

HOBBS OCD
MAR 12 2019
RECEIVED



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Jolly Roger 16 State

#708H

OH

Design: OH

Midland PVA

21 January, 2019



Midland PVA

Company: EOG Resources - Midland Project: Lea County, NM (NAD 83 NME) Site: Jolly Roger 16 State Well: #708H Wellbore: OH Design: OH	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:	Well #708H KB = 25 @ 3555.0usft KB = 25 @ 3555.0usft Grid Minimum Curvature EDM 5000.14
---	--	---

Project Lea County, NM (NAD 83 NME)			
Map System: US State Plane 1983 Geo Datum: North American Datum 1983 Map Zone: New Mexico Eastern Zone	System Datum:	Mean Sea Level	

Site Jolly Roger 16 State			
Site Position: From: Map Position Uncertainty: 0.0 usft	Northing: 445,511.00 usft Easting: 804,489.00 usft Slot Radius: 13-3/16 "	Latitude: 32° 13' 18.918 N Longitude: 103° 28' 56.577 W Grid Convergence: 0.45 °	

Well #708H			
Well Position +N-S 0.0 usft +E-W 0.0 usft Position Uncertainty 0.0 usft	Northing: 441,916.00 usft Easting: 806,187.00 usft Wellhead Elevation: usft	Latitude: 32° 12' 43.212 N Longitude: 103° 28' 37.145 W Ground Level: 3,530.0 usft	

Wellbore OH					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2015	11/27/2018	(°) 6.75	(°) 60.05	(nT) 47,791.31611537

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
			(°) 3.44

Survey Program Date 1/21/2019			
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
244.0	17,123.0	Total MWD (OH)	MWD
			OWSG MWD - Standard



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3555.0usft
Site:	Jolly Roger 16 State	MD Reference:	KB = 25 @ 3555.0usft
Well:	#708H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (")	Asl (azimuth) (")	TVD (usft)	N/S (usft)	EW (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	0.0
244.0	0.40	18.20	244.0	0.8	0.3	0.16	0.16	0.00	0.0	0.0	0.0
333.0	0.30	337.60	333.0	1.3	0.3	0.29	-0.11	-45.62	0.0	0.0	0.0
422.0	0.30	3.50	422.0	1.8	0.2	0.15	0.00	29.10	0.0	0.0	0.0
520.0	0.10	309.60	520.0	2.1	0.1	0.26	-0.20	-55.00	0.0	0.0	0.0
707.0	0.10	248.70	707.0	2.1	-0.1	0.05	0.00	-32.57	0.0	0.0	0.0
893.0	0.20	314.40	893.0	2.3	-0.5	0.10	0.05	35.32	0.0	0.0	0.0
1,080.0	0.30	283.30	1,080.0	2.6	-1.2	0.09	0.05	-16.63	0.0	0.0	0.0
1,173.0	0.30	283.30	1,173.0	2.7	-1.7	0.00	0.00	0.00	0.0	0.0	0.0
1,287.0	0.20	291.80	1,287.0	2.9	-2.2	0.09	-0.09	7.46	0.0	0.0	0.0
1,432.0	1.20	318.10	1,432.0	4.1	-3.4	0.71	0.69	18.14	0.0	0.0	0.0
1,526.0	1.30	304.40	1,526.0	5.4	-5.0	0.33	0.11	-14.57	0.0	0.0	0.0
1,620.0	1.00	292.90	1,619.9	6.4	-6.6	0.40	-0.32	-12.23	0.0	0.0	0.0
1,809.0	1.10	302.50	1,808.9	8.0	-9.6	0.11	0.05	5.08	0.0	0.0	0.0
1,902.0	1.20	301.40	1,901.9	9.0	-11.2	0.11	0.11	-1.18	0.0	0.0	0.0
1,997.0	1.40	296.60	1,996.9	10.0	-13.1	0.24	0.21	-5.05	0.0	0.0	0.0
2,091.0	1.30	304.20	2,090.8	11.1	-15.0	0.22	-0.11	8.09	0.0	0.0	0.0
2,185.0	1.50	297.50	2,184.8	12.3	-17.0	0.27	0.21	-7.13	0.0	0.0	0.0
2,280.0	1.90	312.00	2,279.8	13.9	-19.3	0.62	0.42	15.26	0.0	0.0	0.0
2,374.0	2.20	310.60	2,373.7	16.1	-21.8	0.32	0.32	-1.49	0.0	0.0	0.0
2,468.0	1.20	302.50	2,467.7	17.8	-24.0	1.09	-1.06	-8.62	0.0	0.0	0.0
2,562.0	1.10	297.10	2,561.6	18.8	-25.6	0.16	-0.11	-5.74	0.0	0.0	0.0
2,657.0	3.70	299.90	2,656.6	20.7	-29.1	2.74	2.74	2.95	0.0	0.0	0.0
2,751.0	6.60	303.90	2,750.2	25.2	-36.2	3.11	3.09	4.26	0.0	0.0	0.0
2,845.0	6.60	307.20	2,843.5	31.5	-45.0	0.40	0.00	3.51	0.0	0.0	0.0
2,940.0	5.00	303.80	2,938.1	37.1	-52.8	1.72	-1.68	-3.58	0.0	0.0	0.0
3,034.0	4.30	310.90	3,031.7	41.7	-58.9	0.96	-0.74	7.55	0.0	0.0	0.0



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3555.0usft
Site:	Jolly Roger 16 State	MD Reference:	KB = 25 @ 3555.0usft
Well:	#708H	North Reference:	Grid
Wellbore:	.OH	Survey Calculation Method:	Minimum Curvature
Design:	.OH	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)	
3,128.0	3.20	313.80	3,125.5	45.8	-83.4	1.19	-1.17	3.09	0.0	0.0	
3,222.0	2.10	254.20	3,219.5	47.2	-67.0	2.98	-1.17	-83.40	0.0	0.0	
3,317.0	2.70	208.00	3,314.4	44.7	-69.7	2.07	0.63	-48.63	0.0	0.0	
3,411.0	4.30	184.80	3,408.2	39.3	-71.0	2.24	1.70	-24.68	0.0	0.0	
3,505.0	5.20	168.60	3,501.9	31.6	-70.5	1.71	0.96	-17.23	0.0	0.0	
3,599.0	5.70	162.00	3,595.5	23.0	-68.2	0.85	0.53	-7.02	0.0	0.0	
3,694.0	5.40	161.20	3,690.0	14.2	-65.3	0.33	-0.32	-0.84	0.0	0.0	
3,788.0	4.80	163.20	3,783.6	6.3	-62.7	0.67	-0.64	2.13	0.0	0.0	
3,883.0	6.00	157.10	3,878.2	-2.1	-59.7	1.40	1.26	-6.42	0.0	0.0	
3,976.0	6.00	155.50	3,970.7	-11.0	-55.7	0.18	0.00	-1.72	0.0	0.0	
4,070.0	6.10	158.00	4,064.2	-20.1	-51.8	0.30	0.11	2.66	0.0	0.0	
4,164.0	7.40	161.20	4,157.5	-30.4	-48.0	1.44	1.38	3.40	0.0	0.0	
4,258.0	8.00	161.70	4,250.7	-42.4	-44.0	0.64	0.64	0.53	0.0	0.0	
4,352.0	7.60	162.10	4,343.8	-54.5	-40.0	0.43	-0.43	0.43	0.0	0.0	
4,447.0	7.20	161.20	4,438.0	-68.1	-36.2	0.44	-0.42	-0.95	0.0	0.0	
4,541.0	7.60	156.20	4,531.2	-77.4	-31.8	0.81	0.43	-5.32	0.0	0.0	
4,635.0	8.10	149.60	4,624.4	-88.8	-25.9	1.10	0.53	-7.02	0.0	0.0	
4,729.0	7.30	149.50	4,717.5	-99.6	-19.5	0.85	-0.85	-0.11	0.0	0.0	
4,823.0	7.60	146.70	4,810.7	-110.0	-13.1	0.50	0.32	-2.98	0.0	0.0	
4,918.0	8.60	141.10	4,904.8	-120.8	-5.2	1.34	1.05	-5.89	0.0	0.0	
5,012.0	9.50	138.40	4,997.6	-132.0	4.4	1.06	0.96	-2.87	0.0	0.0	
5,107.0	9.60	147.50	5,091.3	-144.6	13.8	1.59	0.11	9.58	0.0	0.0	
5,201.0	8.90	149.80	5,184.1	-157.5	21.7	0.85	-0.74	2.55	0.0	0.0	
5,296.0	8.80	161.50	5,277.9	-170.7	27.7	1.88	-0.11	12.21	0.0	0.0	
5,390.0	8.40	165.50	5,370.9	-184.2	31.7	0.77	-0.43	4.26	0.0	0.0	
5,484.0	8.40	164.90	5,463.9	-197.5	35.2	0.09	0.00	-0.64	0.0	0.0	
5,578.0	8.50	163.70	5,556.9	-210.8	38.9	0.22	0.11	-1.28	0.0	0.0	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3555.0usft
Site:	Jolly Roger 16 State	MD Reference:	KB = 25 @ 3555.0usft
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)	
5,672.0	9.50	164.40	5,649.7	-224.9	43.0	1.07	1.06	0.74	0.0	0.0	
5,767.0	10.60	164.50	5,743.2	-240.9	47.4	1.16	1.16	0.11	0.0	0.0	
5,861.0	10.90	161.50	5,835.6	-257.6	52.5	0.68	0.32	-3.19	0.0	0.0	
5,955.0	10.60	160.70	5,927.9	-274.2	58.2	0.36	-0.32	-0.65	0.0	0.0	
6,049.0	10.70	160.00	6,020.3	-290.6	64.1	0.17	0.11	-0.74	0.0	0.0	
6,143.0	10.30	159.50	6,112.8	-306.7	70.0	0.44	-0.43	-0.53	0.0	0.0	
6,237.0	9.70	158.30	6,205.3	-321.9	75.9	0.68	-0.64	-1.28	0.0	0.0	
6,331.0	9.40	156.40	6,298.0	-336.3	81.9	0.46	-0.32	-2.02	0.0	0.0	
6,426.0	9.60	160.50	6,391.7	-350.9	87.6	0.74	0.21	4.32	0.0	0.0	
6,520.0	9.70	163.70	6,484.4	-365.9	92.4	0.58	0.11	3.40	0.0	0.0	
6,614.0	9.40	163.50	6,577.1	-380.8	96.9	0.32	-0.32	-0.21	0.0	0.0	
6,708.0	9.40	163.20	6,669.8	-395.5	101.2	0.05	0.00	-0.32	0.0	0.0	
6,802.0	9.40	162.30	6,762.6	-410.2	105.8	0.16	0.00	-0.96	0.0	0.0	
6,896.0	9.10	162.50	6,855.3	-424.6	110.4	0.32	-0.32	0.21	0.0	0.0	
6,990.0	8.60	162.50	6,948.2	-438.4	114.7	0.53	-0.53	0.00	0.0	0.0	
7,084.0	7.90	172.20	7,041.3	-451.5	117.7	1.65	-0.74	10.32	0.0	0.0	
7,179.0	7.70	176.50	7,135.4	-464.3	119.0	0.65	-0.21	4.53	0.0	0.0	
7,274.0	7.30	177.20	7,229.6	-476.7	119.7	0.43	-0.42	0.74	0.0	0.0	
7,368.0	6.90	178.00	7,322.8	-488.3	120.2	0.44	-0.43	0.85	0.0	0.0	
7,462.0	6.60	176.70	7,416.2	-499.3	120.7	0.36	-0.32	-1.38	0.0	0.0	
7,557.0	6.40	176.90	7,510.6	-510.1	121.3	0.21	-0.21	0.21	0.0	0.0	
7,651.0	6.50	176.40	7,604.0	-520.6	121.9	0.12	0.11	-0.53	0.0	0.0	
7,746.0	4.90	184.30	7,698.5	-530.0	121.9	1.87	-1.68	8.32	0.0	0.0	
7,840.0	4.10	190.40	7,792.2	-537.3	121.0	0.99	-0.85	6.49	0.0	0.0	
7,934.0	3.80	190.00	7,886.0	-543.7	119.9	0.32	-0.32	-0.43	0.0	0.0	
8,028.0	3.70	190.30	7,979.8	-549.8	118.8	0.11	-0.11	0.32	0.0	0.0	
8,122.0	3.70	191.00	8,073.6	-555.7	117.7	0.05	0.00	0.74	0.0	0.0	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3555.0usft
Site:	Jolly Roger 16 State	MD Reference:	KB = 25 @ 3555.0usft
Well:	#708H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey										
MD (usft)	Inc (°)	Ad (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	OLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
8,216.0	2.70	201.70	8,167.5	-560.7	116.3	1.23	-1.06	11.38	0.0	0.0
8,310.0	2.50	202.40	8,261.4	-564.7	114.7	0.22	-0.21	0.74	0.0	0.0
8,405.0	2.50	204.40	8,356.3	-568.5	113.0	0.09	0.00	2.11	0.0	0.0
8,499.0	1.60	219.00	8,450.2	-571.4	111.3	1.10	-0.96	15.53	0.0	0.0
8,593.0	1.60	224.40	8,544.2	-573.3	109.6	0.16	0.00	5.74	0.0	0.0
8,687.0	1.60	231.20	8,638.1	-575.1	107.7	0.20	0.00	7.23	0.0	0.0
8,781.0	1.00	257.10	8,732.1	-576.1	105.8	0.88	-0.64	27.55	0.0	0.0
8,876.0	1.10	254.90	8,827.1	-576.5	104.1	0.11	0.11	-2.32	0.0	0.0
8,971.0	1.30	266.50	8,922.1	-576.8	102.2	0.33	0.21	12.21	0.0	0.0
9,064.0	1.50	279.60	9,015.0	-576.7	99.9	0.40	0.22	14.09	0.0	0.0
9,158.0	1.90	278.90	9,109.0	-576.3	97.2	0.43	0.43	-0.74	0.0	0.0
9,253.0	2.50	287.90	9,203.9	-575.4	93.7	0.73	0.63	9.47	0.0	0.0
9,346.0	3.10	291.30	9,296.8	-573.8	89.4	0.67	0.65	3.66	0.0	0.0
9,440.0	2.50	289.70	9,390.7	-572.2	85.1	0.64	-0.64	-1.70	0.0	0.0
9,533.0	1.50	303.80	9,483.7	-570.9	82.2	1.19	-1.08	15.16	0.0	0.0
9,627.0	1.60	308.60	9,577.6	-569.4	80.1	0.17	0.11	5.11	0.0	0.0
9,721.0	1.90	302.50	9,671.6	-567.7	77.8	0.38	0.32	-6.49	0.0	0.0
9,815.0	1.50	334.50	9,765.5	-565.8	75.9	1.08	-0.43	34.04	0.0	0.0
9,909.0	1.30	323.30	9,859.5	-563.8	74.8	0.36	-0.21	-11.91	0.0	0.0
10,003.0	1.70	322.10	9,953.5	-561.8	73.3	0.43	0.43	-1.28	0.0	0.0
10,096.0	2.20	322.00	10,046.4	-559.3	71.3	0.54	0.54	-0.11	0.0	0.0
10,190.0	2.20	323.50	10,140.3	-556.5	69.1	0.06	0.00	1.60	0.0	0.0
10,284.0	1.80	328.00	10,234.3	-553.8	67.3	0.46	-0.43	4.79	0.0	0.0
10,378.0	1.60	328.10	10,328.3	-551.4	65.8	0.21	-0.21	0.11	0.0	0.0
10,472.0	1.60	313.80	10,422.2	-549.4	64.2	0.42	0.00	-15.21	0.0	0.0
10,566.0	1.60	304.00	10,516.2	-547.7	62.1	0.29	0.00	-10.43	0.0	0.0
10,661.0	2.00	289.50	10,611.1	-546.4	59.5	0.63	0.42	-15.26	0.0	0.0



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3555.0usft
Site:	Jolly Roger 16 State	MD Reference:	KB = 25 @ 3555.0usft
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)	EW (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
10,755.0	2.50	289.90	10,705.1	-545.2	56.0	0.53	0.53	0.43	0.0	0.0
10,849.0	2.90	285.20	10,799.0	-543.9	51.8	0.49	0.43	-5.00	0.0	0.0
10,942.0	2.70	287.90	10,891.8	-542.6	47.4	0.26	-0.22	2.90	0.0	0.0
11,036.0	2.80	283.00	10,985.7	-541.4	43.1	0.27	0.11	-5.21	0.0	0.0
11,131.0	3.20	281.80	11,080.6	-540.3	38.2	0.43	0.42	-1.26	0.0	0.0
11,225.0	2.60	288.50	11,174.5	-539.1	33.6	0.73	-0.64	7.13	0.0	0.0
11,319.0	2.70	289.60	11,268.4	-537.7	29.5	0.12	0.11	1.17	0.0	0.0
11,413.0	1.70	326.80	11,362.3	-535.8	26.7	1.80	-1.06	39.57	0.0	0.0
11,507.0	1.70	341.30	11,456.3	-533.3	25.5	0.46	0.00	15.43	0.0	0.0
11,622.0	1.60	343.60	11,571.2	-530.1	24.5	0.10	-0.09	2.00	0.0	0.0
11,720.0	1.50	333.20	11,669.2	-527.7	23.5	0.30	-0.10	-10.61	0.1	0.2
11,750.0	3.14	1.91	11,699.2	-526.5	23.3	6.55	5.48	95.72	-0.2	0.1
KOP 11750.0' MD; 11699.2' TVD; -526.5'; 23.3'; 3.14										
11,767.0	4.20	7.50	11,716.1	-525.4	23.4	6.55	6.21	32.85	-0.7	0.0
11,814.0	12.00	25.20	11,762.6	-519.3	25.8	17.23	16.60	37.66	-2.6	-0.4
11,834.8	14.43	25.73	11,782.9	-515.0	27.8	11.71	11.70	2.57	-3.9	-1.0
FTP Crossing 11834.8' MD; 11782.9' TVD; -515.0'; 27.8'; 14.43										
11,861.0	17.50	26.20	11,808.1	-508.5	31.0	11.71	11.70	1.78	-5.5	-1.9
11,908.0	22.50	24.20	11,852.2	-494.0	37.8	10.74	10.64	-4.26	-8.0	-3.8
11,955.0	26.80	21.20	11,894.9	-475.9	45.3	9.53	9.15	-6.38	-9.3	-5.5
12,002.0	30.20	17.40	11,936.2	-454.7	52.7	8.20	7.23	-8.09	-9.0	-6.0
12,049.0	35.10	16.80	11,975.8	-430.5	60.1	10.45	10.43	-1.28	-7.7	-4.8
12,096.0	41.30	19.20	12,012.7	-402.9	69.1	13.56	13.19	5.11	-6.4	-3.6
12,143.0	47.80	15.20	12,046.2	-371.4	78.8	15.06	13.83	-8.51	-5.3	-2.1
12,191.0	53.70	12.60	12,076.6	-335.3	87.7	12.99	12.29	-5.42	-4.9	2.0
12,238.0	62.60	11.40	12,101.3	-296.3	96.0	19.06	18.94	-2.55	-5.9	7.9
12,286.0	66.30	11.90	12,122.0	-253.9	104.7	7.77	7.71	1.04	-7.4	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 @ 3555.0usft
Site:	Jolly Roger 16 State	MD Reference:	KB = 25 @ 3555.0usft
Well:	#708H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Asl (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Bulld (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,333.0	72.50	13.40	12,138.6	-211.0	114.3	13.53	13.19	3.19	-7.8	20.9	
12,380.0	75.10	19.30	12,151.7	-167.7	127.1	13.26	5.53	12.55	-6.6	24.7	
12,474.0	83.60	19.60	12,169.0	-80.7	157.8	9.05	9.04	0.32	-0.9	27.2	
12,569.0	88.20	15.40	12,175.8	9.7	186.3	6.55	4.84	-4.42	6.3	31.5	
12,663.0	92.90	14.10	12,174.9	100.5	210.2	5.19	5.00	-1.38	6.1	35.5	
12,757.0	94.10	14.10	12,169.2	191.5	233.0	1.28	1.28	0.00	1.0	35.8	
12,851.0	93.50	10.60	12,163.0	283.1	253.1	3.77	-0.64	-3.72	-4.5	34.3	
12,945.0	94.00	9.80	12,156.8	375.4	269.7	1.00	0.53	-0.85	-10.0	31.4	
13,040.0	92.60	7.40	12,151.3	469.2	283.9	2.92	-1.47	-2.53	-14.6	26.4	
13,134.0	90.80	4.90	12,148.6	562.6	294.0	3.28	-1.91	-2.66	-16.5	20.7	
13,228.0	90.90	4.40	12,147.2	656.3	301.6	0.54	0.11	-0.53	-17.1	12.7	
13,322.0	92.00	4.20	12,144.8	750.0	308.6	1.19	1.17	-0.21	-18.6	0.7	
13,416.0	88.80	1.30	12,144.1	843.9	313.1	4.59	-3.40	-3.09	-18.4	-10.6	
13,510.0	89.50	1.00	12,145.5	937.8	315.0	0.81	0.74	-0.32	-16.4	-16.4	
13,605.0	89.60	1.20	12,146.3	1,032.8	316.8	0.24	0.11	0.21	-15.2	-19.2	
13,699.0	89.30	0.50	12,147.2	1,126.8	318.2	0.81	-0.32	-0.74	-14.0	-20.8	
13,793.0	89.80	1.00	12,147.9	1,220.8	319.5	0.75	0.53	0.53	-12.9	-22.2	
13,887.0	91.20	1.50	12,147.1	1,314.8	321.5	1.58	1.49	0.53	-13.3	-24.4	
13,982.0	91.90	358.40	12,144.5	1,409.7	321.4	3.34	0.74	-3.26	-15.6	-24.4	
14,076.0	90.10	356.30	12,142.9	1,503.6	317.1	2.94	-1.91	-2.23	-16.9	-20.2	
14,171.0	89.40	357.10	12,143.3	1,598.4	311.6	1.12	-0.74	0.84	-16.1	-14.9	
14,265.0	88.70	356.20	12,144.8	1,692.3	308.1	1.21	-0.74	-0.96	-14.2	-9.5	
14,360.0	88.10	355.80	12,147.5	1,787.0	299.5	0.76	-0.63	-0.42	-11.2	-3.1	
14,454.0	91.50	358.10	12,147.8	1,880.8	294.5	4.37	3.62	2.45	-10.6	1.8	
14,548.0	90.70	359.10	12,146.0	1,974.8	292.2	1.36	-0.85	1.06	-12.0	3.9	
14,643.0	89.90	358.40	12,145.5	2,069.8	290.1	1.12	-0.84	-0.74	-12.3	5.3	
14,737.0	87.50	359.60	12,147.7	2,163.7	288.5	2.85	-2.55	1.28	-10.0	6.1	

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3555.0usft
Site:	Jolly Roger 16 State	MD Reference:	KB = 25 @ 3555.0usft
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)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
14,831.0	87.10	0.10	12,152.1	2,257.6	288.2	0.68	-0.43	0.53	-5.4	5.6
14,924.0	87.80	358.90	12,156.2	2,350.5	287.4	1.49	0.75	-1.29	-1.0	5.6
15,018.0	89.90	359.10	12,158.1	2,444.5	285.8	2.24	2.23	0.21	1.0	6.4
15,113.0	90.30	359.60	12,157.9	2,539.5	284.7	0.67	0.42	0.53	1.1	6.6
15,207.0	89.20	359.00	12,158.4	2,633.5	283.6	1.33	-1.17	-0.64	1.7	7.0
15,301.0	89.20	358.60	12,159.7	2,727.4	281.6	0.43	0.00	-0.43	3.2	8.1
15,396.0	90.00	358.70	12,160.3	2,822.4	279.4	0.85	0.84	0.11	4.0	9.5
15,490.0	87.70	358.50	12,162.2	2,916.3	277.1	2.46	-2.45	-0.21	6.1	11.0
15,584.0	90.40	359.00	12,163.8	3,010.3	275.0	2.92	2.87	0.53	7.9	12.3
15,679.0	92.50	359.80	12,161.4	3,105.3	274.0	2.37	2.21	0.84	5.8	12.4
15,774.0	90.30	359.20	12,159.0	3,200.2	273.2	2.40	-2.32	-0.63	3.9	12.4
15,868.0	91.40	358.60	12,157.7	3,294.2	271.4	1.33	1.17	-0.64	2.8	13.4
15,962.0	85.70	358.20	12,160.0	3,388.1	268.8	6.08	-6.06	-0.43	5.5	15.3
16,057.0	92.00	0.60	12,161.9	3,483.0	267.8	7.10	6.63	2.53	7.8	15.4
16,151.0	95.50	1.60	12,155.8	3,576.8	269.6	3.87	3.72	1.06	2.0	12.8
16,245.0	92.00	1.40	12,149.6	3,670.5	272.0	3.73	-3.72	-0.21	-3.7	9.6
16,339.0	89.80	359.80	12,148.2	3,764.5	273.0	2.89	-2.34	-1.70	-4.9	7.8
16,434.0	90.20	359.80	12,148.2	3,858.5	272.7	0.42	0.42	0.00	-4.5	7.3
16,528.0	91.50	2.30	12,146.6	3,953.5	274.4	3.00	1.38	2.66	-5.5	4.8
16,622.0	87.10	1.60	12,147.9	4,047.4	277.6	4.74	-4.68	-0.74	-4.0	0.8
16,716.0	86.90	0.50	12,152.8	4,141.2	279.3	1.19	-0.21	-1.17	1.3	-1.8
16,811.0	86.00	359.80	12,158.7	4,236.0	279.6	1.20	-0.95	-0.74	7.5	-2.8
16,905.0	87.80	359.60	12,163.8	4,329.9	279.1	1.93	1.91	-0.21	13.2	-3.2
16,999.0	89.40	358.50	12,166.1	4,423.9	277.5	2.07	1.70	-1.17	16.6	-2.4
17,093.0	87.50	357.60	12,167.8	4,487.8	275.3	3.28	-2.97	-1.41	19.1	-0.8
Last MWD Survey (MD = 17063.0)										



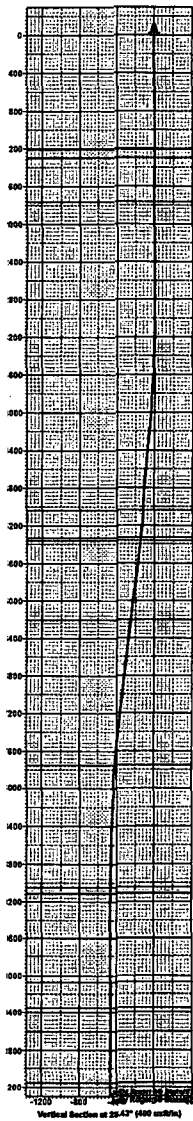
Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3555.0usft
Site:	Jolly Roger 16 State	MD Reference:	KB = 25 @ 3555.0usft
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)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
17,123.0	87.50	357.60	12,170.5	4,547.7	272.8	0.00	0.00	0.00	22.4	1.2
Projection to Bit (MD = 17123.0)										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
11,750.0	11,699.2	-526.5	23.3	KOP 11750.0' MD; 11699.2' TVD; -526.5'; 23.3'; 3.14
11,834.8	11,782.9	-515.0	27.8	FTP Crossing 11834.8' MD; 11782.9' TVD; -515.0'; 27.8'; 14.43
17,063.0	12,167.8	4,487.8	275.3	Last MWD Survey (MD = 17063.0)
17,123.0	12,170.5	4,547.7	272.8	Projection to Bit (MD = 17123.0)

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------



Plan #1

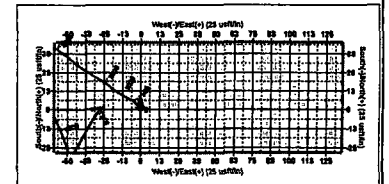
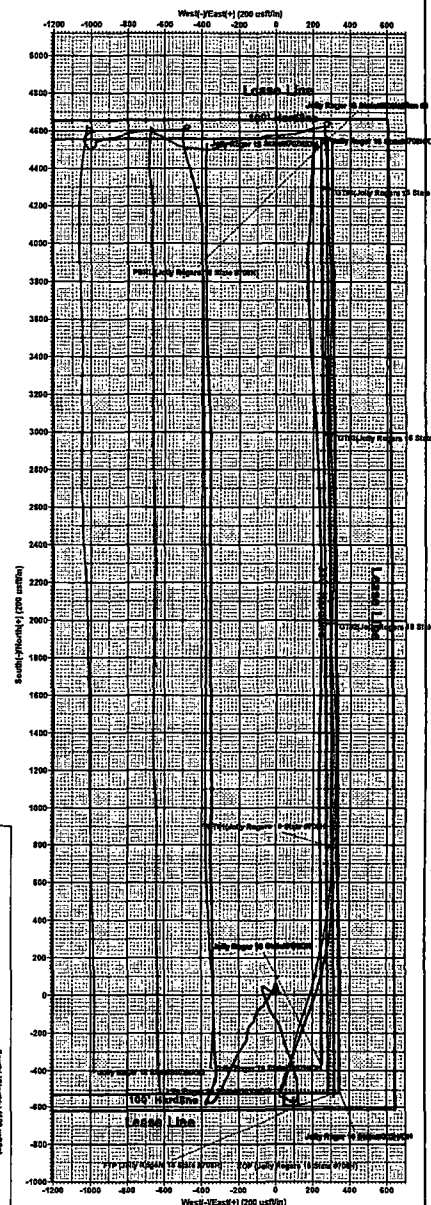
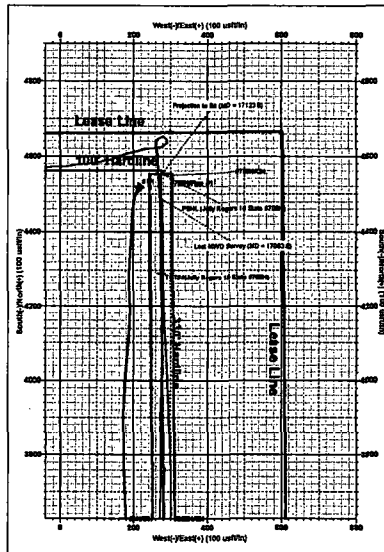
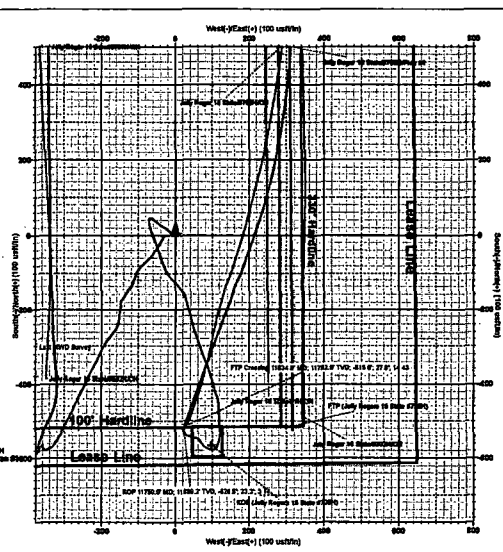
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

3530.0			
KB = 25 @ 3555.0usft			
Northing	Easting	Latitude	Longitude
441918.00	806187.00	32° 12' 43.212 N	103° 28' 37.145 W

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	11622.0	1.60	343.60	11571.2	-530.1	24.5	0.00	0.00	-527.7	
2	11754.0	1.80	343.60	11703.2	-526.8	23.4	0.00	0.00	-524.2	
3	12496.3	90.35	21.10	12170.0	-75.7	188.9	12.00	37.50	-64.2	
4	1337.1	90.54	355.52	1263.0	749.3	308.4	3.04	795.4	-89.48	
5	13374.9	90.54	355.52	12163.0	787.0	308.4	0.00	0.00	804.0	TGT#1(Jolly Rogers 16 State #705H)
6	13594.9	90.21	359.81	12161.6	1006.8	297.7	2.00	94.29	1022.9	
7	14572.9	90.21	359.81	12158.0	1984.8	298.1	0.00	0.00	1999.0	TGT#2(Jolly Rogers 16 State #708H)
8	14593.8	90.11	359.50	12157.9	2005.7	298.0	2.00	-103.20	2019.9	
9	15576.2	90.11	359.50	12156.0	2988.1	287.5	0.00	0.00	3000.0	TGT#3(Jolly Rogers 16 State #708H)
10	15581.6	90.22	359.51	12156.0	2993.4	287.4	0.00	2.28	3005.3	
11	16879.4	90.22	359.51	12151.0	4291.2	276.3	0.00	0.00	4300.0	TGT#4(Jolly Rogers 16 State #708H)
12	16902.2	90.68	359.51	12150.8	4314.0	276.1	2.00	0.00	4322.8	
13	17141.2	90.68	359.51	12148.0	4553.0	274.0	0.00	0.00	4581.2	PBHL (Jolly Rogers 16 State #708H)

No casing data is available

Name	TVD	+U-S	+E-W	Northing	Easting
KCP (Jolly Rogers 16 State #708H)	11641.5	-566.0	97	441351.0	807264.00
PBHL (Jolly Rogers 16 State #708H)	12148.9	4563.3	274.0	446468.00	807364.00
TGT04 (Jolly Rogers 16 State #708H)	12151.0	4291.2	276.3	446207.20	807483.25
TGT03 (Jolly Rogers 16 State #708H)	12156.0	2983.1	287.5	444394.10	807647.47
TGT02 (Jolly Rogers 16 State #708H)	12158.0	1994.8	296.1	443930.80	806443.31
TGT01 (Jolly Rogers 16 State #708H)	12163.0	787.0	306.4	442703.00	805483.42
FTP (Jolly Rogers 16 State #708H)	12168.0	-615.0	317.0	441401.00	805504.00



Los County Jail 6542 03 74
Jody Payer 48 Stone
01 1994
CH
Pain 45
9-46, January 77 2019