

HOBBS OCD

AUG 29 2018

RECEIVED

EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Caballo 23 Fed Com

#704H

ST01

Design: ST01

Midland PVA

06 June, 2018



Midland PVA



Company:	EOG Resources - Midland		Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)		TVD Reference:	KB = 25' @ 3368.0usft (H&P 378)
Site:	Caballo 23 Fed Com		MD Reference:	KB = 25' @ 3368.0usft (H&P 378)
Well:	#704H		North Reference:	Grid
Wellbore:	ST01		Survey Calculation Method:	Minimum Curvature
Design:	ST01		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	Caballo 23 Fed Com				
Site Position:		Northing:	404,685.00 usft	Latitude:	32° 6' 36.494 N
From:	Map	Easting:	783,786.00 usft	Longitude:	103° 33' 1.024 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well	#704H					
Well Position	+N-S	0.0 usft	Northing:	404,500.00 usft	Latitude:	32° 6' 34.565 N
	+E-W	0.0 usft	Easting:	785,152.00 usft	Longitude:	103° 32' 45.159 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,341.0 usft

Wellbore	ST01				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/25/2018	6.84	59.95	47,785.62420440

Design	ST01				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	1,106.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.0	0.0	0.0	359.50	

Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3366.0usft (H&P 379)
Site:	Caballo 23 Fed Com	MD Reference:	KB = 25' @ 3366.0usft (H&P 379)
Well:	#704H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Survey Program		Date			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
133.0	1,106.0	Cartel 41 8' KB +17' (OH)	MWD	OWSG MWD - Standard	
1,252.0	19,757.0	Total MWD (ST01)	MWD	OWSG MWD - Standard	

MD (usft)	Inc (")	Azi (azimuth) (")	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
133.0	0.62	28.01	133.0	0.6	0.3	0.47	0.47	0.00	0.0	0.0
282.0	1.19	308.94	282.0	2.3	-0.5	0.83	0.38	-53.07	0.0	0.0
409.0	0.40	303.35	409.0	3.4	-1.9	0.62	-0.62	-4.40	0.0	0.0
536.0	0.40	285.55	536.0	3.8	-2.7	0.04	0.00	-6.14	0.0	0.0
663.0	0.09	302.73	663.0	4.1	-3.1	0.24	-0.24	5.65	0.0	0.0
790.0	0.09	223.23	790.0	4.1	-3.3	0.09	0.00	-62.60	0.0	0.0
917.0	0.09	142.15	917.0	3.9	-3.3	0.09	0.00	-63.84	0.0	0.0
1,045.0	0.09	54.15	1,045.0	3.9	-3.2	0.10	0.00	-68.75	0.0	0.0
1,106.0	0.09	20.92	1,106.0	4.0	-3.1	0.08	0.00	-54.48	0.0	0.0
1,252.0	0.10	0.20	1,252.0	4.2	-3.1	0.02	0.01	-14.19	0.0	0.0
1,345.0	1.70	161.00	1,344.9	3.0	-2.6	1.93	1.72	172.90	0.6	0.6
1,439.0	3.00	165.00	1,438.9	-0.7	-1.5	1.39	1.38	4.26	1.5	1.9
1,532.0	2.80	162.90	1,531.7	-5.3	-0.2	0.24	-0.22	-2.26	1.4	3.3
1,626.0	2.80	163.20	1,625.6	-9.6	1.1	0.02	0.00	0.32	1.5	4.7
1,720.0	2.70	162.80	1,719.5	-14.0	2.4	0.11	-0.11	-0.43	1.7	6.2
1,814.0	2.70	163.70	1,813.4	-18.2	3.7	0.05	0.00	0.96	2.1	7.6
1,913.0	2.80	163.00	1,912.3	-22.7	5.1	0.11	0.10	-0.71	2.2	9.1
2,102.0	2.90	162.80	2,101.1	-31.7	7.8	0.05	0.05	-0.11	2.2	12.0
2,196.0	3.50	164.90	2,194.9	-36.8	9.3	0.65	0.64	2.23	2.2	13.3
2,290.0	3.70	167.20	2,288.7	-42.5	10.7	0.26	0.21	2.45	1.6	14.4

Midland PVA



Company:	EOG Resources - Midland					Local Co-ordinate Reference:	Well #704H				
Project:	Lea County, NM (NAD 83 NME)					TVD Reference:	KB = 25' @ 3366.0usft (H&P 379)				
Site:	Cabello 23 Fed Com					MD Reference:	KB = 25' @ 3366.0usft (H&P 379)				
Well:	#704H					North Reference:	Grid				
Wellbore:	ST01					Survey Calculation Method:	Minimum Curvature				
Design:	ST01					Database:	EDM 5000.14				

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
2,478.0	3.80	168.10	2,476.3	-54.5	13.3	0.06	0.05	0.48	0.7	17.0	
2,572.0	3.80	168.80	2,570.1	-60.6	14.6	0.05	0.00	0.74	1.1	18.5	
2,666.0	3.70	167.90	2,663.9	-66.6	15.8	0.12	-0.11	-0.96	1.0	20.1	
2,854.0	3.60	170.30	2,851.6	-78.4	18.1	0.10	-0.05	1.28	2.8	22.9	
2,949.0	3.60	170.10	2,946.4	-84.3	19.1	0.01	0.00	-0.21	3.2	24.2	
3,043.0	3.50	166.10	3,040.2	-90.0	20.3	0.28	-0.11	-4.26	2.1	25.9	
3,137.0	4.20	165.90	3,134.0	-96.1	21.8	0.74	0.74	-0.21	2.0	27.7	
3,326.0	4.70	155.70	3,322.4	-109.8	26.7	0.49	0.26	-5.40	-5.6	32.2	
3,421.0	4.60	153.40	3,417.1	-116.8	30.0	0.22	-0.11	-2.42	-8.8	34.9	
3,515.0	4.40	151.40	3,510.8	-123.3	33.4	0.27	-0.21	-2.13	-11.7	37.8	
3,609.0	4.70	151.40	3,604.5	-129.9	37.0	0.32	0.32	0.00	-13.5	41.1	
3,703.0	5.20	154.30	3,698.1	-137.1	40.7	0.59	0.53	3.09	-13.7	45.0	
3,797.0	5.00	156.00	3,791.8	-144.7	44.2	0.27	-0.21	1.81	-14.8	48.3	
3,892.0	4.50	153.20	3,886.5	-151.8	47.6	0.58	-0.53	-2.95	-19.2	50.5	
3,985.0	4.30	161.10	3,979.2	-158.3	50.3	0.69	-0.22	8.49	-13.1	55.5	
4,080.0	4.20	166.00	4,073.9	-165.1	52.3	0.40	-0.11	5.16	-9.0	58.5	
4,174.0	3.80	167.30	4,167.7	-171.5	53.9	0.44	-0.43	1.38	-7.8	60.4	
4,268.0	3.70	168.60	4,261.5	-177.5	55.1	0.14	-0.11	1.38	-6.2	62.1	
4,362.0	4.00	158.40	4,355.3	-183.5	56.9	0.79	0.32	-10.85	-17.3	62.1	
4,456.0	3.90	154.80	4,449.1	-189.4	59.5	0.28	-0.11	-3.83	-21.8	63.6	
4,551.0	3.70	147.60	4,543.8	-195.0	62.5	0.54	-0.21	-7.58	-30.4	63.7	
4,645.0	4.30	135.30	4,637.6	-200.0	66.6	1.11	0.64	-13.09	-45.2	59.9	
4,739.0	5.20	130.70	4,731.3	-205.3	72.3	1.04	0.96	-4.89	-53.5	61.0	
4,833.0	5.80	131.10	4,824.9	-211.2	79.1	0.64	0.64	0.43	-57.8	66.5	
4,905.0	5.40	128.90	4,896.5	-215.7	84.5	0.63	-0.56	-3.06	-64.3	68.0	
5,002.0	4.70	128.10	4,893.1	-221.0	91.2	0.73	-0.72	-0.82	-69.9	72.5	
5,096.0	1.90	145.50	5,087.0	-224.7	95.1	3.13	-2.98	18.51	-45.1	95.0	

Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3368.0usft (H&P 379)
Site:	Caballo 23 Fed Com	MD Reference:	KB = 25' @ 3368.0usft (H&P 379)
Well:	#704H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLag (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
5,190.0	0.90	305.10	5,181.0	-225.8	95.4	2.94	-1.06	169.79	73.0	-77.5
5,284.0	1.50	317.50	5,274.9	-224.2	94.0	0.69	0.64	13.19	50.7	-93.2
5,379.0	1.60	317.80	5,369.9	-222.3	92.2	0.11	0.11	0.32	47.5	-93.6
5,473.0	1.60	322.20	5,463.9	-220.3	90.5	0.13	0.00	4.68	37.5	-96.8
5,566.0	1.90	336.40	5,556.8	-217.9	89.1	0.56	0.32	15.27	9.9	-102.8
5,661.0	1.20	265.50	5,651.8	-216.5	87.5	1.99	-0.74	-74.63	98.8	-25.8
5,755.0	1.90	242.30	5,745.8	-217.3	85.2	0.99	0.74	-24.68	98.5	14.8
5,849.0	1.90	241.70	5,839.7	-218.8	82.4	0.02	0.00	-0.64	95.3	15.9
5,943.0	1.90	243.30	5,933.7	-220.2	79.6	0.06	0.00	1.70	92.5	13.2
6,038.0	1.70	245.00	6,028.6	-221.5	77.0	0.22	-0.21	1.79	89.9	10.5
6,132.0	1.50	191.00	6,122.6	-223.3	75.5	1.56	-0.21	-57.45	42.3	77.8
6,226.0	1.50	193.20	6,216.5	-225.7	74.9	0.06	0.00	2.34	42.8	76.2
6,320.0	1.50	190.50	6,310.5	-228.1	74.4	0.08	0.00	-2.87	36.7	78.0
6,414.0	0.20	321.60	6,404.5	-229.2	74.1	1.74	-1.38	139.47	35.3	-78.0
6,508.0	0.20	350.10	6,498.5	-228.9	74.0	0.10	0.00	30.32	-6.5	-85.3
6,602.0	0.20	40.10	6,592.5	-228.6	74.1	0.18	0.00	53.19	-69.8	-49.8
6,696.0	0.30	24.60	6,686.5	-228.3	74.3	0.13	0.11	-16.49	-54.4	-66.7
6,790.0	0.30	3.30	6,780.5	-227.8	74.4	0.12	0.00	-22.66	-26.9	-81.9
6,884.0	0.40	350.90	6,874.5	-227.3	74.3	0.13	0.11	-13.19	-9.3	-85.9
6,978.0	0.50	346.10	6,968.5	-226.5	74.2	0.11	0.11	-5.11	-2.8	-86.4
7,072.0	0.40	329.10	7,062.5	-225.9	73.9	0.18	-0.11	-18.09	21.9	-83.5
7,166.0	0.30	337.80	7,156.5	-225.3	73.7	0.12	-0.11	9.26	8.4	-85.8
7,260.0	0.50	349.70	7,250.5	-224.7	73.5	0.23	0.21	12.66	-10.1	-85.7
7,354.0	0.40	21.40	7,344.5	-224.0	73.5	0.28	-0.11	33.72	-54.3	-67.3
7,448.0	0.50	20.30	7,438.5	-223.3	73.8	0.11	0.11	-1.17	-53.7	-68.4
7,542.0	0.40	24.30	7,532.5	-222.6	74.1	0.11	-0.11	4.26	-59.1	-64.4
7,636.0	0.20	358.10	7,626.5	-222.2	74.2	0.25	-0.21	-27.87	-25.1	-84.1

Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3366.0usft (H&P 376)
Site:	Caballo 23 Fed Com	MD Reference:	KB = 25' @ 3366.0usft (H&P 376)
Well:	#704H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLag (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
7,730.0	0.30	205.80	7,720.5	-222.2	74.1	0.52	0.11	-162.02	61.2	62.7
7,823.0	0.50	215.90	7,813.5	-222.8	73.8	0.23	0.22	10.86	70.6	51.1
7,918.0	0.80	211.40	7,908.5	-223.7	73.2	0.32	0.32	-4.74	65.3	56.4
8,011.0	0.80	205.90	8,001.5	-224.8	72.5	0.08	0.00	-5.91	58.3	62.3
8,105.0	0.60	203.60	8,095.5	-225.9	72.1	0.21	-0.21	-2.45	54.6	64.6
8,199.0	1.40	194.00	8,189.4	-227.4	71.6	0.87	0.85	-10.21	41.4	72.7
8,293.0	0.80	177.00	8,283.4	-229.2	71.3	0.72	-0.64	-18.09	16.6	81.3
8,388.0	0.80	140.50	8,378.4	-230.4	71.8	0.53	0.00	-38.41	-36.2	74.8
8,482.0	0.80	136.60	8,472.4	-231.3	72.7	0.06	0.00	-4.15	-42.5	72.1
8,575.0	0.80	148.10	8,565.4	-232.4	73.5	0.17	0.00	12.37	-28.6	79.3
8,669.0	0.80	146.90	8,659.4	-233.5	74.2	0.02	0.00	-1.28	-31.6	78.7
8,764.0	0.80	148.40	8,754.4	-234.6	74.9	0.02	0.00	1.58	-30.8	79.5
8,853.0	0.90	149.10	8,843.4	-237.0	76.3	0.05	0.05	0.37	-32.6	79.9
9,046.0	0.90	160.20	9,036.4	-238.3	76.9	0.19	0.00	11.94	-18.1	84.8
9,141.0	0.70	150.60	9,131.3	-239.5	77.5	0.25	-0.21	-10.11	-33.3	80.5
9,235.0	0.60	140.50	9,225.3	-240.4	78.1	0.16	-0.11	-10.74	-48.0	73.3
9,328.0	0.40	143.60	9,318.3	-241.0	78.6	0.22	-0.22	3.33	-44.7	75.8
9,422.0	0.30	45.50	9,412.3	-241.1	79.0	0.57	-0.11	-104.36	-68.9	-55.3
9,516.0	0.50	349.70	9,506.3	-240.5	79.1	0.44	0.21	-59.36	6.4	-88.3
9,704.0	0.40	14.00	9,694.3	-239.1	79.1	0.11	-0.05	12.93	-31.9	-82.8
9,799.0	0.30	45.10	9,789.3	-238.6	79.3	0.22	-0.11	32.74	-70.6	-54.3
9,893.0	0.20	60.20	9,883.3	-238.3	79.6	0.13	-0.11	16.06	-82.7	-33.9
9,987.0	0.50	68.50	9,977.3	-238.1	80.2	0.32	0.32	8.83	-87.3	-21.6
10,082.0	0.20	30.10	10,072.3	-237.8	80.6	0.38	-0.32	-40.42	-55.5	-71.4
10,176.0	0.50	239.60	10,166.3	-237.9	80.4	0.72	0.32	-160.11	83.2	34.8
10,270.0	0.80	248.10	10,260.3	-238.3	79.4	0.33	0.32	9.04	86.3	22.2
10,364.0	1.00	242.50	10,354.3	-239.0	78.1	0.23	0.21	-5.96	82.3	30.4

Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3368.0usft (H&P 379)
Site:	Caballo 23 Fed Com.	MD Reference:	KB = 25' @ 3368.0usft (H&P 379)
Well:	#704H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
10,458.0	1.00	237.30	10,448.3	-239.8	76.6	0.10	0.00	-5.53	77.6	37.7	
10,552.0	1.00	220.30	10,542.3	-240.9	75.4	0.31	0.00	-18.09	61.6	58.5	
10,646.0	0.40	208.80	10,636.3	-241.8	74.7	0.65	-0.64	-12.23	47.5	69.4	
10,740.0	1.00	186.30	10,730.3	-242.9	74.5	0.69	0.64	-23.94	16.2	82.2	
10,834.0	1.10	188.10	10,824.2	-244.6	74.3	0.11	0.11	1.91	17.1	81.7	
10,928.0	1.20	187.00	10,918.2	-246.4	74.0	0.11	0.11	-1.17	13.6	82.0	
11,021.0	1.00	177.10	11,011.2	-248.2	73.9	0.30	-0.22	-10.85	-2.4	82.9	
11,116.0	1.50	233.90	11,106.2	-249.8	73.0	1.33	0.53	59.79	66.3	48.1	
11,210.0	1.70	228.80	11,200.2	-251.4	70.9	0.26	0.21	-5.43	59.2	53.7	
11,304.0	1.90	221.60	11,294.1	-253.5	68.9	0.32	0.21	-7.66	49.0	60.6	
11,398.0	2.20	223.90	11,388.0	-256.0	66.6	0.33	0.32	2.45	48.0	58.6	
11,492.0	2.90	225.00	11,482.0	-259.0	63.6	0.75	0.74	1.17	45.0	57.7	
11,586.0	2.20	242.70	11,575.8	-261.5	60.4	1.11	-0.74	18.83	56.3	42.0	
11,681.0	1.90	241.80	11,670.8	-263.0	57.3	0.32	-0.32	-0.95	52.3	42.9	
11,727.0	2.10	233.30	11,716.7	-263.9	56.0	0.78	0.43	-18.48	43.8	50.0	
11,774.0	2.10	227.40	11,763.7	-265.0	54.7	0.46	0.00	-12.55	36.7	54.2	
11,805.0	2.20	226.80	11,794.7	-265.8	53.8	0.33	0.32	-1.94	34.9	54.5	
11,852.0	3.30	344.90	11,841.7	-265.1	52.8	10.11	2.34	251.28	30.7	-55.7	
11,899.0	10.90	2.80	11,888.3	-259.4	52.7	16.65	16.17	38.09	6.4	-62.1	
11,946.0	19.60	359.80	11,933.6	-247.0	52.9	18.58	18.51	-6.38	0.5	-61.9	
11,993.0	26.00	355.90	11,976.9	-228.8	52.1	13.98	13.62	-8.30	-6.2	-61.7	
12,040.0	33.00	357.10	12,017.8	-205.7	50.7	14.95	14.89	2.55	-18.8	-61.0	
12,087.0	37.30	359.00	12,056.2	-178.7	49.8	9.44	9.15	4.04	-32.1	-60.0	
12,134.0	42.10	357.70	12,092.3	-146.7	48.9	10.36	10.21	-2.77	-41.7	-60.2	
12,181.0	46.70	354.50	12,125.9	-115.9	46.7	10.88	9.79	-6.81	-49.0	-60.4	
12,228.0	50.20	354.10	12,157.1	-80.9	43.2	7.47	7.45	-0.85	-57.0	-57.5	
12,275.0	53.70	353.70	12,186.0	-44.1	39.2	7.48	7.45	-0.85	-62.8	-53.9	

Midland PVA



Company:	EOG Resources - Midland					Local Co-ordinate Reference:	Well #704H				
Project:	Lea County, NM (NAD 83 NME)					TVD Reference:	KB = 25' @ 3366.0usft (H&P 379)				
Site:	Caballo 23 Fed Com					MD Reference:	KB = 25' @ 3366.0usft (H&P 379)				
Well:	#704H					North Reference:	Grid				
Wellbore:	ST01					Survey Calculation Method:	Minimum Curvature				
Design:	ST01					Database:	EDM 5000.14				
Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,322.0	59.70	352.00	12,211.8	-5.2	34.3	13.12	12.77	-3.62	-66.6	-50.0	
12,359.9	62.60	350.29	12,230.1	27.6	29.2	8.61	7.65	-4.50	-68.8	-45.4	
FTP Crossing 12359.9' MD; 12230.1' TVD; 27.6°; 29.2°; 62.60											
12,369.0	63.30	349.90	12,234.3	35.6	27.8	8.61	7.69	-4.35	-69.2	-44.1	
12,416.0	63.80	350.00	12,255.2	77.0	20.5	1.08	1.06	0.21	-68.8	-36.1	
12,463.0	64.40	350.90	12,275.7	118.7	13.5	2.14	1.28	1.91	-63.4	-28.1	
12,510.0	65.10	351.80	12,295.8	160.7	7.1	2.28	1.49	1.91	-53.2	-20.9	
12,557.0	66.60	353.50	12,315.0	203.3	1.6	4.59	3.19	3.62	-38.9	-15.0	
12,604.0	72.80	356.00	12,331.3	247.1	-2.4	14.10	13.19	5.32	-23.5	-10.6	
12,651.0	80.40	358.10	12,342.2	292.8	-4.8	16.74	16.17	4.47	-12.7	-8.2	
12,698.0	84.30	357.90	12,348.4	339.3	-6.4	8.31	8.30	-0.43	-6.5	-6.9	
12,746.0	87.60	357.90	12,351.8	387.2	-8.1	6.88	6.88	0.00	-3.1	-5.4	
12,793.0	88.90	357.80	12,353.3	434.1	-9.9	2.77	2.77	-0.21	-1.7	-4.0	
12,840.0	89.70	358.30	12,353.8	481.1	-11.5	2.01	1.70	1.06	-1.1	-2.7	
12,934.0	88.70	358.90	12,355.2	575.0	-13.8	1.24	-1.06	0.64	0.2	-1.1	
13,028.0	89.30	358.40	12,356.8	669.0	-16.0	0.83	0.64	-0.53	1.8	0.4	
13,122.0	92.10	359.20	12,355.7	763.0	-18.0	3.10	2.98	0.85	0.7	1.7	
13,216.0	92.00	1.10	12,352.3	856.9	-17.7	2.02	-0.11	2.02	-2.7	0.8	
13,311.0	87.50	0.30	12,352.7	951.9	-16.6	4.81	-4.74	-0.84	-2.3	-1.1	
13,406.0	91.40	2.30	12,353.6	1,046.8	-14.4	4.61	4.11	2.11	-1.4	-3.9	
13,500.0	85.60	358.40	12,356.1	1,140.7	-13.8	7.43	-6.17	-4.15	1.1	-5.1	
13,594.0	89.40	359.80	12,360.2	1,234.6	-15.3	4.31	4.04	1.49	5.2	-4.4	
13,689.0	90.60	1.80	12,360.2	1,329.6	-14.0	2.46	1.26	2.11	5.2	-6.4	
13,783.0	93.30	3.80	12,357.0	1,423.4	-9.4	3.57	2.87	2.13	2.0	-11.6	
13,878.0	92.50	2.30	12,352.2	1,518.1	-4.4	1.79	-0.84	-1.58	-2.8	-17.4	
13,972.0	87.10	0.20	12,352.5	1,612.1	-2.3	6.16	-5.74	-2.23	-2.5	-20.1	
14,066.0	92.10	4.50	12,353.2	1,705.9	1.5	7.01	5.32	4.57	-1.8	-24.6	

Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3366.0usft (H&P 379)
Site:	Cabello 23 Fed Com	MD Reference:	KB = 25' @ 3366.0usft (H&P 379)
Well:	#704H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Asd (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
14,160.0	89.10	1.60	12,352.2	1,799.8	6.5	4.44	-3.19	-3.09	-2.8	-30.3	
14,254.0	88.50	0.30	12,354.1	1,893.7	8.1	1.52	-0.64	-1.38	-0.9	-32.5	
14,348.0	88.00	0.00	12,357.0	1,987.7	8.3	0.62	-0.53	-0.32	2.0	-33.4	
14,443.0	87.50	358.10	12,360.7	2,082.6	6.8	2.07	-0.53	-2.00	5.9	-32.5	
14,537.0	86.50	355.60	12,365.7	2,176.3	1.6	2.86	-1.06	-2.66	10.9	-28.0	
14,631.0	88.90	353.60	12,369.4	2,269.8	-7.2	3.32	2.55	-2.13	14.8	-19.8	
14,725.0	89.10	356.00	12,371.1	2,363.4	-15.7	2.56	0.21	2.55	16.5	-12.0	
14,819.0	95.00	357.90	12,367.7	2,457.2	-20.7	6.59	6.28	2.02	13.2	-7.8	
14,913.0	94.20	359.50	12,360.2	2,550.8	-22.9	1.90	-0.85	1.70	5.7	-6.3	
15,007.0	86.80	358.40	12,359.4	2,644.8	-24.6	7.96	-7.87	-1.17	5.0	-5.2	
15,102.0	89.00	359.40	12,362.8	2,739.7	-26.4	2.54	2.32	1.05	8.6	-4.1	
15,196.0	90.60	359.60	12,363.2	2,833.7	-27.1	1.75	1.70	0.43	9.0	-4.1	
15,291.0	91.30	358.90	12,361.6	2,928.6	-28.1	1.20	0.74	-0.95	7.5	-3.7	
15,386.0	93.40	359.50	12,357.7	3,023.5	-29.5	2.30	2.21	0.63	3.7	-3.1	
15,480.0	89.10	356.60	12,355.6	3,117.4	-32.7	5.52	-4.57	-3.09	1.8	-0.6	
15,574.0	91.40	357.30	12,355.2	3,211.3	-37.7	2.56	2.45	0.74	1.4	3.8	
15,668.0	94.80	358.10	12,350.1	3,305.1	-41.4	3.72	3.62	0.85	-3.5	6.9	
15,805.0	86.70	355.00	12,348.4	3,441.7	-49.7	6.33	-5.91	-2.26	-5.3	14.1	
15,899.0	89.80	355.20	12,351.2	3,535.3	-57.7	3.31	3.30	0.21	-2.3	21.5	
15,993.0	93.20	358.90	12,348.8	3,629.1	-62.5	5.34	3.62	3.94	-4.6	25.6	
16,087.0	90.20	359.00	12,346.0	3,723.0	-64.3	3.19	-3.19	0.11	-7.3	26.7	
16,181.0	89.20	358.80	12,346.5	3,817.0	-66.1	1.08	-1.06	-0.21	-6.7	27.8	
16,275.0	90.00	0.80	12,347.1	3,911.0	-66.4	2.29	0.85	2.13	-6.0	27.4	
16,369.0	88.30	0.70	12,348.5	4,005.0	-65.2	1.81	-1.81	-0.11	-4.5	25.5	
16,464.0	89.00	1.30	12,350.8	4,099.9	-63.5	0.97	0.74	0.63	-2.1	23.2	
16,558.0	89.40	2.80	12,352.1	4,193.9	-60.1	1.65	0.43	1.60	-0.6	18.2	
16,652.0	90.00	2.90	12,352.6	4,287.7	-55.5	0.65	0.64	0.11	0.0	13.8	

Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3366.0usft (H&P 379)
Site:	Ceballos 23 Fed Com	MD Reference:	KB = 25' @ 3366.0usft (H&P 379)
Well:	#704H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLag ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
16,746.0	92.40	1.50	12,350.6	4,381.6	-51.9	2.96	2.55	-1.49	-1.8	9.5	
16,840.0	93.30	2.00	12,345.9	4,475.5	-49.0	1.09	0.96	0.53	-6.4	6.0	
16,934.0	92.90	3.00	12,340.8	4,569.3	-44.9	1.14	-0.43	1.06	-11.3	1.2	
17,028.0	89.20	0.50	12,339.1	4,663.2	-42.0	4.75	-3.94	-2.66	-12.9	-2.3	
17,123.0	89.20	0.50	12,340.4	4,758.2	-41.2	0.00	0.00	0.00	-11.4	-3.8	
17,217.0	89.60	0.80	12,341.4	4,852.1	-40.1	0.53	0.43	0.32	-10.3	-5.6	
17,311.0	90.20	1.30	12,341.6	4,946.1	-38.4	0.83	0.64	0.53	-10.0	-8.0	
17,405.0	88.40	0.50	12,342.7	5,040.1	-36.9	2.10	-1.91	-0.85	-8.7	-10.1	
17,499.0	90.60	1.50	12,343.6	5,134.1	-35.3	2.57	2.34	1.06	-7.7	-12.5	
17,593.0	90.70	1.60	12,342.5	5,228.0	-32.7	0.15	0.11	0.11	-8.7	-15.7	
17,688.0	91.80	2.50	12,340.4	5,323.0	-29.4	1.50	1.16	0.95	-10.6	-19.8	
17,782.0	88.70	1.10	12,340.0	5,416.9	-26.4	3.62	-3.30	-1.49	-10.9	-23.4	
17,876.0	92.40	3.30	12,339.1	5,510.8	-22.8	4.58	3.94	2.34	-11.6	-27.7	
17,971.0	93.30	2.40	12,334.4	5,605.6	-18.1	1.34	0.95	-0.95	-16.1	-33.1	
18,065.0	91.70	2.70	12,330.3	5,699.4	-13.9	1.73	-1.70	0.32	-20.1	-37.9	
18,160.0	87.50	359.60	12,330.9	5,794.3	-12.0	5.49	-4.42	-3.26	-19.3	-40.5	
18,254.0	87.30	359.90	12,335.2	5,888.2	-12.4	0.38	-0.21	0.32	-15.0	-40.8	
18,349.0	90.50	359.70	12,337.0	5,983.2	-12.7	3.37	3.37	-0.21	-13.0	-41.1	
18,444.0	91.90	0.20	12,335.0	6,078.2	-12.8	1.56	1.47	0.53	-14.5	-41.7	
18,539.0	92.70	0.30	12,331.2	6,173.1	-12.4	0.85	0.84	0.11	-17.8	-42.8	
18,634.0	88.80	358.50	12,330.2	6,268.0	-13.4	4.71	-4.32	-1.89	-18.3	-42.5	
18,728.0	88.90	358.30	12,332.2	6,362.0	-16.0	0.38	0.32	-0.21	-15.7	-40.6	
18,823.0	88.40	358.50	12,334.4	6,456.9	-16.7	0.57	-0.53	0.21	-12.9	-38.6	
18,918.0	88.50	359.00	12,337.0	6,551.9	-20.7	0.54	0.11	0.53	-9.8	-37.2	
19,013.0	88.10	358.30	12,339.8	6,646.8	-23.0	0.85	-0.42	-0.74	-6.4	-35.7	
19,108.0	89.40	359.20	12,341.9	6,741.8	-25.1	1.66	1.37	0.95	-3.8	-34.3	
19,203.0	92.10	356.60	12,340.7	6,836.7	-28.5	3.95	2.84	-2.74	-4.6	-31.5	

Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3366.0usft (H&P 379)
Site:	Caballo 23 Fed Com	MD Reference:	KB = 25' @ 3366.0usft (H&P 379)
Well:	#704H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Asl (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
19,298.0	90.20	358.20	12,338.8	6,931.5	-32.8	2.61	-2.00	1.68	-5.9	-27.9	
19,392.0	89.30	357.50	12,339.2	7,025.5	-36.4	1.21	-0.96	-0.74	-4.9	-25.0	
19,486.0	89.90	357.90	12,339.8	7,119.4	-40.1	0.77	0.64	0.43	-3.7	-21.9	
19,581.0	90.60	358.90	12,339.4	7,214.3	-42.8	1.28	0.74	1.05	-3.6	-19.9	
19,657.2	89.16	358.26	12,339.6	7,290.6	-44.7	2.07	-1.89	-0.84	-3.0	-18.6	
LTP Crossing 19657.2' MD; 12339.6' TVD; 7290.6'; -44.7'; 89.16'											
19,676.0	88.80	358.10	12,339.9	7,309.3	-45.3	2.07	-1.89	-0.84	-2.6	-18.1	
19,697.0	89.30	358.60	12,340.3	7,330.3	-45.9	3.36	2.38	2.38	-2.1	-17.7	
Last MWD Survey (MD = 19697.0)											
19,757.0	89.30	358.60	12,341.0	7,390.3	-47.3	0.00	0.00	0.00	-1.0	-16.6	
Projection to Bit (MD = 19757.0)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
12,359.9	12,230.1	27.6	29.2	FTP Crossing 12359.9' MD; 12230.1' TVD; 27.6'; 29.2'; 62.60
19,657.2	12,339.6	7,290.6	-44.7	LTP Crossing 19657.2' MD; 12339.6' TVD; 7290.6'; -44.7'; 89.16
19,697.0	12,340.3	7,330.3	-45.9	Last MWD Survey (MD = 19697.0)
19,757.0	12,341.0	7,390.3	-47.3	Projection to Bit (MD = 19757.0)

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Caballo 23 Fed Com #704H

H&P 379

Plan #2

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: #704H

Ground Level: 3341.0
KB = 25' @ 3368.0ust (H&P 379)
Northing 404500.00 Easting 785152.00
Latitude 32° 5' 34.555 N Longitude 103° 32' 45.159 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	1164.0	0.09	20.92	1164.0	4.0	-3.1	0.00	0.00	4.1	
2	1255.0	0.09	20.92	1255.0	4.2	-3.0	0.00	0.00	4.2	
3	1357.8	3.00	180.00	1357.7	1.6	-3.0	3.00	159.68	1.6	
4	2357.8	3.00	180.00	2356.4	-50.8	-3.0	0.00	0.00	-50.8	
5	2408.3	4.00	181.74	2406.7	-53.9	-3.0	2.00	6.89	-53.8	
6	5118.1	4.00	181.74	5110.0	-243.0	-8.8	0.00	0.00	-242.9	
7	5318.3	0.00	0.00	5310.0	-250.0	-9.0	2.00	180.00	-249.9	
8	11885.8	0.00	0.00	11877.5	-250.0	-9.0	0.00	0.00	-249.9	
9	12635.8	90.00	359.59	12355.0	227.5	-12.4	12.00	359.59	227.6	
10	14408.3	90.00	359.59	12355.0	1999.9	-25.2	0.00	0.00	2000.0	TGT #1 (Caballo 23 Fed Com #704H)
11	14411.2	90.06	359.59	12355.0	2002.8	-25.2	2.00	0.00	2003.0	
12	16408.3	90.06	359.59	12353.0	3999.8	-39.6	0.00	0.00	4000.0	TGT #2 (Caballo 23 Fed Com #704H)
13	16409.7	90.09	359.59	12353.0	4001.2	-39.6	2.00	0.00	4001.4	
14	18408.3	90.09	359.59	12350.0	5999.8	-54.0	0.00	0.00	6000.0	TGT #3 (Caballo 23 Fed Com #704H)
15	18420.5	90.33	359.59	12350.0	6012.0	-54.1	2.00	0.00	6012.3	
16	19789.6	90.33	359.59	12342.0	7391.0	-64.0	0.00	0.00	7391.3	PBHL (Caballo 23 Fed Com #704H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP (Caballo 23 Fed Com #704H)	7893.0	-250.0	-9.0	404290.01	785143.02
PBHL (Caballo 23 Fed Com #704H)	12342.0	7391.0	-44.0	411891.00	785088.00
TGT #1 (Caballo 23 Fed Com #704H)	12355.0	5999.8	-54.0	410489.80	785088.02
TGT #2 (Caballo 23 Fed Com #704H)	12353.0	3999.8	-39.8	409485.80	785112.42
FTP (Caballo 23 Fed Com #704H)	12355.0	30.0	-11.0	404530.00	785141.00
TGT #3 (Caballo 23 Fed Com #704H)	12355.0	1999.9	-25.2	406489.90	785129.52

