

HOBBS OCD
JUN 21 2018
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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Gem 36 State Com

#708H

OH

Design: OH

Midland PVA

15 May, 2018





Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3373.0usft
Site:	Gem 36 State Com	MD Reference:	KB = 25 @ 3373.0usft
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 Gem 36 State Com			
Site Position:		Northing:	393,686.00 usft
From:	Map	Easting:	759,213.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 4' 49.331 N
		Longitude:	103° 37' 47.552 W
		Grid Convergence:	0.37 °

Well #708H			
Well Position	+N/-S	0.0 usft	Northing: 393,670.00 usft
	+E/-W	0.0 usft	Easting: 759,130.00 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 32° 4' 49.242 N
			Longitude: 103° 38' 0.140 W
			Ground Level: 3,348.0 usft

Wellbore OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/6/2017	6.92	59.91	47,798,355.19697

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	357.51



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Survey Program		Date	3/28/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
171.0	891.0	Olebrook MWD (OH)	MWD	OWSG MWD - Standard	
961.0	4,631.0	M3P MWD (OH)	MWD	OWSG MWD - Standard	
4,802.0	17,074.0	MS MWD (OH)	MWD	OWSG MWD - Standard	

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("H00usft)	BuId ("H00usft)	Turn ("H00usft)	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
171.0	1.06	281.23	171.0	0.3	-1.6	0.62	0.62	0.00	0.0	0.0
294.0	1.06	250.73	294.0	0.2	-3.7	0.45	0.00	-24.80	0.0	0.0
387.0	0.88	270.95	387.0	-0.1	-5.3	0.41	-0.19	21.74	0.0	0.0
482.0	1.14	269.61	481.9	-0.1	-6.9	0.27	0.27	-1.41	0.0	0.0
607.0	0.97	332.82	606.9	0.8	-8.7	0.89	-0.14	50.57	0.0	0.0
702.0	0.26	84.71	701.9	1.6	-8.8	1.15	-0.75	117.78	0.0	0.0
796.0	0.97	204.14	795.9	0.8	-8.9	1.19	0.76	127.05	0.0	0.0
891.0	1.06	293.71	890.9	0.5	-10.1	1.51	0.09	94.28	0.0	0.0
961.0	0.40	323.20	960.9	0.9	-10.8	1.06	-0.94	42.13	0.0	0.0
1,150.0	0.40	285.70	1,149.9	1.6	-11.8	0.14	0.00	-19.84	0.0	0.0
1,244.0	0.50	198.60	1,243.9	1.3	-12.3	0.66	0.11	-92.66	0.0	0.0
1,338.0	0.70	166.10	1,337.9	0.4	-12.3	0.41	0.21	-34.57	0.0	0.0
1,526.0	0.50	184.90	1,525.9	-1.5	-12.1	0.15	-0.11	10.00	0.0	0.0
1,716.0	0.90	183.80	1,715.9	-3.9	-12.2	0.21	0.21	-0.58	0.0	0.0
1,811.0	0.80	200.50	1,810.9	-5.2	-12.5	0.28	-0.11	17.58	0.0	0.0
1,906.0	1.00	120.60	1,905.8	-6.3	-12.0	1.23	0.21	-84.11	0.0	0.0
2,096.0	1.10	121.10	2,095.8	-8.1	-9.1	0.05	0.05	0.26	0.0	0.0
2,285.0	1.40	145.60	2,284.8	-10.9	-6.2	0.32	0.16	12.96	0.0	0.0
2,475.0	0.90	172.10	2,474.7	-14.3	-4.7	0.38	-0.26	13.95	0.0	0.0



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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)	
2,665.0	0.70	153.00	2,664.7	-16.8	-3.9	0.17	-0.11	-10.05	0.0	0.0	
2,855.0	0.90	165.80	2,854.7	-19.3	-3.1	0.14	0.11	6.74	0.0	0.0	
3,045.0	0.80	162.00	3,044.7	-22.0	-2.3	0.06	-0.05	-2.00	0.0	0.0	
3,235.0	1.30	121.00	3,234.6	-24.4	0.0	0.46	0.26	-21.58	0.0	0.0	
3,425.0	1.20	118.30	3,424.6	-26.4	3.6	0.06	-0.05	-1.42	0.0	0.0	
3,616.0	1.20	112.30	3,615.6	-28.1	7.2	0.07	0.00	-3.14	0.0	0.0	
3,711.0	1.10	157.40	3,710.5	-29.3	8.5	0.93	-0.11	47.47	0.0	0.0	
3,901.0	0.70	164.50	3,900.5	-32.1	9.5	0.22	-0.21	3.74	0.0	0.0	
4,091.0	1.60	142.30	4,090.5	-35.4	11.4	0.52	0.47	-11.68	0.0	0.0	
4,281.0	1.20	168.90	4,280.4	-39.4	13.4	0.40	-0.21	14.00	0.0	0.0	
4,471.0	2.20	142.10	4,470.3	-44.2	16.0	0.66	0.53	-14.11	0.0	0.0	
4,631.0	2.30	135.30	4,630.2	-49.0	20.2	0.18	0.06	-4.25	0.0	0.0	
4,802.0	1.90	122.30	4,801.1	-52.9	25.0	0.36	-0.23	-7.60	0.5	0.8	
4,990.0	3.60	206.10	4,988.9	-59.9	25.0	2.07	0.90	44.57	-1.3	-2.1	
5,178.0	6.20	231.30	5,176.3	-71.5	14.5	1.76	1.38	13.40	-5.8	1.1	
5,366.0	6.20	227.60	5,363.2	-84.7	-0.9	0.21	0.00	-1.97	-5.3	6.8	
5,553.0	8.30	245.80	5,548.7	-97.1	-20.7	1.65	1.12	9.73	-2.5	11.7	
5,740.0	7.90	250.70	5,733.8	-108.8	-45.1	0.43	-0.21	2.62	-4.4	11.4	
5,927.0	7.20	249.60	5,919.2	-115.2	-68.2	0.38	-0.37	-0.59	-5.7	10.0	
6,114.0	6.90	247.40	6,104.8	-123.6	-89.6	0.22	-0.16	-1.18	-5.6	9.1	
6,302.0	6.40	245.80	6,291.5	-132.2	-109.6	0.28	-0.27	-0.85	-4.0	9.0	
6,490.0	6.10	245.60	6,478.4	-140.6	-128.2	0.16	-0.16	-0.11	-0.8	9.5	
6,678.0	7.50	247.80	6,665.1	-149.4	-148.7	0.76	0.74	1.17	0.9	9.5	
6,866.0	7.60	246.80	6,851.4	-158.9	-171.5	0.09	0.05	-0.53	-0.4	9.3	
7,053.0	6.50	247.30	7,037.0	-167.9	-192.6	0.59	-0.59	0.27	0.3	9.3	
7,241.0	3.20	249.90	7,224.3	-173.8	-207.4	1.76	-1.76	1.38	4.8	8.7	
7,429.0	0.50	278.70	7,412.2	-175.5	-213.1	1.47	-1.44	15.32	9.7	3.6	



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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)	
7,616.0	1.20	251.10	7,599.2	-176.0	-215.8	0.42	0.37	-14.76	4.4	7.3	
7,804.0	1.40	253.10	7,787.1	-177.3	-219.8	0.11	0.11	1.06	0.4	7.2	
7,991.0	0.70	328.10	7,974.1	-177.0	-222.6	0.75	-0.37	40.11	5.3	3.7	
8,179.0	0.90	256.00	8,162.1	-176.4	-224.6	0.51	0.11	-38.35	-3.7	5.1	
8,367.0	0.50	233.60	8,350.1	-177.2	-226.7	0.25	-0.21	-11.91	-7.5	2.8	
8,554.0	1.10	213.80	8,537.1	-179.2	-228.4	0.35	0.32	-10.59	-10.6	-0.2	
8,742.0	1.20	216.10	8,725.0	-182.3	-230.6	0.06	0.05	1.22	-14.4	0.3	
8,929.0	1.70	206.60	8,912.0	-186.3	-233.0	0.30	0.27	-5.08	-18.9	-2.4	
9,117.0	0.40	177.70	9,099.9	-189.5	-234.2	0.73	-0.69	-15.37	-18.5	-12.6	
9,305.0	0.30	27.90	9,287.9	-189.7	-233.9	0.36	-0.05	-79.68	22.4	1.3	
9,493.0	0.50	247.40	9,475.9	-189.6	-234.4	0.40	0.11	-74.73	-18.5	12.9	
9,680.0	1.00	191.70	9,662.9	-191.5	-235.5	0.44	0.27	-29.79	-23.2	-8.7	
9,867.0	1.70	117.10	9,849.9	-194.4	-233.4	0.92	0.37	-39.89	-1.0	-26.3	
10,055.0	1.60	118.30	10,037.8	-196.9	-228.6	0.06	-0.05	0.64	-7.0	-26.2	
10,243.0	0.90	66.70	10,225.8	-197.5	-224.9	0.67	-0.37	-27.45	13.1	-23.8	
10,431.0	1.20	68.80	10,413.7	-196.2	-221.7	0.16	0.16	1.12	8.8	-24.2	
10,619.0	0.40	69.40	10,601.7	-195.3	-219.3	0.43	-0.43	0.32	5.9	-24.3	
10,804.0	0.80	22.20	10,786.7	-193.9	-218.2	0.33	0.22	-25.51	20.1	-12.6	
10,992.0	1.10	271.20	10,974.7	-192.6	-219.5	0.84	0.16	-59.04	3.3	22.1	
11,179.0	2.20	263.30	11,161.6	-193.0	-224.9	0.60	0.59	-4.22	-5.2	22.0	
11,367.0	1.60	291.10	11,349.5	-192.5	-230.9	0.58	-0.32	14.79	-0.1	23.6	
11,554.0	0.70	200.00	11,536.5	-192.6	-233.7	0.94	-0.48	-48.72	-24.7	-3.2	
11,617.0	1.10	196.50	11,599.5	-193.6	-234.0	0.64	0.63	-5.56	-25.4	-4.7	
11,759.0	1.30	207.20	11,741.4	-196.3	-235.2	0.21	0.14	7.54	-28.8	0.4	
11,853.0	2.30	5.90	11,835.4	-195.4	-235.4	3.77	1.06	168.83	26.1	10.5	
11,900.0	8.60	0.30	11,882.2	-190.9	-235.3	13.44	13.40	-11.91	22.4	12.9	
11,947.0	16.10	1.00	11,928.1	-180.9	-235.2	15.96	15.96	1.49	18.7	12.6	



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Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	NS (usft)	EW (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)
11,994.0	22.00	4.90	11,972.5	-165.6	-234.3	12.84	12.55	8.30	14.6	11.0
12,041.0	26.30	5.70	12,015.3	-146.4	-232.5	9.18	9.15	1.70	10.1	9.5
12,088.0	31.40	5.60	12,056.5	-123.9	-230.3	10.85	10.85	-0.21	6.0	7.7
12,135.0	39.00	4.10	12,094.9	-96.9	-228.1	16.27	16.17	-3.19	1.2	5.9
12,181.0	45.20	3.10	12,129.0	-66.1	-226.1	13.56	13.48	-2.17	-4.4	4.3
12,228.0	49.30	2.70	12,160.9	-31.7	-224.4	8.75	8.72	-0.85	-9.8	2.8
12,275.0	53.60	1.30	12,190.2	5.1	-223.1	9.44	9.15	-2.98	-14.0	1.5
12,322.0	60.00	1.20	12,215.9	44.4	-222.3	13.62	13.62	-0.21	-17.7	0.7
12,368.0	65.20	0.90	12,237.0	85.2	-221.5	11.32	11.30	-0.65	-21.4	0.0
12,393.3	66.60	1.06	12,247.4	108.3	-221.1	5.56	5.53	0.64	-22.9	-0.3
HL Crossing 12393.3' MD; 12247.4' TVD; 108.3' -221.1' 66.60										
12,415.0	67.80	1.20	12,255.8	128.3	-220.7	5.56	5.53	0.63	-23.5	-0.6
12,462.0	70.60	1.20	12,272.5	172.2	-219.8	5.96	5.96	0.00	-23.1	-1.5
12,509.0	74.80	0.80	12,286.4	217.0	-219.0	8.97	8.94	-0.85	-20.6	-2.3
12,555.0	79.70	1.90	12,296.6	281.9	-218.0	10.90	10.65	2.39	-17.2	-3.2
12,602.0	83.70	1.20	12,303.4	308.4	-216.7	8.64	8.51	-1.49	-12.6	-4.4
12,697.0	86.50	1.20	12,311.5	403.0	-214.7	2.95	2.95	0.00	-4.1	-6.1
12,791.0	92.80	1.90	12,312.1	496.9	-212.2	6.74	6.70	0.74	-3.1	-8.4
12,885.0	88.00	0.20	12,311.4	590.9	-210.5	5.42	-5.11	-1.81	-3.3	-8.9
12,979.0	92.50	1.00	12,311.0	684.8	-209.5	4.86	4.79	0.85	-3.3	-10.7
13,072.0	92.10	0.60	12,307.3	777.7	-208.2	0.61	-0.43	-0.43	-6.7	-11.8
13,166.0	88.80	359.80	12,306.5	871.7	-207.9	3.61	-3.51	-0.85	-7.0	-11.8
13,261.0	86.50	359.40	12,310.4	966.6	-208.5	2.46	-2.42	-0.42	-2.7	-10.9
13,355.0	86.00	359.80	12,316.6	1,060.4	-209.2	0.68	-0.53	0.43	4.1	-10.1
13,449.0	88.80	1.20	12,320.8	1,154.3	-208.4	3.33	2.98	1.49	9.1	-10.6
13,543.0	94.90	2.70	12,317.8	1,248.2	-205.2	6.68	6.49	1.60	6.9	-13.6
13,637.0	91.70	1.20	12,312.4	1,341.9	-202.0	3.76	-3.40	-1.60	2.2	-16.6



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Survey											
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13,730.0	94.40	0.20	12,307.4	1,434.8	-200.8	3.10	2.90	-1.08	-2.0	-17.5	
13,824.0	90.40	359.00	12,303.5	1,528.7	-201.5	4.44	-4.26	-1.28	-5.2	-16.6	
13,918.0	91.60	358.00	12,301.9	1,622.6	-204.0	1.66	1.28	-1.06	-6.1	-13.9	
14,012.0	88.70	354.00	12,301.6	1,716.4	-210.5	5.26	-3.09	-4.26	-5.6	-7.1	
14,106.0	90.70	353.00	12,302.1	1,809.8	-221.2	2.38	2.13	-1.06	-4.4	3.8	
14,199.0	93.00	354.00	12,299.1	1,902.1	-231.7	2.70	2.47	1.08	-6.6	14.6	
14,294.0	90.20	354.00	12,296.5	1,996.6	-241.6	2.95	-2.95	0.00	-8.6	24.7	
14,387.0	90.70	359.40	12,295.7	2,089.4	-247.0	5.83	0.54	5.81	-7.8	30.3	
14,481.0	93.40	359.90	12,292.4	2,183.3	-247.5	2.92	2.87	0.53	-9.5	31.1	
14,575.0	91.00	2.00	12,288.8	2,277.2	-246.0	3.39	-2.55	2.23	-11.6	29.7	
14,669.0	89.00	3.20	12,288.8	2,371.1	-241.7	2.48	-2.13	1.28	-9.9	25.7	
14,763.0	92.90	4.30	12,287.2	2,464.9	-235.6	4.31	4.15	1.17	-10.0	19.7	
14,857.0	89.70	4.10	12,285.1	2,558.6	-228.7	3.41	-3.40	-0.21	-10.4	13.1	
14,950.0	89.80	3.60	12,285.5	2,651.4	-222.4	0.55	0.11	-0.54	-8.4	7.1	
15,045.0	91.30	2.90	12,284.6	2,746.2	-217.0	1.74	1.58	-0.74	-7.7	1.9	
15,138.0	92.10	2.40	12,281.8	2,839.1	-212.7	1.01	0.86	-0.54	-8.9	-2.1	
15,233.0	90.60	1.70	12,279.6	2,934.0	-209.4	1.74	-1.58	-0.74	-9.5	-5.3	
15,326.0	90.70	1.60	12,278.5	3,026.9	-206.7	0.15	0.11	-0.11	-8.8	-7.8	
15,420.0	90.00	1.00	12,277.9	3,120.9	-204.5	0.98	-0.74	-0.64	-6.3	-9.7	
15,514.0	90.50	1.30	12,277.5	3,214.9	-202.7	0.62	0.53	0.32	-3.5	-11.3	
15,608.0	93.30	0.70	12,274.4	3,308.8	-201.0	3.05	2.98	-0.64	-3.5	-12.7	
15,702.0	92.50	1.70	12,269.7	3,402.7	-199.0	1.36	-0.85	1.06	-5.1	-14.4	
15,796.0	93.00	2.10	12,265.1	3,496.5	-195.9	0.68	0.53	0.43	-6.5	-17.3	
15,889.0	92.70	0.60	12,260.5	3,589.4	-193.7	1.64	-0.32	-1.61	-8.0	-19.3	
15,983.0	91.30	0.60	12,257.2	3,683.3	-192.8	1.49	-1.49	0.00	-8.2	-20.0	
16,077.0	93.60	0.50	12,253.2	3,777.2	-191.9	2.45	2.45	-0.11	-9.1	-20.7	
16,171.0	93.50	0.10	12,247.4	3,871.0	-191.4	0.44	-0.11	-0.43	-11.8	-20.9	



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #708H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3373.0usft
Site:	Gem 36 State Com	MD Reference:	KB = 25 @ 3373.0usft
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)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
16,265.0	91.10	359.90	12,243.6	3,964.9	-191.4	2.56	-2.55	-0.21	-12.4	-20.7
16,359.0	91.50	0.00	12,241.5	4,058.9	-191.4	0.44	0.43	0.11	-11.7	-20.4
16,453.0	92.60	359.80	12,238.1	4,152.8	-191.6	1.19	1.17	-0.22	-12.5	-20.0
16,547.0	93.70	359.50	12,233.0	4,246.7	-192.2	1.21	1.17	-0.32	-15.0	-19.2
16,641.0	94.00	1.30	12,226.7	4,340.5	-191.5	1.94	0.32	1.91	-18.7	-19.7
16,734.0	93.50	2.30	12,220.6	4,433.2	-188.6	1.20	-0.54	1.08	-22.2	-22.4
16,828.0	93.80	1.90	12,214.6	4,527.0	-185.2	0.53	0.32	-0.43	-25.6	-25.6
16,922.0	93.50	2.90	12,208.6	4,620.7	-181.2	1.11	-0.32	1.06	-29.0	-29.3
17,016.0	92.50	4.30	12,203.7	4,714.4	-175.4	1.83	-1.06	1.49	-31.3	-35.0
Last MWD Survey (MD = 17016.0)										
17,026.2	92.50	4.30	12,203.2	4,724.5	-174.6	0.00	0.00	0.00	-31.5	-35.7
HL Crossing 17026.2' MD; 12203.2' TVD; 4724.5'; -174.6'; 92.50										
17,074.0	92.50	4.30	12,201.2	4,772.2	-171.0	0.00	0.00	0.00	-32.3	-39.2
Projection to Bit (MD = 17074.0)										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
12,393.3	12,247.4	108.3	-221.1	HL Crossing 12393.3' MD; 12247.4' TVD; 108.3'; -221.1'; 66.60
17,016.0	12,203.7	4,714.4	-175.4	Last MWD Survey (MD = 17016.0)
17,026.2	12,203.2	4,724.5	-174.6	HL Crossing 17026.2' MD; 12203.2' TVD; 4724.5'; -174.6'; 92.50
17,074.0	12,201.2	4,772.2	-171.0	Projection to Bit (MD = 17074.0)

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Gem 36 State Com #708H

Plan #1

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodesic 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 @ 3373.0usft 3348.0
Northing 393670.00 Easting 758130.00 Latitude 32° 4' 49.242 N Longitude 103° 38' 0.140 W

SECTION DETAILS

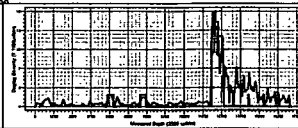
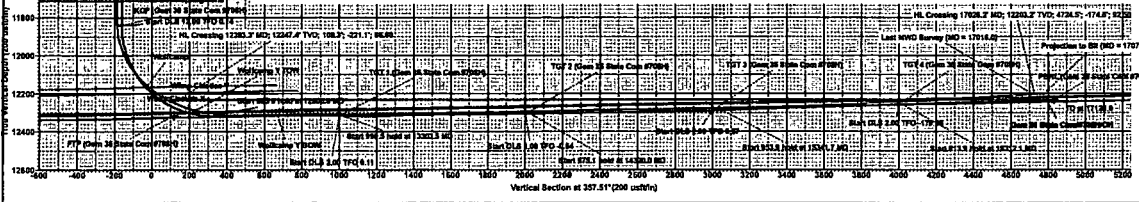
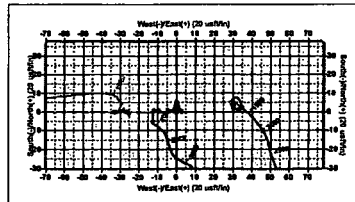
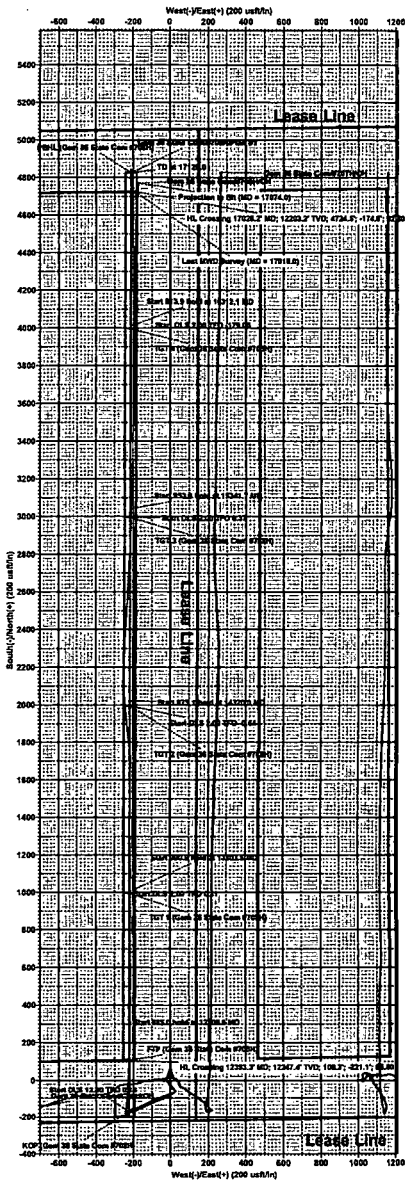
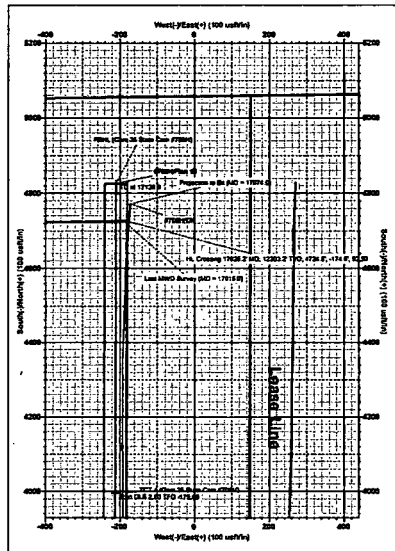
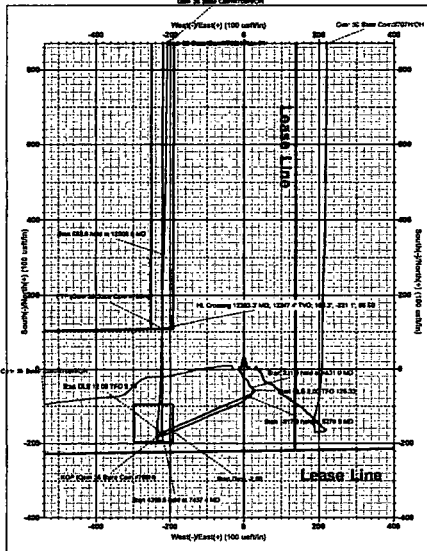
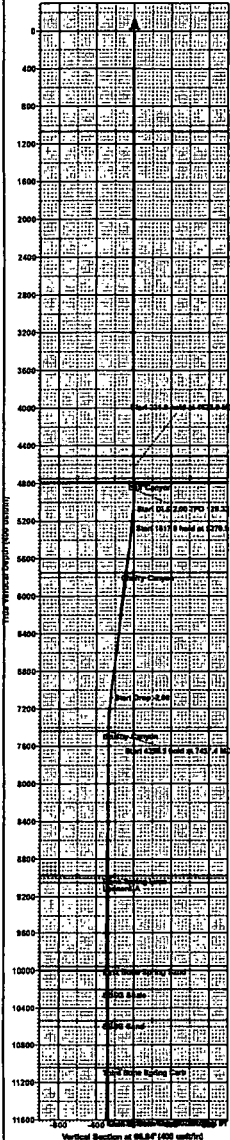
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSeal	Target	Annotation
1	4631.0	2.30	135.30	4630.2	-49.0	20.2	0.06	0.00	-48.8		
2	4882.0	2.30	135.30	4881.0	-55.5	26.7	0.00	0.00	-56.6		
3	5278.9	7.22	248.84	5278.8	-71.8	8.5	2.00	126.33	-72.1		
4	7098.8	7.22	248.84	7098.2	-161.8	-201.4	0.00	0.00	-152.7		
5	7457.4	0.00	0.00	7440.0	-170.5	-222.3	2.00	180.00	-160.7	KOP (Gem 36 State Com #708H)	
6	11855.9	0.00	0.00	11818.5	-170.5	-222.3	0.00	0.00	-160.7	TGT 1 (Gem 36 State Com #708H)	
7	12608.0	90.25	0.14	12318.0	-309.0	-221.1	12.00	0.14	318.3	TGT 2 (Gem 36 State Com #708H)	
8	13293.0	90.25	0.14	12313.0	-994.0	-218.4	0.00	0.00	1002.6	TGT 3 (Gem 36 State Com #708H)	
9	13303.5	90.46	0.14	12312.9	1094.6	-218.4	2.00	0.11	1015.2	TGT 4 (Gem 36 State Com #708H)	
10	14294.0	90.46	0.14	12305.0	1993.0	-216.9	0.00	0.00	2002.5	PRH4 (Gem 36 State Com #708H)	
11	14320.0	90.98	0.14	12304.7	2021.0	-216.8	2.00	-0.64	2028.6	FTP (Gem 36 State Com #708H)	
12	15285.1	90.38	0.14	12288.0	2999.0	-214.5	0.00	0.00	3002.5		
13	15341.7	91.91	0.14	12285.8	3042.6	-214.4	2.00	0.37	3049.0		
14	16285.7	91.91	0.14	12255.0	3996.0	-212.0	0.00	0.00	4001.4		
15	16312.1	91.58	0.14	12244.5	4012.4	-212.0	2.00	-173.06	4017.8		
16	17126.0	91.58	0.14	12232.0	4822.0	-210.0	0.00	0.00	4830.6		

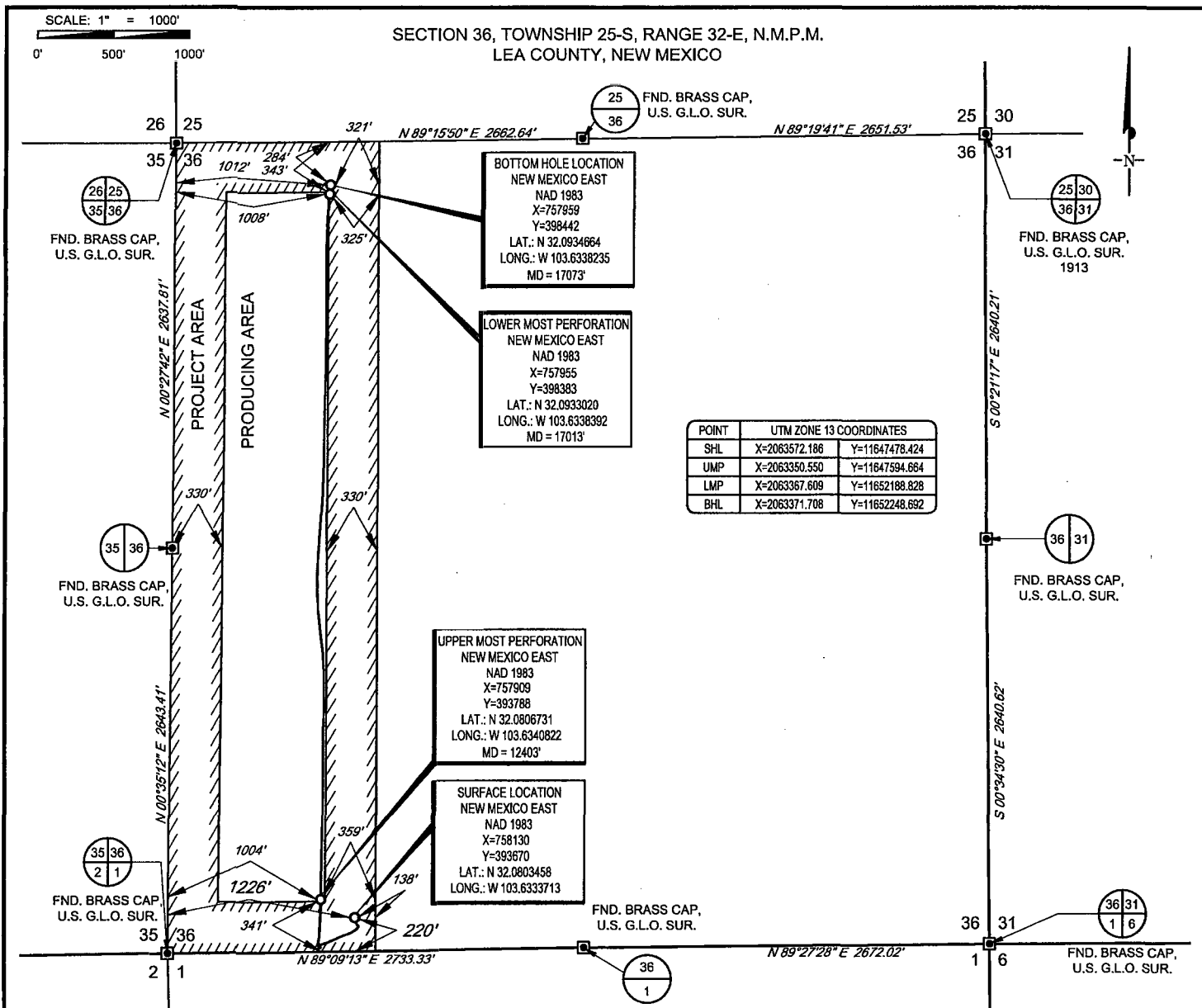
CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP (Gem 36 State Com #708H)	11838.5	-170.5	-222.3	393499.49	757907.70
TGT 1 (Gem 36 State Com #708H)	12313.0	-994.0	-218.4	394664.00	757910.60
TGT 2 (Gem 36 State Com #708H)	12315.0	-1993.0	-216.9	395665.00	757915.10
TGT 3 (Gem 36 State Com #708H)	12288.0	-2996.0	-214.5	396666.00	757918.50
TGT 4 (Gem 36 State Com #708H)	12255.0	-3996.0	-212.0	397666.00	757918.00
PRH4 (Gem 36 State Com #708H)	12212.0	-4828.0	-210.0	398466.00	757920.00
FTP (Gem 36 State Com #708H)	12216.0	-108.0	-221.0	393778.00	757909.00



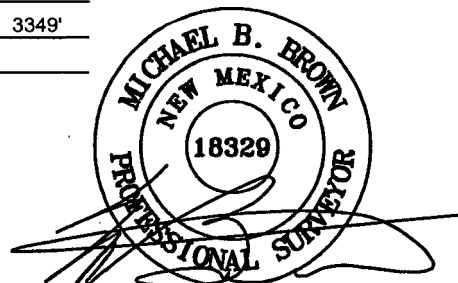


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Michael Blake Brown, P.S. No. 18329
JUNE 1, 2018

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