



HOBBS OCD
JUN 21 2018
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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Ruby 2 State Com

#708H

OH

Design: OH

Midland PVA

20 June, 2018



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3323.0usft (H&P 444)
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3323.0usft (H&P 444)
Well:	#708H	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
From:	Map	Easting:	775,148.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 4' 47.315 N
		Longitude:	103° 34' 42.355 W
		Grid Convergence:	0.40 °

Well	#708H		
Well Position	+N-S	0.0 usft	Northing:
	+E-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 4' 44.077 N
		Longitude:	103° 26' 6.260 W
		Ground Level:	3,298.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	12/29/2017	6.82
			Dip Angle (°)
			59.94
			Field Strength (nT)
			47,812,18819008

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			336.27

Survey Program	Date 6/20/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
190.0	17,553.0	605 Surface/ 708 MWD (OH)	MWD
			Description
			OWSG MWD - Standard



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Well:	#708H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	1,324.2	5,027.5	
190.0	0.80	286.35	190.0	0.4	-1.3	0.42	0.42	0.00	-4,794.3	1,450.8	
250.0	0.70	356.35	250.0	0.9	-1.7	1.44	-0.17	116.67	-2,353.7	4,353.6	
281.0	0.70	353.35	281.0	1.2	-1.7	0.12	0.00	-9.68	-2,494.4	4,238.5	
312.0	1.00	344.35	312.0	1.7	-1.8	1.06	0.97	-29.03	-3,528.4	3,381.4	
343.0	0.80	341.35	343.0	2.1	-2.0	0.66	-0.65	-9.68	-3,246.6	3,611.3	
374.0	0.80	332.35	374.0	2.5	-2.1	0.40	0.00	-29.03	-3,547.5	3,270.5	
405.0	0.80	331.35	405.0	2.9	-2.3	0.05	0.00	-3.23	-3,558.2	3,212.9	
436.0	0.60	344.35	436.0	3.3	-2.5	0.82	-0.65	41.94	-2,583.0	4,001.9	
468.0	0.70	333.35	468.0	3.6	-2.6	0.50	0.31	-34.37	-3,278.8	3,410.7	
563.0	0.90	351.35	563.0	4.9	-3.0	0.34	0.21	18.95	-2,916.6	3,603.8	
595.0	1.00	345.35	595.0	5.4	-3.1	0.44	0.31	-18.75	-3,271.3	3,239.8	
626.0	0.80	347.35	626.0	5.9	-3.2	0.65	-0.65	6.45	-2,825.3	3,596.0	
657.0	0.60	339.35	657.0	6.2	-3.3	0.72	-0.65	-25.81	-2,725.5	3,633.6	
720.0	0.90	352.35	719.9	7.0	-3.5	0.54	0.48	20.63	-2,771.2	3,519.1	
751.0	0.80	356.35	750.9	7.5	-3.6	0.37	-0.32	12.90	-2,370.3	3,764.0	
782.0	0.40	319.35	781.9	7.8	-3.6	1.73	-1.29	-119.35	-3,178.7	3,067.2	
813.0	0.50	323.35	812.9	8.0	-3.8	0.34	0.32	12.90	-3,145.0	3,057.4	
843.0	0.50	346.35	842.9	8.2	-3.9	0.66	0.00	76.67	-2,037.8	3,850.2	
874.0	0.80	331.35	873.9	8.5	-4.0	1.10	0.97	-48.39	-3,218.2	2,889.8	
906.0	0.50	333.35	905.9	8.8	-4.2	0.94	-0.94	6.25	-2,660.0	3,369.9	
943.0	0.50	6.35	942.9	9.1	-4.3	0.77	0.00	89.19	-783.6	4,183.5	
1,057.0	0.16	26.57	1,056.9	9.8	-4.1	0.31	-0.30	17.73	1,908.0	3,676.7	
1,242.0	0.18	36.59	1,241.9	10.2	-3.8	0.02	0.01	5.42	2,403.6	3,143.7	
1,428.0	0.18	34.05	1,427.9	10.7	-3.5	0.00	0.00	-1.37	2,143.0	3,103.3	
1,615.0	0.17	39.30	1,614.9	11.2	-3.2	0.01	-0.01	2.81	2,338.1	2,716.8	
1,802.0	0.14	41.58	1,801.9	11.6	-2.8	0.02	-0.02	1.22	2,367.5	2,436.7	



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Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3323.0usft (H&P 444)
Well:	#708H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc. (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DI Leg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
1,990.0	0.19	72.87	1,989.9	11.8	-2.4	0.05	0.03	16.64	3,137.4	676.3	
2,177.0	0.36	95.73	2,176.9	11.9	-1.5	0.11	0.09	12.22	2,907.5	-825.9	
2,365.0	0.38	87.96	2,364.9	11.8	-0.3	0.03	0.01	-4.13	2,819.0	-296.5	
2,553.0	0.44	93.26	2,552.9	11.8	1.0	0.04	0.03	2.82	2,574.5	-613.7	
2,740.0	0.50	86.82	2,739.9	11.8	2.6	0.04	0.03	-3.44	2,449.8	-220.0	
2,927.0	0.61	64.75	2,926.9	12.3	4.3	0.13	0.06	-11.80	2,032.4	1,017.2	
3,115.0	0.87	58.37	3,114.9	13.5	6.4	0.14	0.14	-3.39	1,548.6	1,395.7	
3,303.0	1.24	53.44	3,302.9	15.4	9.3	0.20	0.20	-2.62	886.2	1,677.1	
3,490.0	1.47	58.23	3,489.8	17.9	12.9	0.14	0.12	2.56	739.7	1,541.6	
3,677.0	1.25	54.74	3,676.7	20.3	16.6	0.13	-0.12	-1.87	731.3	1,335.9	
3,864.0	1.17	47.20	3,863.7	22.8	19.7	0.10	-0.04	-4.03	485.9	1,244.5	
4,052.0	2.05	52.27	4,051.6	26.2	23.8	0.47	0.47	2.70	35.8	1,147.6	
4,239.0	1.76	57.70	4,238.5	29.7	28.8	0.18	-0.16	2.90	265.4	923.9	
4,427.0	2.12	67.99	4,426.4	32.6	34.5	0.27	0.19	5.47	267.1	725.8	
4,617.0	3.49	93.92	4,616.2	33.5	43.5	0.97	0.72	13.65	155.0	562.5	
4,804.0	2.45	86.07	4,802.9	33.4	53.2	0.60	-0.56	-4.20	229.9	323.1	
4,992.0	4.34	90.52	4,990.6	33.6	64.3	1.01	1.01	2.37	16.5	208.1	
5,187.0	2.04	109.52	5,185.3	32.3	75.5	1.22	-1.12	9.27	8.7	8.6	
5,365.0	1.40	20.16	5,363.2	33.2	79.0	1.46	-0.38	-53.19	-10.5	11.8	
5,553.0	3.81	5.95	5,551.0	41.6	80.5	1.32	1.28	-7.56	-19.1	13.6	
5,742.0	4.03	23.80	5,739.6	53.9	83.8	0.65	0.12	9.44	-14.4	19.2	
5,929.0	4.45	17.42	5,926.1	66.9	88.6	0.34	0.22	-3.41	-17.2	16.2	
6,117.0	4.18	16.95	6,113.5	80.4	92.8	0.14	-0.14	-0.25	-18.0	9.8	
6,305.0	5.88	356.79	6,300.8	96.6	94.3	1.29	0.90	-10.72	-16.6	-11.7	
6,494.0	6.46	335.08	6,488.8	115.9	89.3	1.26	0.31	-11.49	0.0	-32.5	
6,681.0	8.25	314.36	6,674.2	134.8	75.2	1.70	0.96	-11.08	22.2	-35.1	
6,868.0	11.63	311.17	6,858.4	156.6	51.4	1.83	1.81	-1.71	25.9	-33.7	



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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey	MD (ust)	Inc (°)	Az (azimuth) (°)	TVD (ust)	N/S (ust)	EW (ust)	DLog (°/100ust)	Build (°/100ust)	Turn (°/100ust)	High to Plan (ust)	Right to Plan (ust)
	7,055.0	13.33	307.89	7,041.0	182.2	20.2	0.98	0.91	-1.75	21.0	-30.4
	7,242.0	13.16	306.73	7,223.0	208.2	-13.8	0.17	-0.09	-0.62	12.4	-26.8
	7,430.0	10.68	306.84	7,406.9	231.5	-44.9	1.32	-1.32	0.06	1.4	-23.8
	7,618.0	7.27	309.71	7,592.6	249.5	-68.0	1.83	-1.81	1.53	-13.1	-22.2
	7,806.0	4.89	312.58	7,779.5	282.5	-83.1	1.28	-1.27	1.53	-30.1	-20.9
	7,994.0	3.49	309.39	7,967.0	271.6	-93.4	0.75	-0.74	-1.70	-42.6	-23.0
	8,181.0	1.69	298.18	8,153.8	276.5	-100.2	1.00	-0.96	-5.99	-45.7	-31.9
	8,369.0	1.21	297.00	8,341.8	277.4	-104.6	0.97	-0.26	-21.90	-17.5	-56.0
	8,557.0	1.52	174.15	8,529.7	274.4	-106.3	0.97	0.16	-44.07	50.6	-26.3
	8,744.0	1.65	140.81	8,716.7	269.9	-104.3	0.49	0.07	-17.78	52.0	4.4
	8,931.0	1.57	130.50	8,903.6	266.1	-100.7	0.16	-0.04	-5.57	45.1	13.2
	9,119.0	1.62	122.03	9,091.5	263.0	-96.5	0.13	0.03	-4.51	37.5	19.4
	9,306.0	1.57	116.50	9,278.5	260.5	-92.0	0.09	-0.03	-3.06	30.1	22.7
	9,494.0	1.45	94.51	9,466.4	259.2	-87.3	0.31	-0.06	-11.59	14.8	31.3
	9,682.0	2.23	119.70	9,654.3	257.2	-81.7	0.59	0.41	13.40	20.9	23.1
	9,870.0	0.74	133.45	9,842.2	254.5	-77.7	0.81	-0.79	7.31	21.0	18.3
	10,058.0	2.21	306.54	10,030.2	255.8	-79.7	1.57	0.78	92.07	-21.1	-20.6
	10,245.0	2.25	344.07	10,217.1	261.5	-83.6	0.77	0.02	20.07	-35.8	-1.3
	10,433.0	1.49	277.02	10,405.0	265.4	-87.0	1.15	-0.40	-35.66	-16.7	-36.8
	10,620.0	0.79	198.77	10,591.9	264.5	-89.9	0.82	-0.37	-41.84	30.9	-26.2
	10,808.0	0.99	197.84	10,779.9	261.7	-90.8	0.11	0.11	-0.49	28.4	-25.7
	10,996.0	1.23	168.15	10,967.9	258.2	-90.9	0.33	0.13	-15.79	34.0	-9.1
	11,185.0	0.86	238.28	11,156.9	255.4	-91.7	0.66	-0.20	37.11	0.9	-33.1
	11,373.0	3.77	242.08	11,344.7	251.8	-98.3	1.55	1.55	2.02	-8.9	-33.0
	11,561.0	3.62	218.28	11,532.3	244.2	-107.5	0.81	-0.08	-12.66	-6.4	-36.3
	11,748.0	1.87	240.64	11,719.1	238.1	-113.8	1.08	-0.94	11.96	-28.2	-28.9
	11,946.0	1.81	22.77	11,917.1	239.1	-115.5	1.86	-0.13	71.78	4.3	42.1



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12,138.0	2.76	83.02	12,108.9	242.1	-109.9	1.25	0.60	31.38	32.7	19.5	
12,262.0	5.00	133.27	12,232.7	238.8	-103.0	3.12	1.81	40.52	28.6	-10.4	
12,294.0	6.49	132.12	12,264.5	236.6	-100.6	4.67	4.66	-3.59	26.7	-8.8	
12,325.0	7.46	131.07	12,295.3	234.1	-97.8	3.16	3.13	-3.39	25.3	-5.8	
12,356.0	6.74	125.38	12,326.0	231.8	-94.8	3.24	-2.32	-18.35	25.1	0.7	
12,386.0	6.40	115.45	12,355.9	230.0	-91.9	3.95	-1.13	-33.10	24.5	10.7	
12,418.0	7.65	127.75	12,387.6	227.9	-88.6	6.09	3.91	38.44	28.5	12.6	
12,449.0	15.69	138.87	12,418.0	223.5	-84.2	26.81	25.94	35.87	32.8	13.8	
12,480.0	21.48	138.53	12,447.3	216.1	-77.7	18.68	18.68	-1.10	33.2	21.4	
12,511.0	25.65	137.77	12,475.7	206.9	-69.4	13.49	13.45	-2.45	32.4	30.2	
12,542.0	30.41	145.93	12,503.1	195.4	-60.5	19.69	15.35	26.32	35.8	34.8	
12,574.0	34.83	153.91	12,530.1	180.5	-51.9	19.25	13.81	24.94	39.4	38.6	
12,605.0	39.33	159.53	12,554.8	163.3	-44.6	18.16	14.52	18.13	41.9	42.0	
12,636.0	45.07	165.65	12,577.8	143.4	-38.4	22.76	18.52	19.74	44.1	43.9	
12,667.0	48.00	171.01	12,599.1	121.4	-33.9	15.70	9.45	17.29	45.3	44.8	
12,699.0	50.58	175.71	12,620.0	97.3	-31.1	13.74	8.06	14.69	46.5	44.6	
12,730.0	55.55	181.04	12,638.6	72.6	-30.4	21.11	16.03	17.19	47.5	42.3	
12,761.0	61.51	184.59	12,654.8	46.2	-31.8	21.56	19.23	11.45	46.1	39.4	
12,793.0	64.60	187.67	12,669.3	17.8	-34.8	12.92	9.66	9.62	43.6	35.2	
12,824.0	70.00	187.24	12,681.2	-10.5	-38.5	17.47	17.42	-1.39	39.4	32.0	
12,855.0	74.36	183.07	12,690.7	-39.9	-41.2	19.02	14.06	-13.45	33.7	30.7	
12,866.0	75.50	181.91	12,693.6	-50.5	-41.6	14.49	10.34	-10.51	31.8	30.4	
FTP Crossing 12866.0' MD; 12693.6' TVD; -50.5'; -41.6'; 75.50											
12,886.0	77.58	179.84	12,698.2	-69.9	-41.9	14.49	10.41	-10.37	28.4	30.3	
12,917.0	81.02	176.76	12,704.0	-100.4	-41.0	14.78	11.10	-9.94	23.5	31.2	
12,949.0	85.60	176.21	12,707.7	-132.1	-39.1	14.41	14.31	-1.72	18.7	32.7	
13,018.0	87.22	177.48	12,712.0	-200.8	-35.3	2.98	2.35	1.84	11.5	35.6	



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13,049.0	89.08	180.40	12,713.0	-231.8	-34.7	11.16	6.00	9.42	10.4	35.9	
13,109.0	89.10	180.40	12,714.0	-291.8	-35.1	0.03	0.03	0.00	10.7	34.9	
13,205.0	91.43	182.48	12,713.5	-387.8	-37.5	3.25	2.43	2.17	9.3	31.5	
13,299.0	88.26	179.23	12,713.8	-481.7	-38.9	4.83	-3.37	-3.46	8.8	29.2	
13,393.0	89.50	185.30	12,715.6	-575.6	-42.6	6.59	1.32	6.46	9.8	24.6	
13,486.0	92.69	187.27	12,713.9	-668.0	-52.8	4.03	3.43	2.12	7.2	13.5	
13,581.0	93.62	186.63	12,708.6	-762.2	-64.3	1.19	0.98	-0.67	1.1	1.1	
13,674.0	92.86	184.87	12,703.4	-854.5	-73.6	2.06	-0.82	-1.89	-4.9	-9.1	
13,767.0	90.45	182.33	12,700.7	-947.3	-79.4	3.76	-2.59	-2.73	-8.5	-15.8	
13,861.0	90.95	179.77	12,699.5	-1,041.3	-81.2	2.77	0.53	-2.72	-10.4	-18.4	
13,906.0	89.97	179.18	12,699.2	-1,086.3	-80.7	2.54	-2.18	-1.31	-11.2	-18.4	
13,956.0	87.62	178.36	12,700.2	-1,136.2	-79.7	4.98	-4.70	-1.64	-10.6	-17.8	
14,001.0	85.93	175.03	12,702.8	-1,181.1	-77.1	8.29	-3.76	-7.40	-8.4	-15.7	
14,050.0	85.68	174.14	12,706.4	-1,229.7	-72.5	1.88	-0.51	-1.82	-5.2	-11.6	
14,095.0	87.23	175.82	12,709.1	-1,274.5	-68.5	5.07	3.44	3.73	-2.9	-8.1	
14,145.0	88.79	176.73	12,710.9	-1,324.3	-65.3	3.61	3.12	1.82	-1.6	-5.3	
14,190.0	90.98	178.24	12,711.0	-1,369.3	-63.3	5.91	4.87	3.36	-1.9	-3.7	
14,239.0	88.38	178.47	12,711.2	-1,418.3	-61.9	5.33	-5.31	0.47	-2.1	-2.8	
14,284.0	86.75	177.89	12,713.1	-1,463.2	-60.5	3.84	-3.62	-1.29	-0.6	-1.8	
14,333.0	86.36	177.48	12,716.1	-1,512.1	-58.5	1.15	-0.80	-0.84	1.9	-0.3	
14,378.0	85.79	176.81	12,719.2	-1,556.9	-56.3	1.95	-1.27	-1.49	4.6	1.5	
14,427.0	85.77	176.31	12,722.8	-1,605.7	-53.3	1.02	-0.04	-1.02	7.8	4.0	
14,472.0	85.01	175.23	12,726.4	-1,650.4	-50.0	2.93	-1.69	-2.40	11.0	6.9	
14,520.0	85.18	175.82	12,730.5	-1,698.1	-46.3	1.27	0.35	1.23	14.7	10.1	
14,565.0	85.31	177.60	12,734.2	-1,742.9	-43.7	3.95	0.29	3.96	18.0	12.3	
14,613.0	87.51	179.12	12,737.2	-1,790.8	-42.4	5.57	4.58	3.17	20.6	13.2	
14,707.0	88.88	178.33	12,740.2	-1,884.7	-40.3	1.68	1.46	-0.84	22.3	14.3	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3323.0usft (H&P 444)
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3323.0usft (H&P 444)
Well:	#708H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)	
14,801.0	87.87	177.27	12,742.9	-1,978.6	-36.7	1.56	-1.07	-1.13	23.1	17.1	
14,894.0	88.82	177.49	12,745.5	-2,071.4	-32.4	1.05	1.02	0.24	23.9	20.4	
14,988.0	90.70	177.72	12,745.9	-2,165.3	-28.5	2.01	2.00	0.24	22.4	23.4	
15,082.0	90.14	177.78	12,745.3	-2,259.3	-24.8	0.60	-0.60	0.06	19.8	26.2	
15,176.0	89.30	174.86	12,745.7	-2,353.1	-18.8	3.23	-0.89	-3.11	18.4	31.4	
15,269.0	91.29	177.58	12,745.2	-2,445.8	-12.6	3.62	2.14	2.92	16.1	36.6	
15,362.0	91.23	182.34	12,743.2	-2,538.8	-12.6	5.12	-0.06	5.12	12.1	35.8	
15,456.0	90.34	184.35	12,741.9	-2,632.6	-18.1	2.34	-0.95	2.14	9.0	29.4	
15,549.0	90.06	184.28	12,741.6	-2,725.4	-25.0	0.31	-0.30	-0.08	6.8	21.5	
15,643.0	90.45	185.66	12,741.2	-2,819.0	-33.2	1.53	0.41	1.47	4.5	12.5	
15,736.0	88.18	182.72	12,742.3	-2,911.7	-40.0	3.99	-2.44	-3.16	3.8	4.8	
15,829.0	86.86	180.66	12,746.3	-3,004.6	-42.7	2.63	-1.42	-2.22	5.9	1.2	
15,923.0	89.08	182.77	12,749.6	-3,098.5	-45.5	3.26	2.36	2.24	7.3	-2.5	
16,017.0	88.96	170.65	12,751.2	-3,192.1	-40.2	12.89	-0.13	-12.89	7.1	1.9	
16,110.0	89.52	163.39	12,752.5	-3,282.7	-19.3	7.83	0.60	-7.81	6.7	21.9	
16,155.0	89.92	168.77	12,752.7	-3,326.4	-8.5	11.99	0.89	11.96	5.9	32.3	
16,204.0	90.20	171.51	12,752.6	-3,374.6	-0.1	5.62	0.57	5.59	4.9	40.3	
16,258.0	89.27	175.98	12,752.9	-3,428.3	5.8	8.45	-1.72	8.28	3.9	45.7	
16,298.0	86.16	179.99	12,754.5	-3,468.2	7.2	12.68	-7.77	10.02	4.9	46.7	
16,347.0	86.13	182.38	12,757.8	-3,517.1	6.2	4.87	-0.06	4.88	7.5	45.2	
16,391.0	89.55	185.90	12,759.4	-3,560.9	3.0	11.15	7.77	8.00	8.4	41.6	
16,433.0	87.95	183.49	12,760.4	-3,602.8	-0.4	6.89	-3.81	-5.74	8.6	37.7	
16,485.0	88.85	183.71	12,761.8	-3,654.7	-3.7	1.78	1.73	0.42	9.2	34.0	
16,527.0	90.31	186.76	12,762.1	-3,696.5	-7.5	8.05	3.48	7.26	8.8	29.8	
16,579.0	89.36	185.21	12,762.3	-3,748.2	-12.9	3.50	-1.83	-2.98	8.1	23.8	
16,621.0	89.13	184.27	12,762.8	-3,790.0	-16.4	2.30	-0.55	-2.24	8.0	20.0	
16,675.0	89.69	185.92	12,763.4	-3,843.8	-21.2	3.23	1.04	3.06	7.6	14.6	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3323.0usft (H&P 444)
Site:	Ruby 2 State Com	MD Reference:	KB = 25' @ 3323.0usft (H&P 444)
Well:	#708H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Bulld (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
16,721.0	89.08	185.05	12,763.9	-3,889.6	-25.6	2.31	-1.33	-1.89	7.3	9.8
16,768.0	89.38	184.57	12,764.5	-3,936.4	-28.5	1.20	0.64	-1.02	7.2	5.4
16,862.0	90.11	184.67	12,764.9	-4,030.1	-37.1	0.78	0.78	0.11	6.0	-3.0
16,956.0	89.47	183.56	12,765.3	-4,123.9	-43.8	1.36	-0.68	-1.18	4.8	-10.7
17,050.0	88.43	181.62	12,767.0	-4,217.8	-48.1	2.34	-1.11	-2.06	5.0	-15.8
17,143.0	86.75	180.21	12,770.9	-4,310.7	-49.6	2.36	-1.81	-1.52	7.4	-18.2
17,237.0	85.74	179.81	12,777.1	-4,404.5	-49.6	1.16	-1.07	-0.43	12.0	-19.1
17,331.0	90.56	180.48	12,780.1	-4,498.4	-49.8	5.18	5.13	0.71	13.5	-20.3
17,425.0	91.48	179.81	12,778.4	-4,592.4	-50.1	1.21	0.98	-0.71	10.3	-21.4
17,486.0	92.05	179.86	12,776.5	-4,653.3	-49.9	0.94	0.93	0.08	7.4	-21.8
Last MWD Survey (MD = 17486.0)										
17,486.2	92.04	179.86	12,776.1	-4,665.5	-49.9	0.07	-0.07	0.00	6.7	-21.9
LTP Crossing 17498.2' MD; 12776.1' TVD; -4665.5'; -49.9'; 92.04										
17,553.0	92.00	179.86	12,774.2	-4,720.3	-49.7	0.07	-0.07	0.00	3.9	-22.3
Projection to Bit (MD = 17553.0)										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
12,866.0	12,693.6	-50.5	-41.6	FTP Crossing 12866.0' MD; 12693.6' TVD; -50.5'; -41.6'; 75.50
17,486.0	12,776.5	-4,653.3	-49.9	Last MWD Survey (MD = 17486.0)
17,498.2	12,776.1	-4,665.5	-49.9	LTP Crossing 17498.2' MD; 12776.1' TVD; -4665.5'; -49.9'; 92.04
17,553.0	12,774.2	-4,720.3	-49.7	Projection to Bit (MD = 17553.0)

Checked By: _____	Approved By: _____	Date: _____
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Lea County, NM (NAD 83 NME)

Ruby 2 State Com #708H

HP 444

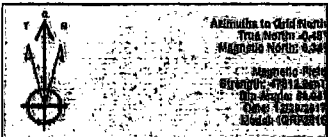
Plan #2

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: #708H

KB = 25' (copy) @ 3323.0ush (HP 444)
Northing 393603.00 Easting 819554.00 Latitude 32° 4' 44.077 N Longitude 103° 26' 8.260 W



To convert a Magnetic Direction to a Grid Direction, Add 6.34°
To convert a Magnetic Direction to a True Direction, Add 6.82° East
To convert a True Direction to a Grid Direction, Subtract 0.48°

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	5198.0	2.04	109.52	5196.3	21.3	80.9	0.00	0.00	-21.8	
2	5398.0	2.04	109.52	5396.2	19.0	87.6	0.00	0.00	-19.5	
3	5629.5	4.00	15.00	5627.5	25.4	93.6	2.00	-120.53	-25.9	
4	5937.0	4.00	15.00	5934.2	46.1	99.1	0.00	0.00	-46.7	
5	6401.7	10.47	312.77	6395.5	90.5	72.3	2.00	-84.37	-90.9	
6	7243.8	10.47	312.77	7223.6	194.4	-40.0	0.00	0.00	-194.2	
7	7767.1	0.00	0.00	7744.0	226.8	-75.0	2.00	180.00	-226.3	
8	12248.6	0.00	0.00	12225.5	226.8	-75.0	0.00	0.00	-226.3	KOP (Ruby 2 State Com #708H)
9	12994.4	89.49	179.45	12702.9	-246.4	-70.4	12.00	179.45	246.8	TGT 1 (Ruby 2 State Com #708H)
10	14581.1	89.49	179.45	12717.0	-1833.0	-55.1	0.00	0.00	1833.3	TGT 2 (Ruby 2 State Com #708H)
11	14613.3	88.65	179.45	12717.5	-1865.2	-54.8	2.00	179.49	1865.5	PGH (Ruby 2 State Com #605H)
12	16181.5	88.65	179.45	12749.0	-3433.0	-39.8	0.00	0.00	3433.2	TGT 2 (Ruby 2 State Com #708H)
13	16191.8	89.05	179.45	12749.2	-3443.3	-39.7	2.00	-0.77	3443.5	
14	17513.7	89.05	179.45	12771.0	-4765.0	-27.0	0.00	0.00	4765.1	PBHL (Ruby 2 State Com #708H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP (Ruby 2 State Com #708H)	12225.5	226.8	-75.0	393603.00	819554.00
TGT 1 (Ruby 2 State Com #708H)	12717.0	-1833.0	-55.1	391770.00	819458.30
TGT 2 (Ruby 2 State Com #708H)	12749.0	-3433.0	-39.8	390170.00	819514.20
PBHL (Ruby 2 State Com #605H)	12771.0	-4765.0	-27.0	389838.00	819527.00
Interp @ 12521.0 (RUB 2 OH TD)	12507.0	-4763.0	276.0	389840.03	819530.00
KOP (Ruby 2 State Com #605H)	11916.8	226.3	80.0	393229.33	819534.00
PBHL (Ruby 2 State Com #605H)	12521.0	-4763.0	276.0	389840.00	819530.00
TGT1 (Ruby 2 State Com #605H)	12488.0	-1988.7	243.8	391914.30	819797.80
TGT2 (Ruby 2 State Com #605H)	12505.0	-3390.5	261.8	390212.50	819816.53

