 State Com #705H)											
17,938.0	90.90	0.20	12,529.6	5,021.1	-84.7	2.03	1.72	1.08	17.6	9.7	
18,032.0	90.80	359.40	12,528.2	5,115.1	-85.0	0.86	-0.11	-0.85	16.7	9.3	
18,126.0	89.50	359.30	12,528.0	5,209.1	-86.0	1.39	-1.38	-0.11	16.9	9.6	
18,220.0	88.90	359.30	12,529.3	5,303.1	-87.2	0.64	-0.64	0.00	18.8	10.1	
18,314.0	89.30	0.70	12,530.8	5,397.1	-87.2	1.55	0.43	1.49	20.8	9.3	
18,408.0	90.20	0.50	12,531.2	5,491.0	-86.2	0.98	0.96	-0.21	21.7	7.6	



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3632.0usft (HP 647)
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3632.0usft (HP 647)
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)	
18,502.0	90.80	1.00	12,530.4	5,585.0	-85.0	0.83	0.64	0.53	21.4	5.7	
18,595.0	90.50	1.20	12,529.3	5,678.0	-83.2	0.39	-0.32	0.22	20.9	3.2	
18,689.0	89.90	1.30	12,529.0	5,772.0	-81.1	0.65	-0.64	0.11	21.1	0.4	
18,783.0	90.90	0.80	12,528.3	5,866.0	-79.4	1.19	1.06	-0.53	20.9	-2.1	
18,877.0	91.20	1.20	12,526.6	5,959.9	-77.8	0.53	0.32	0.43	19.7	-4.4	
18,970.0	90.60	1.30	12,525.1	6,052.9	-75.8	0.65	-0.65	0.11	18.8	-7.2	
19,064.0	89.80	1.10	12,524.8	6,146.9	-73.8	0.88	-0.85	-0.21	19.0	-9.9	
19,158.0	88.90	359.20	12,525.9	6,240.9	-73.5	2.24	-0.96	-2.02	20.6	-10.8	
19,252.0	87.60	0.20	12,528.7	6,334.8	-74.0	1.74	-1.38	1.06	23.9	-11.1	
19,344.0	88.00	359.30	12,532.3	6,426.8	-74.4	1.07	0.43	-0.98	28.0	-11.4	
19,438.0	88.90	358.80	12,534.8	6,520.7	-76.0	1.10	0.96	-0.53	31.1	-10.5	
19,532.0	90.60	357.60	12,535.2	6,614.7	-78.9	2.21	1.81	-1.28	32.0	-8.3	
19,626.0	90.70	358.10	12,534.2	6,708.6	-82.5	0.54	0.11	0.53	31.4	-5.5	
19,720.0	90.70	358.70	12,533.0	6,802.5	-85.1	0.64	0.00	0.64	30.8	-3.6	
19,813.0	90.90	358.10	12,531.7	6,895.5	-87.7	0.68	0.22	-0.65	30.0	-1.7	
19,907.0	90.00	358.10	12,531.0	6,989.4	-90.8	0.96	-0.96	0.00	29.8	0.7	
20,001.0	89.20	357.60	12,531.6	7,083.4	-94.3	1.00	-0.85	-0.53	31.0	3.5	
20,095.0	89.10	357.70	12,533.0	7,177.3	-98.2	0.15	-0.11	0.11	32.9	6.6	
20,117.3	89.34	357.91	12,533.3	7,199.5	-99.0	1.43	1.06	0.96	33.3	7.3	
TGT 3 (Neptune 10 State Com #705H)											
20,189.0	90.10	358.60	12,533.7	7,271.2	-101.2	1.43	1.06	0.96	33.9	8.9	
20,283.0	90.00	358.50	12,533.6	7,365.2	-103.6	0.15	-0.11	-0.11	34.1	10.5	
20,376.0	90.50	359.50	12,533.2	7,458.2	-105.2	1.20	0.54	1.08	33.9	11.4	
20,470.0	90.70	359.40	12,532.2	7,552.2	-106.1	0.24	0.21	-0.11	33.2	11.5	
20,563.0	92.20	0.20	12,529.9	7,645.1	-106.4	1.83	1.61	0.86	31.1	11.1	
20,657.0	92.10	359.20	12,526.3	7,739.1	-106.9	1.07	-0.11	-1.06	27.8	10.8	
20,751.0	92.80	359.40	12,522.3	7,833.0	-108.1	0.77	0.74	0.21	24.1	11.2	



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3632.0usft (HP 647)
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3632.0usft (HP 647)
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)	
20,844.0	92.50	359.90	12,518.0	7,925.9	-108.7	0.63	-0.32	0.54	20.0	11.0	
20,938.0	91.30	1.80	12,514.9	8,019.8	-107.3	2.39	-1.28	2.02	17.2	8.9	
21,032.0	91.40	1.20	12,512.7	8,113.7	-104.8	0.65	0.11	-0.64	15.2	5.6	
21,126.0	90.40	1.00	12,511.2	8,207.7	-103.0	1.08	-1.06	-0.21	14.0	3.1	
21,306.0	88.50	0.00	12,512.9	8,387.7	-101.4	1.19	-1.06	-0.56	16.3	0.1	
21,401.0	88.60	0.10	12,515.3	8,482.7	-101.3	0.15	0.11	0.11	18.9	-0.8	
21,494.0	89.10	0.20	12,517.2	8,575.6	-101.1	0.55	0.54	0.11	21.1	-1.8	
21,588.0	90.10	0.50	12,517.9	8,669.6	-100.5	1.11	1.06	0.32	22.0	-3.1	
21,682.0	91.10	0.00	12,516.9	8,763.6	-100.1	1.19	1.06	-0.53	21.3	-4.3	
21,775.0	90.40	358.00	12,515.7	8,856.6	-101.7	2.28	-0.75	-2.15	20.3	-3.4	
21,869.0	89.50	357.80	12,515.7	8,950.5	-105.2	0.98	-0.96	-0.21	20.6	-0.8	
21,962.0	91.30	358.40	12,515.1	9,043.5	-108.3	2.04	1.94	0.65	20.3	1.6	
22,055.0	89.90	357.30	12,514.1	9,136.4	-111.8	1.91	-1.51	-1.18	19.5	4.3	
22,149.0	90.90	356.80	12,513.5	9,230.3	-116.6	1.19	1.06	-0.53	19.2	8.4	
22,243.0	89.20	356.90	12,513.4	9,324.1	-121.8	1.81	-1.81	0.11	19.3	12.8	
22,336.0	91.30	356.80	12,513.0	9,417.0	-126.9	2.26	2.26	-0.11	19.2	17.1	
22,430.0	90.60	356.60	12,511.4	9,510.8	-132.3	0.77	-0.74	-0.21	17.9	21.8	
22,518.4	89.10	356.13	12,511.6	9,599.0	-137.9	1.78	-1.70	-0.53	18.4	26.7	
HL Crossing, MD:22518.4', TVD:12511.6', N/S:9599.0', E/W:-137.9', INC:89.10											
22,524.0	89.00	356.10	12,511.7	9,604.6	-138.3	1.78	-1.70	-0.53	18.5	27.0	
22,559.0	89.00	356.50	12,512.4	9,639.5	-140.5	1.14	0.00	1.14	19.2	29.0	
Final MWD Survey (MD= 22559.0')											
22,616.3	89.00	356.50	12,513.4	9,696.7	-144.0	0.00	0.00	0.00	20.3	32.0	
PBHL (Neptune 10 State Com #705H)											
22,618.0	89.00	356.50	12,513.4	9,698.4	-144.1	0.00	0.00	0.00	20.4	32.1	
Final Bit Projection (MD= 22618.0')											



PVA Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Neptune 10 State Com
Well: #705H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #705H
TVD Reference: KB= 25' @ 3632.0usft (HP 647)
MD Reference: KB= 25' @ 3632.0usft (HP 647)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,600.2	12,455.9	-300.0	-54.1	HL Crossing, MD:12600.2', TVD:12455.9', N/S:-300.0', E/W:-54.1', INC:56.48
22,518.4	12,511.6	9,599.0	-137.9	HL Crossing, MD:22518.4', TVD:12511.6', N/S:9599.0', E/W:-137.9', INC:89.10
22,559.0	12,512.4	9,639.5	-140.5	Final MWD Survey (MD= 22559.0')
22,618.0	12,513.4	9,698.4	-144.1	Final Bit Projection (MD= 22618.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)
Neptune 10 State Com #705H
HP 647
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' @ 3632.0usft (HP 647) 3607.0
Northing 447027.00 Easting 779825.00 32° 13' 35.762 N 103° 33' 43.547 W



Azimuths to Grid North
True North: -0.41°
Magnetic North: 6.49°
Magnetic Field
Strength: 47888.2snT
Dip Angle: 60.06°
Date: 11/10/2017
Model: IGRF2015

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

SECTION DETAILS

MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
3400.0	0.00	0.00	3400.0	0.0	0.0	0.00	0.00	0.0	
3800.0	8.00	183.20	3798.7	-27.8	-1.6	2.00	183.20	-27.8	
7537.7	0.00	0.00	7500.0	-547.2	-30.6	0.00	0.00	-546.8	
7937.7	0.00	0.00	7898.7	-575.0	-32.2	2.00	180.00	-574.6	
12056.5	0.00	0.00	12017.5	-575.0	-32.2	0.00	0.00	-574.6	
12806.5	90.00	359.56	12495.0	-97.6	-35.8	12.00	359.56	-97.2	
15004.1	90.00	359.56	12495.0	2100.0	-52.5	0.00	0.00	2100.5	TGT 1 (Neptune 10 State Com #705H)
15020.9	89.66	359.56	12495.0	2116.8	-52.6	2.00	-178.89	2117.3	
17904.3	89.66	359.56	12512.0	5000.0	-74.8	0.00	0.00	5000.5	TGT 2 (Neptune 10 State Com #705H)
17937.0	90.32	359.56	12512.0	5032.7	-75.1	2.00	0.00	5033.2	
20104.4	90.32	359.56	12500.0	7200.0	-81.8	0.00	0.00	7200.6	TGT 3 (Neptune 10 State Com #705H)
20112.3	90.16	359.54	12500.0	7207.9	-81.8	2.00	-171.69	7208.5	
22603.5	90.16	359.54	12493.0	9699.0	-112.0	0.00	0.00	9699.6	PBHL (Neptune 10 State Com #705H)

CASING DETAILS

No casing data is available

WELLS TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/S	+E/W	Northing	Easting
KOP (Neptune 10 State Com #705H)	12017.5	-475.0	-32.2	446451.85	779792.85
PBHL (Neptune 10 State Com #705H)	12493.0	9699.0	-112.0	456726.00	779713.00
PTP (Neptune 10 State Com #705H)	12495.0	-298.0	-34.0	446728.00	779791.00
TGT 1 (Neptune 10 State Com #705H)	12495.0	2100.0	-32.5	449127.00	779772.82
TGT 2 (Neptune 10 State Com #705H)	12500.0	7200.0	-81.8	454227.00	779733.25
TGT 3 (Neptune 10 State Com #705H)	12512.0	8000.0	-74.8	452027.00	779760.19

