



HOBBS OCD

SEP 09 2019

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Lomas Rojas 26 State Com

#505H

OH

Design: OH

Midland PVA

29 April, 2019



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #505H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3384.0usft
Site:	Lomas Rojas 28 State Corn	MD Reference:	KB = 22' @ 3384.0usft
Well:	#505H	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	Lomas Rojas 28 State Corn		
Site Position:		Northing:	403,491.00 usft
From:	Map	Easting:	785,887.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 6' 24.528 N
		Longitude:	103° 32' 38.699 W
		Grid Convergence:	0.42 "

Well	#505H					
Well Position	+N-S	0.0 usft	Northing:	403,474.00 usft	Latitude:	32° 6' 24.473 N
	+E-W	0.0 usft	Easting:	784,319.00 usft	Longitude:	103° 32' 54.930 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,342.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/18/2019	6.74	59.94	47,691.71882313

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:	Depth From (TVD)	+N-S	Tie On Depth:
	(usft)	(usft)	0.0
	0.0	0.0	0.0
			Direction
			(°)
			178.67

Survey Program	Date 4/29/2019			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
195.0	15,717.0	Newsco MWD (OH)	MWD	OWSG MWD - Standard



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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	NIS (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
195.0	0.20	316.20	195.0	0.2	-0.2	0.10	0.10	0.00	-0.3	0.0
379.0	0.40	97.30	379.0	0.4	0.2	0.31	0.11	78.68	-0.1	0.4
536.0	0.70	31.90	536.0	1.1	1.2	0.41	0.19	-41.68	-1.6	-0.4
725.0	0.40	90.60	725.0	2.1	2.5	0.32	-0.16	31.06	-2.5	2.1
915.0	0.30	150.30	915.0	1.7	3.4	0.19	-0.05	31.42	-0.2	3.8
1,104.0	1.00	224.60	1,104.0	0.1	2.5	0.51	0.37	39.31	1.8	1.7
1,150.0	0.70	241.70	1,150.0	-0.3	2.0	0.85	-0.65	37.17	1.6	1.2
1,270.0	0.50	184.00	1,270.0	-1.2	1.3	0.50	-0.17	-48.08	-2.0	1.3
1,459.0	5.40	3.20	1,458.7	6.8	1.7	3.12	2.59	94.81	4.7	-0.5
1,648.0	7.10	6.40	1,646.6	27.3	3.9	0.95	0.90	2.75	4.1	-0.5
1,837.0	7.00	7.60	1,834.1	50.3	7.2	0.07	-0.05	-0.42	1.3	-0.7
2,026.0	6.90	6.80	2,021.8	72.9	10.0	0.07	-0.05	-0.42	-1.1	-0.7
2,215.0	6.60	4.70	2,209.4	95.0	12.3	0.21	-0.16	-1.11	-2.9	-0.2
2,404.0	6.10	0.00	2,397.3	115.9	13.1	0.38	-0.26	-2.49	-3.5	1.3
2,593.0	5.50	356.60	2,585.3	135.0	12.6	0.37	-0.32	-1.80	-2.6	4.3
2,783.0	6.70	4.60	2,774.2	155.1	13.0	0.78	0.63	4.32	-1.5	6.8
2,972.0	8.20	10.40	2,961.6	179.4	16.4	0.88	0.79	2.96	-4.9	6.9
3,161.0	8.00	15.60	3,148.8	205.3	22.3	0.40	-0.11	2.75	-10.7	5.6
3,349.0	7.40	19.20	3,335.1	229.3	29.8	0.41	-0.32	1.91	-15.6	2.9
3,444.0	7.00	19.50	3,429.3	240.6	33.8	0.42	-0.42	0.32	-17.5	0.8
3,538.0	6.40	18.80	3,522.7	250.9	37.4	0.64	-0.64	-0.74	-18.5	-1.5
3,728.0	5.30	16.50	3,711.7	269.4	43.3	0.59	-0.58	-1.21	-17.5	-5.9
3,917.0	4.80	16.50	3,900.0	285.2	48.3	0.28	-0.28	1.06	-14.2	-9.0
4,106.0	4.40	14.10	4,088.3	299.8	52.5	0.28	-0.21	-2.33	-8.3	-13.1
4,295.0	3.70	18.00	4,276.9	312.6	56.2	0.40	-0.37	2.06	-2.4	-15.8
4,484.0	5.00	11.80	4,465.3	328.5	59.8	0.73	0.69	-3.28	5.4	-18.2



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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)
4,672.0	2.70	28.30	4,652.9	338.4	63.5	1.35	-1.22	8.78	6.7	-23.9
4,861.0	1.70	79.80	4,841.8	342.8	68.4	1.12	-0.53	27.25	-14.0	-36.1
4,908.0	1.50	82.80	4,888.7	343.0	69.7	0.46	-0.43	6.38	-15.9	-40.2
5,041.0	1.40	76.70	5,021.7	343.6	73.0	0.14	-0.08	-4.59	-9.8	-55.4
5,229.0	6.20	348.50	5,209.3	354.1	73.2	3.36	2.55	-46.91	64.0	-7.4
5,417.0	8.70	349.30	5,395.7	378.0	68.6	1.33	1.33	0.43	58.9	-1.9
5,605.0	8.90	351.10	5,581.5	408.3	63.7	0.18	0.11	0.96	49.5	2.4
5,794.0	8.80	4.60	5,788.3	435.2	62.6	1.10	-0.05	7.14	40.3	-4.8
5,982.0	8.50	3.80	5,954.1	463.4	64.6	0.17	-0.16	-0.43	32.3	-3.2
6,171.0	8.40	3.70	6,141.1	491.1	66.5	0.05	-0.05	-0.05	24.9	-1.8
6,360.0	8.60	9.10	6,328.0	518.8	69.6	0.44	0.11	2.86	17.1	-3.5
6,548.0	8.50	10.40	6,513.9	546.4	74.3	0.12	-0.05	0.69	9.3	-4.7
6,737.0	8.40	9.70	6,700.9	573.7	79.2	0.08	-0.05	-0.37	2.0	-5.6
6,926.0	8.70	9.70	6,887.8	601.4	83.9	0.16	0.16	0.00	-5.8	-6.4
7,115.0	8.10	9.80	7,074.7	628.6	88.6	0.32	-0.32	0.11	-13.1	-7.3
7,304.0	5.90	7.40	7,282.3	651.4	92.1	1.17	-1.16	-1.32	-15.3	-8.4
7,493.0	3.60	356.60	7,450.7	666.9	93.0	1.30	-1.22	-5.71	-9.1	-9.2
7,682.0	2.40	15.60	7,639.4	676.7	93.7	0.82	-0.63	10.05	-9.7	-5.5
7,871.0	1.90	20.60	7,828.3	683.4	95.9	0.28	-0.26	2.65	-16.0	-4.6
8,060.0	1.40	11.30	8,017.2	688.6	97.5	0.30	-0.26	-4.92	-20.5	-7.6
8,249.0	0.90	356.00	8,206.2	692.4	97.8	0.31	-0.26	-8.10	-21.5	-13.3
8,437.0	0.70	348.80	8,394.1	695.0	97.5	0.12	-0.11	-3.40	-22.5	-15.8
8,626.0	0.60	330.50	8,583.1	697.0	96.8	0.13	-0.05	-10.11	-18.1	-22.7
8,814.0	0.80	290.50	8,771.1	698.3	95.1	0.27	0.11	-21.28	-1.4	-29.7
9,003.0	0.80	259.80	8,960.1	698.5	92.8	0.22	0.00	-16.24	11.5	-26.9
9,192.0	0.80	255.40	9,149.1	697.9	90.0	0.03	0.00	-2.33	10.9	-26.0
9,381.0	1.00	256.50	9,338.0	697.2	87.1	0.11	0.11	0.58	7.4	-26.2



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9,570.0	1.20	272.10	9,527.0	698.9	83.5	0.19	0.11	8.25	-3.5	-26.8
9,758.0	0.90	260.60	9,715.0	698.7	80.1	0.19	-0.16	-6.12	-1.5	-27.3
9,982.0	1.50	39.30	9,919.0	698.5	80.2	1.11	0.29	67.99	-18.4	22.6
10,057.0	1.40	10.40	10,013.9	700.6	81.2	0.77	-0.11	-30.42	-28.3	10.3
10,151.0	0.90	337.50	10,107.9	702.5	81.1	0.88	-0.53	-35.00	-31.9	-7.9
10,244.0	2.60	169.40	10,200.9	701.1	81.2	3.75	1.83	-180.75	31.4	1.0
10,339.0	15.70	175.20	10,294.5	686.1	82.7	13.81	13.79	6.11	17.0	-1.9
10,433.0	24.40	171.90	10,382.7	654.1	86.5	9.33	9.28	-3.51	-3.9	0.3
10,528.0	32.50	186.20	10,466.3	609.2	86.5	11.09	8.53	15.05	-22.8	3.9
10,622.0	37.00	189.10	10,543.5	556.1	79.3	5.10	4.79	3.09	-36.8	0.5
10,717.0	47.80	181.40	10,613.6	492.5	73.9	12.60	11.37	-8.11	-48.7	-7.5
10,812.0	58.60	180.50	10,670.4	416.5	72.7	11.39	11.37	-0.95	-57.7	-7.3
10,906.0	67.50	184.00	10,713.0	332.9	69.3	10.03	9.47	3.72	-67.9	-6.5
11,001.0	69.80	182.80	10,747.5	244.8	64.1	2.69	2.42	-1.26	-69.5	-10.3
11,096.0	69.50	182.30	10,780.6	155.6	60.1	0.59	-0.32	-0.53	-55.0	-12.7
11,191.0	73.20	179.30	10,811.0	65.6	58.9	4.91	3.89	-3.16	-27.6	-12.0
11,285.0	78.10	176.80	10,833.5	-25.5	62.0	6.79	6.28	-2.66	-4.7	-8.8
11,379.0	82.40	174.90	10,848.6	-118.0	68.7	4.04	3.51	-2.02	10.8	-2.7
11,474.0	89.80	176.00	10,855.0	-212.5	76.2	7.87	7.79	1.16	17.8	4.2
11,569.0	95.30	175.90	10,850.8	-307.1	82.9	5.79	5.79	-0.11	14.1	10.2
11,663.0	92.20	178.30	10,844.7	-400.7	87.7	4.17	-3.30	2.55	8.4	14.2
11,758.0	93.00	179.60	10,840.3	-495.6	89.4	1.61	0.84	1.37	4.6	15.3
11,852.0	92.40	181.80	10,835.9	-589.5	88.3	2.42	-0.64	2.34	0.7	13.5
11,947.0	89.90	182.40	10,834.0	-684.4	84.8	2.71	-2.63	0.63	-0.6	9.3
12,042.0	88.80	183.10	10,835.0	-779.3	80.2	1.28	-1.05	0.74	0.9	4.0
12,138.0	86.70	184.60	10,838.6	-873.0	73.9	2.83	-2.34	1.60	5.0	-3.0
12,231.0	87.90	182.20	10,843.1	-967.7	68.3	2.82	1.28	-2.53	10.0	-9.3



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12,325.0	88.00	181.90	10,846.5	-1,061.6	64.9	0.34	0.11	-0.32	13.9	-13.3
12,420.0	89.00	180.10	10,848.9	-1,156.6	63.3	2.17	1.05	-1.89	16.9	-15.7
12,514.0	88.40	178.80	10,850.3	-1,250.5	64.2	1.45	0.43	-1.38	18.7	-15.4
12,608.0	90.90	177.40	10,850.0	-1,344.5	67.3	2.18	1.60	-1.49	19.0	-13.0
12,703.0	91.20	177.40	10,848.3	-1,439.4	71.6	0.32	0.32	0.00	17.8	-8.4
12,797.0	91.80	177.10	10,845.8	-1,533.2	76.1	0.71	0.64	-0.32	15.8	-5.6
12,892.0	90.80	178.80	10,843.8	-1,628.1	79.5	2.19	-1.26	1.79	14.4	-2.9
12,986.0	91.40	178.70	10,842.2	-1,722.1	81.6	0.86	0.85	-0.11	13.2	-1.5
13,080.0	91.20	178.30	10,840.0	-1,816.1	84.0	0.48	-0.21	-0.43	11.6	0.3
13,174.0	91.30	178.20	10,838.0	-1,910.0	86.9	0.15	0.11	-0.11	10.1	2.5
13,268.0	91.40	177.40	10,835.8	-2,003.9	90.5	0.86	0.11	-0.85	8.4	5.4
13,362.0	90.60	176.30	10,834.1	-2,097.7	95.7	1.45	-0.85	-1.17	7.3	9.9
13,457.0	91.20	177.50	10,832.6	-2,192.6	100.8	1.41	0.63	1.26	6.3	14.3
13,551.0	91.90	178.30	10,830.1	-2,286.5	104.3	1.13	0.74	0.85	4.3	17.1
13,646.0	92.40	179.60	10,826.5	-2,381.4	108.0	1.47	0.53	1.37	1.1	18.1
13,740.0	90.90	182.20	10,823.8	-2,475.3	104.5	3.19	-1.60	2.77	-1.2	16.0
13,834.0	89.20	183.40	10,823.7	-2,569.2	99.9	2.21	-1.81	1.28	-0.8	10.7
13,929.0	89.20	182.80	10,825.1	-2,664.1	94.8	0.63	0.00	-0.63	1.0	4.9
14,022.0	89.00	183.10	10,826.5	-2,758.9	90.0	0.39	-0.22	0.32	2.9	-0.6
14,117.0	88.80	182.40	10,828.4	-2,851.8	85.4	0.77	-0.21	-0.74	5.1	-5.8
14,212.0	89.10	182.20	10,830.1	-2,946.7	81.6	0.38	0.32	-0.21	7.3	-10.3
14,306.0	88.20	181.10	10,832.3	-3,040.6	78.9	1.51	-0.96	-1.17	9.9	-13.7
14,401.0	87.20	180.60	10,836.1	-3,135.6	77.5	1.18	-1.05	-0.53	14.2	-15.8
14,496.0	88.70	180.10	10,839.5	-3,230.5	76.9	1.66	1.58	-0.53	18.0	-17.1
14,590.0	91.30	179.10	10,839.5	-3,324.5	77.6	2.96	2.77	-1.06	18.5	-17.1
14,685.0	91.50	179.10	10,837.2	-3,419.4	79.1	0.21	0.21	0.00	16.6	-16.3
14,780.0	91.30	178.80	10,834.8	-3,514.4	80.8	0.38	-0.21	-0.32	14.7	-15.3



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14,875.0	91.70	178.80	10,832.4	-3,609.3	82.8	0.42	0.42	0.00	12.7	-14.0
14,870.0	91.80	178.50	10,829.4	-3,704.3	85.1	0.38	0.21	-0.32	10.1	-12.4
15,065.0	92.20	178.20	10,826.0	-3,789.2	87.8	0.45	0.32	-0.32	7.2	-10.4
15,160.0	89.00	179.30	10,825.0	-3,894.1	89.9	3.58	-3.37	1.16	6.6	-9.0
15,255.0	88.90	179.50	10,828.8	-3,889.1	90.9	0.24	-0.11	0.21	8.8	-8.7
15,350.0	89.00	178.80	10,828.5	-4,084.1	92.3	0.74	0.11	-0.74	11.0	-8.0
15,445.0	90.50	178.70	10,828.9	-4,179.1	94.3	1.58	1.58	-0.11	11.8	-8.6
15,540.0	90.40	178.80	10,828.2	-4,274.0	96.4	0.15	-0.11	0.11	11.2	-5.2
15,635.0	90.00	178.10	10,827.8	-4,369.0	99.0	0.85	-0.42	-0.74	10.8	-3.4
15,661.0	90.10	178.20	10,827.8	-4,395.0	99.8	0.54	0.38	0.38	10.8	-2.8
15,717.0	90.10	178.20	10,827.7	-4,450.9	101.6	0.00	0.00	0.00	10.7	-1.4

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
10,225.0	10,181.9	701.8	81.1	KOP, MD:10225.0', TVD:10181.9', N/S:701.8', E/W:81.1', INC:1.89
10,507.3	10,448.6	620.0	87.5	FTP Crossing, MD:10507.3', TVD:10448.6', N/S:620.0', E/W:87.5', INC:30.82
15,661.0	10,827.8	-4,395.0	99.8	Last MWD Survey (MD=15661.0')
15,717.0	10,827.7	-4,450.9	101.6	Projection to Bit (MD=15717.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)
Lomas Rojas 26 State Com #505H
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: #505H

KB = 2' @ 3344.0usft 3342.0
Northing 403474.00 Easting 794319.00 Latitude 32° 6' 24.673 N Longitude 103° 32' 54.930 W

To convert a Magnetic Direction to a Grid Direction, Add 0.33°
To convert a Magnetic Direction to a True Direction, Add 0.74° 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	VSecl	Target
1	0.0	0.00	0.00	0.0	0.0	0.00	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.00	0.00	0.00	0.0	
3	1810.3	6.21	7.31	1509.7	16.7	2.1	2.00	7.31	-16.6	
4	7447.7	6.21	7.31	7412.3	653.3	83.9	0.00	0.00	-651.2	
5	7758.0	0.00	0.00	7722.0	670.0	86.0	2.00	180.00	-687.8	Brushy Top(Lomas Rojas 26 SC 505H)
6	10302.0	0.00	0.00	10266.0	670.0	86.0	0.00	0.00	-687.8	
7	11205.2	90.32	181.50	10838.9	94.0	70.9	10.00	181.50	-92.4	
8	11269.1	90.32	179.58	10838.8	30.1	70.3	3.00	-80.12	-28.6	
9	13553.0	90.32	179.58	10826.0	-2253.6	86.9	0.00	0.00	2258.0	TGT#1(Lomas Rojas 26 SC 505H)
10	13555.5	90.26	179.58	10826.0	-2256.2	87.0	2.00	179.62	2257.6	
11	15499.2	90.26	179.58	10817.0	-4199.8	101.1	0.00	0.00	4201.0	TGT#2(Lomas Rojas 26 SC 505H)
12	16512.9	89.99	179.57	10817.0	-4213.4	101.2	2.00	-179.42	4214.7	
13	18750.4	89.99	179.57	10817.0	-4451.0	103.0	0.00	0.00	4452.2	PBHL(Lomas Rojas 26 SC 505H)

CASING DETAILS

No casing data is available

WELLSBORE YARDEY DETAILS (MAP CO-ORDINATES)

Name	TYD	+N-S	+E-W	Northing	Easting
Brushy Top(Lomas Rojas 26 SC 505H)	7722.0	670.0	86.0	404144.00	794495.00
PBHL(Lomas Rojas 26 SC 505H)	10817.0	-4451.0	103.0	399223.00	794422.00
TGT#1(Lomas Rojas 26 SC 505H)	10817.0	-4199.8	101.1	399274.30	794425.10
TGT#2(Lomas Rojas 26 SC 505H)	10826.0	-2253.6	86.9	401225.40	794405.94
FTP(Lomas Rojas 26 SC 505H)	10833.0	620.9	63.0	404284.00	794325.00

