

REC'D 10/27/2020 - NMOCD

EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Date 14 State Com

#507H

OH

Design: OH

Final PVA Report

20 November, 2019

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #507H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3837.0usft
Site:	Date 14 State Com	MD Reference:	KB = 25 @ 3837.0usft
Well:	#507H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM

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

Site	Date 14 State Com		
Site Position:			
From:	Map	Northing: 536,428.00 usft	Latitude: 32° 28' 19.914 N
Position Uncertainty:	0.0 usft	Easting: 786,265.00 usft	Longitude: 103° 32' 20.860 W
		Slot Radius: 13-3/16 "	Grid Convergence: 0.43 °

Well	#507H		
Well Position			
+N/-S	0.0 usft	Northing: 536,975.00 usft	Latitude: 32° 28' 25.539 N
+E/-W	0.0 usft	Easting: 783,350.00 usft	Longitude: 103° 32' 54.838 W
Position Uncertainty	0.0 usft	Wellhead Elevation: usft	Ground Level: 3,812.0 usft

Wellbore	OH		
Magnetics			
Model Name	IGRF2015	Sample Date	9/10/2019
		Declination (°)	6.72
		Dip Angle (°)	60.26
		Field Strength (nT)	47,855.44407586

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)
	0.0	0.0	0.0
		Direction (°)	0.96

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Survey Program			Date			
From (usft)	To (usft)	Survey (Wellbore)		Tool Name	Description	
205.0	2,001.0	Intrepid MWD #1 (OH)		EOG MWD+IFR1	MWD + IFR1	
2,051.0	2,428.0	GyroData GMWD #1 (OH)		CT_GYRO_MS	Continuous Gyro Multishot	
2,449.0	21,214.0	Intrepid MWD #2 (OH)		MWD	OWSG 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	0.0
205.0	0.90	104.90	205.0	-0.4	1.6	0.44	0.44	0.00	-1.6	0.0	0.0
382.0	0.60	145.50	382.0	-1.5	3.4	0.33	-0.17	22.94	-3.2	2.0	2.0
555.0	0.70	105.30	555.0	-2.6	5.0	0.26	0.06	-23.24	-5.5	-1.2	-1.2
681.0	0.70	107.70	681.0	-3.0	6.4	0.02	0.00	1.90	-7.0	-0.9	-0.9
870.0	0.50	333.50	870.0	-2.6	7.2	0.59	-0.11	-71.01	5.5	-5.2	-5.2
1,058.0	0.20	329.90	1,057.9	-1.6	6.6	0.16	-0.16	-1.91	4.7	-4.9	-4.9
1,247.0	0.40	227.80	1,246.9	-1.8	6.0	0.26	0.11	-54.02	3.3	5.3	5.3
1,436.0	0.40	314.80	1,435.9	-1.7	5.0	0.29	0.00	46.03	4.8	-2.3	-2.3
1,624.0	0.30	152.70	1,623.9	-1.7	4.8	0.37	-0.05	-86.22	-3.7	3.5	3.5
1,813.0	0.40	140.50	1,812.9	-2.7	5.4	0.07	0.05	-6.46	-5.5	2.5	2.5
2,001.0	0.40	124.20	2,000.9	-3.5	6.4	0.06	0.00	-8.67	-7.3	0.7	0.7
2,051.0	0.08	25.70	2,050.9	-3.6	6.5	0.84	-0.64	-197.00	0.4	-7.5	-7.5
2,082.0	0.67	47.94	2,081.9	-3.5	6.7	1.92	1.90	71.74	-2.7	-7.0	-7.0
2,113.0	1.13	38.01	2,112.9	-3.1	7.0	1.56	1.48	-32.03	-1.9	-7.4	-7.4
2,145.0	1.34	33.96	2,144.9	-2.5	7.4	0.71	0.66	-12.66	-2.3	-7.3	-7.3
2,176.0	1.16	20.42	2,175.9	-1.9	7.7	1.11	-0.58	-43.68	-1.7	-7.3	-7.3
2,208.0	0.51	345.95	2,207.9	-1.5	7.8	2.48	-2.03	-107.72	1.3	-7.1	-7.1
2,239.0	1.05	265.84	2,238.9	-1.4	7.5	3.50	1.74	-258.42	6.5	-1.3	-1.3
2,271.0	2.71	248.17	2,270.9	-1.7	6.5	5.43	5.19	-55.22	5.7	-1.1	-1.1

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Well:	#507H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM

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)
2,302.0	4.76	242.10	2,301.8	-2.6	4.7	6.73	6.61	-19.58	4.1	-2.6
2,333.0	5.56	240.08	2,332.7	-3.9	2.2	2.65	2.58	-6.52	1.9	-4.7
2,365.0	6.42	233.57	2,364.5	-5.7	-0.5	3.42	2.69	-20.34	0.0	-7.3
2,428.0	7.96	212.52	2,427.0	-11.5	-5.7	4.80	2.44	-33.41	-0.9	-13.1
2,449.0	8.30	209.00	2,447.8	-14.1	-7.2	2.87	1.62	-16.76	-1.4	-15.0
2,637.0	10.50	177.20	2,633.4	-43.1	-13.0	2.95	1.17	-16.91	5.6	-28.3
2,826.0	11.00	161.00	2,819.1	-77.3	-6.3	1.62	0.26	-8.57	11.4	-30.1
3,015.0	10.90	155.80	3,004.7	-110.7	6.9	0.53	-0.05	-2.75	10.8	-27.2
3,203.0	10.60	150.80	3,189.4	-142.0	22.6	0.52	-0.16	-2.66	10.1	-21.6
3,392.0	11.00	148.60	3,375.1	-172.5	40.5	0.30	0.21	-1.16	7.4	-14.4
3,580.0	9.90	155.00	3,559.9	-202.5	56.7	0.85	-0.59	3.40	4.2	-9.3
3,769.0	10.80	160.10	3,745.9	-233.9	69.6	0.68	0.48	2.70	2.3	-7.3
3,958.0	9.20	159.60	3,932.0	-264.7	80.9	0.85	-0.85	-0.26	2.3	-6.2
4,147.0	8.70	161.00	4,118.7	-292.4	90.8	0.29	-0.26	0.74	5.7	-5.5
4,335.0	11.40	166.90	4,303.8	-323.9	99.7	1.54	1.44	3.14	4.9	-7.5
4,524.0	10.20	166.80	4,489.4	-358.4	107.7	0.63	-0.63	-0.05	2.1	-10.5
4,713.0	9.20	167.60	4,675.7	-389.5	114.8	0.53	-0.53	0.42	2.8	-13.6
4,902.0	9.40	161.40	4,862.3	-418.8	122.9	0.54	0.11	-3.28	6.6	-14.7
5,091.0	9.60	159.00	5,048.7	-448.2	133.5	0.23	0.11	-1.27	8.9	-13.5
5,177.0	9.00	158.10	5,133.5	-461.1	138.6	0.72	-0.70	-1.05	10.1	-12.6
5,289.0	8.90	156.90	5,244.2	-477.2	145.3	0.19	-0.09	-1.07	12.3	-10.9
5,477.0	9.00	157.70	5,429.9	-504.2	156.5	0.08	0.05	0.43	15.5	-8.6
5,666.0	12.10	162.20	5,615.7	-536.7	168.2	1.70	1.64	2.38	13.1	-8.9
5,855.0	11.60	163.20	5,800.6	-573.8	179.8	0.29	-0.26	0.53	6.8	-9.6
6,044.0	11.10	162.70	5,985.9	-609.4	190.7	0.27	-0.26	-0.26	2.4	-10.3
6,232.0	11.10	157.20	6,170.4	-643.3	203.1	0.56	0.00	-2.93	-0.2	-9.2
6,421.0	11.30	157.70	6,355.8	-677.2	217.1	0.12	0.11	0.26	-4.3	-6.8

Company: Project: Site: Well: Wellbore: Design:			EOG Resources - Midland Lea County, NM (NAD 83 NME) Date 14 State Com #507H OH OH			Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:					Well #507H KB = 25 @ 3837.0usft KB = 25 @ 3837.0usft Grid Minimum Curvature EDM	
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)		
6,610.0	8.60	151.90	6,542.0	-706.8	230.8	1.52	-1.43	-3.07	-3.9	-3.4		
6,799.0	4.40	121.30	6,729.8	-723.1	243.7	2.81	-2.22	-16.19	-0.4	5.4		
6,987.0	0.60	16.30	6,917.6	-725.9	250.1	2.44	-2.02	-55.85	-16.2	-0.5		
7,176.0	0.80	325.30	7,106.6	-723.8	249.6	0.33	0.11	-26.98	-14.5	-14.5		
7,365.0	0.80	339.60	7,295.6	-721.5	248.4	0.11	0.00	7.57	-20.2	-10.1		
7,554.0	0.90	312.80	7,484.5	-719.3	246.9	0.21	0.05	-14.18	-16.2	-18.7		
7,743.0	0.80	331.60	7,673.5	-717.1	245.2	0.16	-0.05	9.95	-24.1	-12.1		
7,932.0	0.50	334.50	7,862.5	-715.2	244.2	0.16	-0.16	1.53	-26.8	-10.8		
8,121.0	0.70	286.10	8,051.5	-714.1	242.7	0.28	0.11	-25.61	-11.4	-27.8		
8,309.0	0.70	255.30	8,239.5	-714.1	240.5	0.20	0.00	-16.38	2.3	-30.3		
8,499.0	0.60	274.80	8,429.5	-714.3	238.4	0.13	-0.05	10.26	-10.1	-28.9		
8,687.0	0.80	219.50	8,617.5	-715.3	236.6	0.36	0.11	-29.41	16.2	-25.6		
8,876.0	0.70	209.20	8,806.4	-717.3	235.2	0.09	-0.05	-5.45	18.0	-22.5		
9,065.0	1.50	148.10	8,995.4	-720.4	235.9	0.69	0.42	-32.33	25.4	3.9		
9,253.0	1.10	170.70	9,183.4	-724.3	237.5	0.34	-0.21	12.02	20.9	-5.2		
9,442.0	1.00	188.10	9,372.3	-727.7	237.6	0.18	-0.05	9.21	15.0	-10.6		
9,632.0	0.90	207.40	9,562.3	-730.6	236.7	0.18	-0.05	10.16	7.6	-14.4		
9,820.0	0.40	242.40	9,750.3	-732.3	235.4	0.33	-0.27	18.62	-4.0	-15.3		
10,010.0	0.40	7.00	9,940.3	-731.9	234.9	0.37	0.00	65.58	-10.6	12.5		
10,199.0	0.60	54.50	10,129.3	-730.7	235.8	0.23	0.11	25.13	0.6	16.8		
10,388.0	0.40	103.60	10,318.3	-730.3	237.2	0.24	-0.11	25.98	11.8	11.3		
10,425.0	0.80	86.60	10,355.3	-730.3	237.6	1.17	1.08	-45.95	7.6	14.2		
10,493.5	2.06	25.25	10,423.8	-729.1	238.6	2.66	1.84	-89.54	-10.3	13.0		
KOP (Date 14 State Com #507H)												
10,519.0	2.70	19.70	10,449.2	-728.1	239.0	2.66	2.50	-21.79	-12.0	11.7		
10,566.0	8.00	0.90	10,496.0	-723.8	239.4	11.73	11.28	-40.00	-15.4	6.8		
10,613.0	12.70	358.70	10,542.2	-715.4	239.4	10.03	10.00	-4.68	-16.1	6.2		

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Well:	#507H			North Reference:	Grid		
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Design:	OH			Database:	EDM		

Survey										
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10,692.5	18.98	359.32	10,618.7	-693.7	239.0	7.90	7.89	0.78	-15.3	6.5
HL Crossing, MD:10692.5', TVD:10618.7', N/S:-693.7', E/W:239.0', INC:18.98										
10,708.0	20.20	359.40	10,633.3	-688.5	238.9	7.90	7.90	0.50	-14.8	6.6
10,802.0	28.70	359.60	10,718.8	-649.6	238.6	9.04	9.04	0.21	-10.9	6.6
10,896.0	37.60	357.60	10,797.4	-598.3	237.3	9.54	9.47	-2.13	-5.8	7.4
10,981.7	44.89	359.35	10,861.8	-541.9	235.8	8.61	8.51	2.05	0.7	8.5
FTP (Date 14 State Com #507H)										
10,990.0	45.60	359.50	10,867.6	-536.0	235.8	8.61	8.52	1.75	1.4	8.5
11,085.0	56.70	0.40	10,927.1	-462.1	235.7	11.71	11.68	0.95	8.3	7.9
11,132.0	62.70	0.80	10,950.8	-421.6	236.2	12.79	12.77	0.85	10.5	7.1
11,179.0	67.90	0.10	10,970.5	-378.9	236.5	11.15	11.06	-1.49	11.7	6.5
11,226.0	71.90	0.30	10,986.6	-334.7	236.7	8.52	8.51	0.43	13.0	5.9
11,273.0	75.20	0.00	10,999.9	-289.7	236.8	7.05	7.02	-0.64	15.1	5.5
11,320.0	78.40	359.60	11,010.7	-243.9	236.6	6.86	6.81	-0.85	18.2	5.3
11,368.0	80.50	359.50	11,019.5	-196.7	236.2	4.38	4.37	-0.21	23.0	5.3
11,415.0	82.50	359.50	11,026.4	-150.3	235.8	4.26	4.26	0.00	29.5	5.4
11,463.0	85.10	359.40	11,031.6	-102.5	235.4	5.42	5.42	-0.21	34.9	5.4
11,557.0	88.80	0.20	11,036.6	-8.7	235.1	4.03	3.94	0.85	40.3	4.9
11,652.0	88.90	0.10	11,038.5	86.3	235.3	0.15	0.11	-0.11	42.6	3.9
11,747.0	88.10	0.10	11,041.0	181.2	235.5	0.84	-0.84	0.00	45.4	3.0
11,841.0	89.50	359.60	11,042.9	275.2	235.2	1.58	1.49	-0.53	47.8	2.4
11,935.0	88.70	359.60	11,044.4	369.2	234.6	0.85	-0.85	0.00	49.6	2.3
12,030.0	91.60	358.70	11,044.2	464.2	233.2	3.20	3.05	-0.95	49.8	3.0
12,124.0	90.60	358.70	11,042.4	558.1	231.0	1.06	-1.06	0.00	48.3	4.3
12,219.0	89.90	359.30	11,042.0	653.1	229.4	0.97	-0.74	0.63	48.3	5.2
12,313.0	88.70	359.40	11,043.1	747.1	228.3	1.28	-1.28	0.11	49.8	5.5
12,408.0	88.00	359.20	11,045.8	842.1	227.1	0.77	-0.74	-0.21	52.9	5.9

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12,503.0	89.10	358.30	11,048.2	937.0	225.1	1.50	1.16	-0.95	55.7	7.2
12,596.0	90.50	357.50	11,048.6	1,029.9	221.7	1.73	1.51	-0.86	56.4	9.8
12,632.2	90.23	358.00	11,048.3	1,066.1	220.2	1.55	-0.74	1.37	56.3	11.0
TGT 1 (Date 14 State Com #507H)										
12,691.0	89.80	358.80	11,048.3	1,124.9	218.6	1.55	-0.74	1.37	56.7	12.1
12,785.0	89.40	357.90	11,049.0	1,218.9	215.9	1.05	-0.43	-0.96	57.9	14.1
12,880.0	89.40	359.40	11,050.0	1,313.8	213.6	1.58	0.00	1.58	59.4	15.5
12,974.0	89.60	2.20	11,050.8	1,407.8	215.0	2.99	0.21	2.98	60.8	13.4
13,068.0	89.70	3.10	11,051.4	1,501.7	219.3	0.96	0.11	0.96	61.9	8.3
13,163.0	91.60	3.00	11,050.3	1,596.5	224.4	2.00	2.00	-0.11	61.4	2.5
13,257.0	92.30	2.70	11,047.1	1,690.4	229.0	0.81	0.74	-0.32	58.8	-2.9
13,352.0	90.60	1.30	11,044.7	1,785.3	232.3	2.32	-1.79	-1.47	56.9	-7.0
13,446.0	91.20	0.80	11,043.2	1,879.3	234.1	0.83	0.64	-0.53	56.0	-9.5
13,540.0	91.80	0.50	11,040.7	1,973.2	235.1	0.71	0.64	-0.32	54.1	-11.3
13,635.0	92.20	359.80	11,037.4	2,068.2	235.4	0.85	0.42	-0.74	51.4	-12.4
13,730.0	93.20	359.40	11,033.0	2,163.0	234.7	1.13	1.05	-0.42	47.4	-12.5
13,824.0	91.80	358.90	11,028.9	2,256.9	233.3	1.58	-1.49	-0.53	43.9	-11.9
13,919.0	90.60	358.30	11,026.9	2,351.9	231.0	1.41	-1.26	-0.63	42.5	-10.3
14,013.0	90.50	358.60	11,026.0	2,445.9	228.5	0.34	-0.11	0.32	42.1	-8.5
14,107.0	90.00	359.30	11,025.6	2,539.8	226.7	0.92	-0.53	0.74	42.3	-7.6
14,202.0	89.00	359.80	11,026.4	2,634.8	226.0	1.18	-1.05	0.53	43.7	-7.6
14,296.0	90.30	359.20	11,027.0	2,728.8	225.2	1.52	1.38	-0.64	44.8	-7.6
14,321.1	90.14	359.20	11,026.9	2,753.9	224.8	0.64	-0.64	0.00	44.9	-7.4
TGT 2 (Date 14 State Com #507H)										
14,390.0	89.70	359.20	11,027.0	2,822.8	223.9	0.64	-0.64	0.00	45.4	-7.0
14,484.0	90.10	358.70	11,027.1	2,916.8	222.1	0.68	0.43	-0.53	46.3	-6.1
14,578.0	91.80	358.40	11,025.6	3,010.7	219.8	1.84	1.81	-0.32	45.4	-4.5

Company:		EOG Resources - Midland		Local Co-ordinate Reference:		Well #507H	
Project:		Lea County, NM (NAD 83 NME)		TVD Reference:		KB = 25 @ 3837.0usft	
Site:		Date 14 State Com		MD Reference:		KB = 25 @ 3837.0usft	
Well:		#507H		North Reference:		Grid	
Wellbore:		OH		Survey Calculation Method:		Minimum Curvature	
Design:		OH		Database:		EDM	

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)
14,673.0		92.60	358.20	11,021.9	3,105.6	216.9	0.87	0.84	-0.21	42.4	-2.4
14,768.0		91.30	359.90	11,018.7	3,200.6	215.4	2.25	-1.37	1.79	39.8	-1.6
14,793.0		90.80	0.30	11,018.2	3,225.6	215.4	2.56	-2.00	1.60	39.5	-1.9
14,888.0		88.90	359.20	11,018.5	3,320.5	215.0	2.31	-2.00	-1.16	40.4	-2.2
14,982.0		88.40	358.50	11,020.7	3,414.5	213.1	0.91	-0.53	-0.74	43.3	-1.1
15,076.0		88.20	357.20	11,023.5	3,508.4	209.6	1.40	-0.21	-1.38	46.7	1.6
15,170.0		89.30	359.10	11,025.5	3,602.3	206.6	2.34	1.17	2.02	49.4	3.9
15,264.0		90.50	359.10	11,025.7	3,696.3	205.1	1.28	1.28	0.00	50.3	4.6
15,358.0		91.40	357.90	11,024.1	3,790.3	202.6	1.60	0.96	-1.28	49.4	6.3
15,453.0		90.70	359.50	11,022.4	3,885.2	200.5	1.84	-0.74	1.68	48.3	7.7
15,547.0		91.40	0.10	11,020.7	3,979.2	200.1	0.98	0.74	0.64	47.2	7.3
15,642.0		92.00	359.20	11,017.9	4,074.1	199.6	1.14	0.63	-0.95	45.1	7.1
15,736.0		91.10	0.70	11,015.3	4,168.1	199.5	1.86	-0.96	1.60	43.2	6.4
15,754.9		91.06	0.76	11,015.0	4,187.0	199.7	0.38	-0.21	0.32	43.0	6.0
TGT 3 (Date 14 State Com #507H)											
15,831.0		90.90	1.00	11,013.6	4,263.1	200.9	0.38	-0.21	0.32	42.2	4.2
15,925.0		91.10	359.80	11,012.0	4,357.1	201.5	1.29	0.21	-1.28	41.2	2.8
16,019.0		91.30	359.10	11,010.0	4,451.0	200.6	0.77	0.21	-0.74	40.0	2.9
16,113.0		88.60	358.80	11,010.1	4,545.0	198.9	2.89	-2.87	-0.32	40.7	3.8
16,208.0		89.00	357.80	11,012.1	4,640.0	196.1	1.13	0.42	-1.05	43.4	5.9
16,302.0		88.90	0.30	11,013.8	4,733.9	194.5	2.66	-0.11	2.66	45.8	6.7
16,396.0		89.70	359.70	11,015.0	4,827.9	194.5	1.06	0.85	-0.64	47.6	5.9
16,490.0		90.70	359.10	11,014.7	4,921.9	193.6	1.24	1.06	-0.64	48.0	6.1
16,585.0		91.80	358.20	11,012.6	5,016.9	191.3	1.50	1.16	-0.95	46.6	7.6
16,679.0		91.90	357.10	11,009.5	5,110.7	187.5	1.17	0.11	-1.17	44.2	10.6
16,773.0		92.70	359.60	11,005.8	5,204.6	184.8	2.79	0.85	2.66	41.1	12.6
16,867.0		92.60	359.40	11,001.4	5,298.5	183.9	0.24	-0.11	-0.21	37.4	12.7

Company: EOG Resources - Midland		Local Co-ordinate Reference: Well #507H									
Project: Lea County, NM (NAD 83 NME)		TVD Reference: KB = 25 @ 3837.0usft									
Site: Date 14 State Com		MD Reference: KB = 25 @ 3837.0usft									
Well: #507H		North Reference: Grid									
Wellbore: OH		Survey Calculation Method: Minimum Curvature									
Design: OH		Database: EDM									
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)	
16,962.0	91.00	0.80	10,998.4	5,393.4	184.1	2.24	-1.68	1.47	35.2	11.7	
17,056.0	91.70	0.00	10,996.2	5,487.4	184.8	1.13	0.74	-0.85	33.6	10.3	
17,142.1	92.16	358.99	10,993.3	5,573.5	184.0	1.28	0.53	-1.17	31.3	10.3	
TGT 4 (Date 14 State Com #507H)											
17,150.0	92.20	358.90	10,993.0	5,581.4	183.9	1.28	0.53	-1.17	31.1	10.4	
17,245.0	93.00	357.50	10,988.7	5,676.2	180.9	1.70	0.84	-1.47	27.4	12.6	
17,339.0	92.60	359.10	10,984.1	5,770.0	178.1	1.75	-0.43	1.70	23.4	14.6	
17,433.0	91.90	1.90	10,980.4	5,864.0	178.9	3.07	-0.74	2.98	20.3	13.1	
17,527.0	92.40	1.60	10,976.9	5,957.9	181.8	0.62	0.53	-0.32	17.4	9.4	
17,621.0	93.30	0.60	10,972.2	6,051.7	183.6	1.43	0.96	-1.06	13.3	6.9	
17,716.0	91.30	1.60	10,968.4	6,146.6	185.4	2.35	-2.11	1.05	10.1	4.3	
17,810.0	92.30	0.40	10,965.5	6,240.6	187.1	1.66	1.06	-1.28	7.7	1.8	
17,905.0	91.00	1.20	10,962.7	6,335.5	188.4	1.61	-1.37	0.84	5.6	-0.3	
17,999.0	91.50	0.20	10,960.7	6,429.5	189.5	1.19	0.53	-1.06	4.2	-2.2	
18,094.0	93.10	358.70	10,956.9	6,524.4	188.6	2.31	1.68	-1.58	0.9	-2.0	
18,188.0	90.50	359.40	10,953.9	6,618.3	187.1	2.86	-2.77	0.74	-1.4	-1.3	
18,281.0	88.70	0.60	10,954.6	6,711.3	187.1	2.33	-1.94	1.29	-0.2	-2.0	
18,375.0	90.20	0.50	10,955.5	6,805.3	188.0	1.60	1.60	-0.11	1.3	-3.7	
18,470.0	89.00	359.80	10,956.1	6,900.3	188.2	1.46	-1.26	-0.74	2.6	-4.7	
18,563.0	87.90	358.40	10,958.7	6,993.2	186.8	1.91	-1.18	-1.51	5.7	-4.0	
18,658.0	88.20	357.60	10,961.9	7,088.1	183.4	0.90	0.32	-0.84	9.6	-1.5	
18,708.6	88.36	358.57	10,963.4	7,138.7	181.7	1.94	0.32	1.92	11.4	-0.2	
TGT 5 (Date 14 State Com #507H)											
18,752.0	88.50	359.40	10,964.6	7,182.1	181.0	1.94	0.32	1.91	12.9	0.2	
18,847.0	89.30	1.50	10,966.4	7,277.0	181.7	2.37	0.84	2.21	15.4	-1.3	
18,941.0	89.60	1.50	10,967.3	7,371.0	184.2	0.32	0.32	0.00	16.9	-4.5	
19,035.0	89.20	0.80	10,968.3	7,465.0	186.1	0.86	-0.43	-0.74	18.5	-7.2	

Company:		EOG Resources - Midland		Local Co-ordinate Reference:		Well #507H	
Project:		Lea County, NM (NAD 83 NME)		TVD Reference:		KB = 25 @ 3837.0usft	
Site:		Date 14 State Com		MD Reference:		KB = 25 @ 3837.0usft	
Well:		#507H		North Reference:		Grid	
Wellbore:		OH		Survey Calculation Method:		Minimum Curvature	
Design:		OH		Database:		EDM	

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)
19,129.0	88.90	359.60	10,969.9	7,558.9	186.4	1.32	-0.32	-1.28	20.7	-8.3
19,224.0	92.40	0.00	10,968.8	7,653.9	186.1	3.71	3.68	0.42	20.3	-8.3
19,318.0	93.70	358.80	10,963.8	7,747.8	185.1	1.88	1.38	-1.28	15.9	-8.3
19,412.0	91.50	359.10	10,959.5	7,841.7	183.4	2.36	-2.34	0.32	12.3	-7.3
19,506.0	91.50	358.80	10,957.1	7,935.6	181.6	0.32	0.00	-0.32	10.5	-6.3
19,601.0	90.00	359.00	10,955.8	8,030.6	179.8	1.59	-1.58	0.21	9.9	-5.3
19,695.0	90.60	358.50	10,955.3	8,124.6	177.8	0.83	0.64	-0.53	10.1	-4.3
19,789.0	89.80	358.00	10,955.0	8,218.5	174.9	1.00	-0.85	-0.53	10.4	-2.3
19,883.0	89.10	358.10	10,955.9	8,312.5	171.7	0.75	-0.74	0.11	11.9	0.3
19,977.0	88.70	357.60	10,957.7	8,406.4	168.2	0.68	-0.43	-0.53	14.4	3.3
20,072.0	91.00	358.50	10,957.9	8,501.3	164.9	2.60	2.42	0.95	15.3	5.3
20,166.0	92.40	359.70	10,955.2	8,595.3	163.5	1.96	1.49	1.28	13.1	6.3
20,172.5	92.33	359.69	10,954.9	8,601.8	163.4	1.07	-1.06	-0.11	12.9	6.3
TGT 6 (Date 14 State Com #507H)										
20,260.0	91.40	359.60	10,952.0	8,689.2	162.9	1.07	-1.06	-0.11	11.0	6.3
20,355.0	90.40	0.60	10,950.6	8,784.2	163.1	1.49	-1.05	1.05	10.5	5.3
20,449.0	88.60	0.80	10,951.4	8,878.2	164.2	1.93	-1.91	0.21	12.3	3.3
20,544.0	90.20	0.10	10,952.4	8,973.2	165.0	1.84	1.68	-0.74	14.3	1.3
20,638.0	91.80	0.10	10,950.7	9,067.1	165.1	1.70	1.70	0.00	13.6	0.3
20,733.0	90.10	0.20	10,949.2	9,162.1	165.4	1.79	-1.79	0.11	13.1	-0.3
20,827.0	89.60	0.00	10,949.4	9,256.1	165.5	0.57	-0.53	-0.21	14.3	-1.3
20,921.0	90.10	0.20	10,949.6	9,350.1	165.7	0.57	0.53	0.21	15.5	-2.3
21,015.0	90.60	0.10	10,949.1	9,444.1	165.9	0.54	0.53	-0.11	16.0	-3.3
21,110.0	92.60	0.60	10,946.4	9,539.1	166.5	2.17	2.11	0.53	14.3	-4.3
21,153.0	93.40	0.70	10,944.2	9,582.0	167.0	1.87	1.86	0.23	12.5	-5.3
Final MWD Survey (MD=21153.0')										



Final PVA Report

Company:

Project:

Site:

Well:

Wellbore:

Design:

EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Date 14 State Com

#507H

OH

OH

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well #507H

KB = 25 @ 3837.0usft

KB = 25 @ 3837.0usft

Grid

Minimum Curvature

EDM

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)
21,214.0	93.40	0.70	10,940.5	9,642.9	167.7	0.00	0.00	0.00	9.5	-6.6
Final Projection to Bit (MD=21214.0') - PBHL (Date 14 State Com #507H)										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
10,692.5	10,618.7	-693.7	239.0	HL Crossing, MD:10692.5', TVD:10618.7', N/S:-693.7', E/W:239.0', INC:18.98
21,153.0	10,944.2	9,582.0	167.0	Final MWD Survey (MD=21153.0')
21,214.0	10,940.5	9,642.9	167.7	Final Projection to Bit (MD=21214.0')

Checked By:

Approved By:

Date:



Lea County, NM (NAD 83 NME)

Date 14 State Com #507H

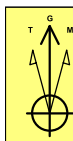
Plan #1

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: #507H

KB = 25 @ 3837.0usft 3812.0
Northing 536975.00 Easting 783350.00 Latitude 32° 28' 25.539 N Longitude 103° 32' 54.838 W



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.30°

Magnetic Field
Strength: 47855.4nT
Dip Angle: 60.26°
Date: 9/10/2019
Model: IGRF2015

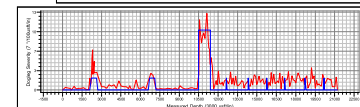
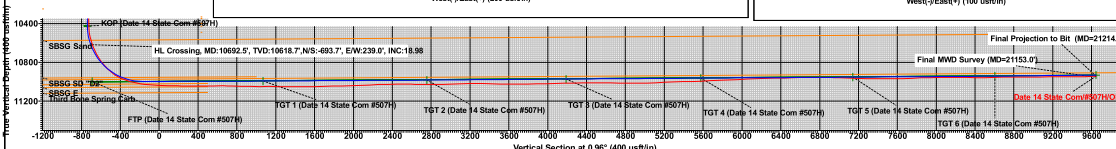
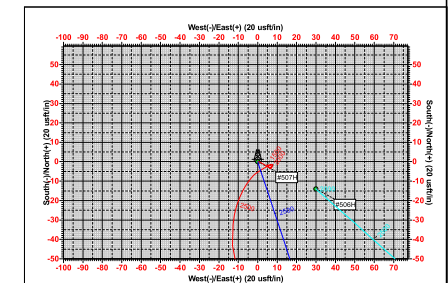
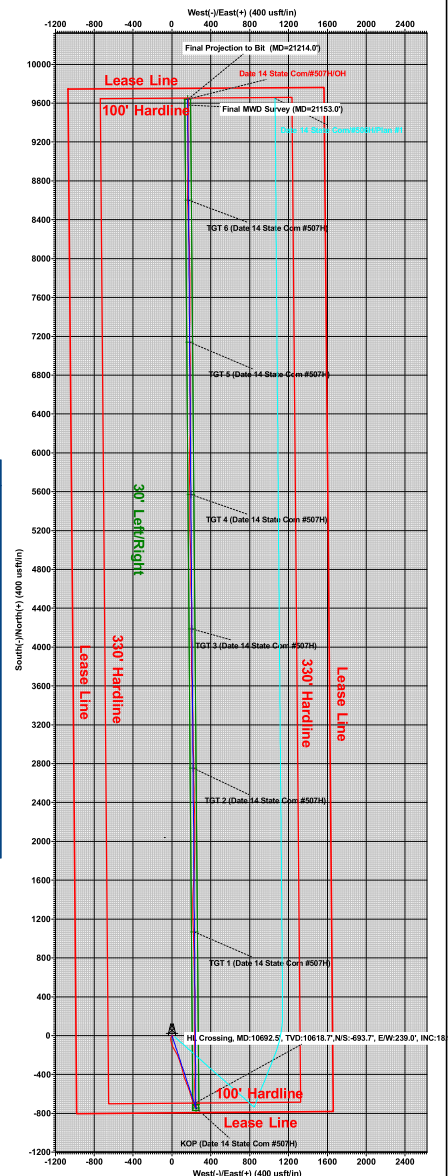
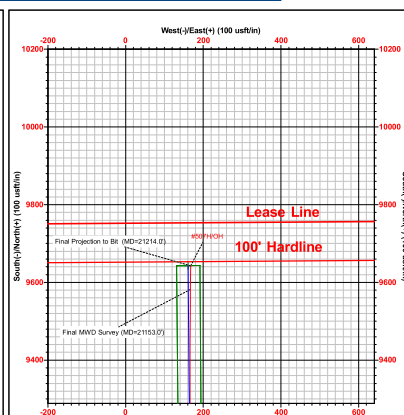
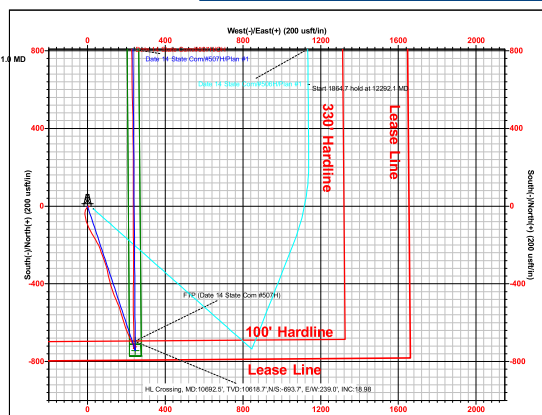
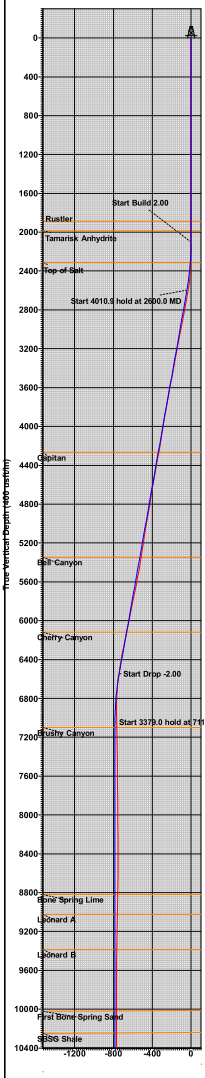
To convert a Magnetic Direction to a Grid Direction, Add 6.30°
To convert a Magnetic Direction to a True Direction, Add 6.72° East
To convert a True Direction to a Grid Direction, Subtract 0.42°

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2100.0	0.00	0.00	2100.0	0.0	0.0	0.00	0.00	0.0
3	2600.0	10.00	161.70	2597.5	-41.3	13.7	2.00	161.70	-41.1
4	6611.0	10.00	161.70	6547.5	-702.7	232.3	0.00	0.00	-698.7
5	7111.0	0.00	0.00	7045.0	-744.0	246.0	2.00	180.00	-739.8
6	10490.0	0.00	0.00	10424.0	-744.0	246.0	0.00	0.00	-739.8
7	11392.3	90.23	359.53	10997.0	-168.8	241.3	10.00	359.53	-164.7
8	12627.4	90.23	359.53	10992.0	1066.3	231.2	0.00	0.00	1070.0
9	12632.9	90.34	359.53	10992.0	1071.8	231.2	2.00	0.00	1075.5
10	14315.0	90.34	359.53	10982.0	2753.8	217.4	0.00	0.00	2757.0
11	14318.0	90.40	359.53	10982.0	2756.8	217.4	2.00	0.00	2760.1
12	15747.5	90.40	359.53	10972.0	4186.2	205.7	0.00	0.00	4189.1
13	15748.2	90.41	359.53	10972.0	4186.9	205.7	2.00	0.00	4189.7
14	17133.9	90.41	359.53	10962.0	5572.5	194.4	0.00	0.00	5575.0
15	17136.3	90.37	359.53	10962.0	5574.9	194.3	2.00	180.00	5577.3
16	18700.5	90.37	359.53	10952.0	7139.0	181.6	0.00	0.00	7141.0
17	18701.8	90.39	359.53	10952.0	7140.3	181.5	2.00	0.00	7142.3
18	20162.9	90.39	359.53	10942.0	8601.4	169.6	0.00	0.00	8603.0
19	20173.7	90.61	359.53	10941.9	8612.1	169.5	0.00	0.27	8613.7
20	21204.6	90.61	359.53	10931.0	9643.0	161.1	2.00	0.00	9644.3

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP (Date 14 State Com #507H)	10424.0	-744.0	246.0	536231.00	783596.00
PBHL (Date 14 State Com #507H)	10931.0	9643.0	161.1	546618.00	783511.10
TGT 6 (Date 14 State Com #507H)	10942.0	8601.4	169.6	545576.40	783519.60
TGT 5 (Date 14 State Com #507H)	10952.0	7139.0	181.6	544114.00	783531.55
TGT 4 (Date 14 State Com #507H)	10962.0	5572.5	194.4	542947.50	783544.36
TGT 3 (Date 14 State Com #507H)	10972.0	4186.2	205.7	541161.20	783555.69
TGT 2 (Date 14 State Com #507H)	10982.0	2753.8	217.4	539728.80	783567.40
TGT 1 (Date 14 State Com #507H)	10992.0	1066.3	231.2	538041.30	783581.20
FTP (Date 14 State Com #507H)	10997.0	-694.0	246.0	536281.00	783596.00



Lea County, NM (NAD 83 NME)
Date 14 State Com #507H
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: #507H
KB = 25 @ 3837.0usft 3812.0
Northing 536975.00 Easting 783350.00 Latitude 32° 28' 25.539 N Longitude 103° 32' 54.838 W