



HOBBS OCD

SEP 09 2019

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Lomas Rojas 26 State Com

#506H

OH

Design: OH

Midland PVA

07 May, 2019



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Lomas Rojas 26 State Com
 Well: #506H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #506H
 TVD Reference: KB = 22 @ 3384.0usft
 MD Reference: KB = 22 @ 3384.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: 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 Lomas Rojas 26 State Com

Site Position:	Map	Northing:	403,491.00 usft	Latitude:	32° 6' 24.528 N
From:		Easting:	785,867.00 usft	Longitude:	103° 32' 36.699 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.42 °

Well #506H

Well Position	+N-S	0.0 usft	Northing:	403,441.00 usft	Latitude:	32° 6' 24.146 N
	+E-W	0.0 usft	Easting:	784,319.00 usft	Longitude:	103° 32' 54.933 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	58.94	47,691.66501254

Design OH

Audit Notes:		Phase:	ACTUAL	Tie On Depth:	0.0
Version:	1.0				
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.0	0.0	0.0	187.56	

Survey Program Date 5/7/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
166.0	15,657.0	Newsco MWD (OH)	MWD	OWSG MWD - Standard



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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)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
166.0	0.90	272.50	166.0	0.1	-1.3	0.54	0.54	0.00	-1.3	0.0
348.0	1.10	308.40	348.0	1.2	-4.1	0.35	0.11	19.73	-4.0	1.6
536.0	0.70	334.20	535.9	3.4	-6.0	0.30	-0.21	13.72	-5.6	4.0
725.0	0.30	19.80	724.9	4.9	-6.3	0.28	-0.21	24.13	-2.4	7.6
915.0	0.10	139.60	914.9	5.2	-6.1	0.19	-0.11	63.05	7.9	-1.3
1,104.0	0.70	253.10	1,103.9	4.7	-7.1	0.39	0.32	60.05	-5.4	-6.6
1,150.0	0.90	288.00	1,149.9	4.8	-7.7	1.12	0.43	75.87	-8.8	-2.2
1,264.0	0.60	257.00	1,263.9	4.9	-9.1	0.43	-0.26	-27.19	-7.5	-6.2
1,359.0	3.00	333.80	1,358.9	7.0	-10.7	3.08	2.53	80.85	-6.7	5.8
1,548.0	6.10	339.20	1,547.3	20.9	-16.4	1.65	1.64	2.80	-4.9	2.5
1,736.0	8.30	332.50	1,733.8	42.2	-26.3	1.25	1.17	-3.56	-3.1	-3.0
1,926.0	8.40	329.00	1,921.7	66.3	-39.7	0.27	0.05	-1.84	-4.0	-6.2
2,115.0	8.50	320.00	2,108.7	88.8	-55.8	0.70	0.05	-4.76	-4.2	-7.0
2,304.0	8.50	315.30	2,295.6	109.5	-74.6	0.37	0.00	-2.49	-5.4	-4.4
2,492.0	6.80	315.00	2,482.0	127.2	-82.3	0.90	-0.90	-0.16	-4.5	-0.3
2,681.0	7.60	329.10	2,669.5	145.9	-106.6	1.02	0.42	7.46	-1.4	1.3
2,871.0	6.80	329.70	2,858.0	166.3	-118.7	0.42	-0.42	0.32	1.3	-1.1
3,061.0	6.40	339.80	3,046.7	186.0	-128.1	0.65	-0.21	5.32	5.1	-6.5
3,250.0	10.20	337.40	3,233.7	211.3	-138.1	2.02	2.01	-1.27	3.8	-12.7
3,436.0	12.00	322.90	3,418.2	242.3	-156.3	1.76	0.96	-7.71	-2.7	-15.0
3,627.0	11.00	317.20	3,603.4	271.2	-180.4	0.80	-0.53	-3.02	-12.7	-13.9
3,815.0	9.00	316.70	3,788.6	295.1	-202.7	1.06	-1.06	-0.27	-18.2	-10.7
4,004.0	8.00	328.20	3,975.5	317.1	-219.6	1.11	-0.53	6.61	-22.4	-5.5
4,193.0	6.20	329.60	4,163.0	337.2	-231.5	0.95	-0.95	0.21	-19.4	-7.7
4,381.0	4.50	340.60	4,350.2	352.9	-239.1	1.05	-0.90	5.85	-12.6	-9.4
4,570.0	4.50	327.60	4,538.6	366.2	-245.5	0.53	0.00	-6.77	1.6	-15.2



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Database: EDM 5000.14

Survey

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)
4,759.0	2.40	333.40	4,727.3	378.0	-251.2	1.12	-1.11	2.98	14.9	-18.8
4,915.0	1.50	328.10	4,883.2	380.7	-253.7	0.59	-0.58	-3.40	33.1	-18.2
5,032.0	1.70	325.50	5,000.2	383.4	-255.5	0.18	0.17	-2.22	47.0	-18.1
5,221.0	7.60	316.90	5,188.5	394.9	-265.7	3.13	3.12	-4.55	60.2	-7.9
5,409.0	11.70	329.20	5,373.8	420.3	-283.9	2.43	2.18	6.54	52.1	-20.1
5,597.0	12.10	327.20	5,557.7	453.3	-304.4	0.31	0.21	-1.06	40.1	-20.3
5,785.0	12.00	328.20	5,741.6	488.1	-325.9	0.12	-0.05	-0.53	27.2	-20.9
5,974.0	12.00	328.50	5,928.5	518.8	-347.7	0.03	0.00	0.16	14.1	-22.0
6,162.0	11.60	325.40	6,110.5	550.6	-369.2	0.24	-0.21	-0.59	2.2	-22.6
6,351.0	11.60	324.10	6,295.6	581.7	-391.1	0.14	0.00	-0.69	-9.0	-22.9
6,540.0	11.50	324.20	6,480.8	612.3	-413.3	0.05	-0.05	0.05	-20.6	-22.9
6,728.0	11.40	315.80	6,665.1	640.9	-437.2	0.89	-0.05	-4.47	-28.4	-24.5
6,917.0	10.70	317.80	6,850.6	667.2	-462.0	0.42	-0.37	1.08	-39.3	-19.9
7,012.0	8.70	313.90	6,944.2	678.8	-473.1	2.21	-2.11	-4.11	-40.8	-20.8
7,108.0	5.70	308.20	7,037.5	688.6	-481.9	3.28	-3.19	-6.06	-37.7	-21.8
7,201.0	4.70	299.40	7,132.1	691.4	-489.0	1.34	-1.05	-9.26	-30.4	-22.4
7,295.0	3.00	310.60	7,225.8	694.9	-494.2	1.87	-1.81	11.91	-27.5	-12.3
7,484.0	2.70	321.20	7,414.6	701.6	-500.8	0.32	-0.16	5.61	-14.5	-4.8
7,673.0	1.60	211.80	7,603.5	702.8	-505.0	1.89	-0.58	-57.88	3.4	-4.4
7,862.0	1.90	211.70	7,792.4	697.9	-508.0	0.16	0.16	-0.05	-3.0	-2.8
8,051.0	1.90	207.00	7,981.3	692.5	-511.1	0.08	0.00	-2.49	-9.0	-3.3
8,240.0	1.80	209.30	8,170.2	687.1	-514.0	0.07	-0.05	1.22	-15.3	-2.8
8,429.0	1.80	209.20	8,359.2	681.9	-516.9	0.00	0.00	-0.05	-21.2	-2.9
8,617.0	2.00	206.40	8,547.0	676.4	-519.8	0.12	0.11	-1.49	-27.3	-4.1
8,806.0	2.20	204.90	8,735.9	670.1	-522.7	0.11	0.11	-0.79	-34.1	-4.9
8,994.0	2.60	203.10	8,923.8	662.9	-525.9	0.22	0.21	-0.96	-41.8	-8.0
9,183.0	2.30	225.90	9,112.6	656.4	-530.3	0.54	-0.16	12.06	-48.6	12.3



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9,372.0	2.40	249.70	9,301.4	652.3	-538.8	0.52	0.05	12.59	-48.9	32.4
9,561.0	2.40	256.80	9,490.3	650.1	-544.3	0.16	0.00	3.76	-50.4	38.4
9,750.0	2.30	242.70	9,679.1	647.4	-551.6	0.31	-0.05	-7.46	-65.9	24.0
9,938.0	1.90	214.40	9,867.0	643.1	-556.7	0.58	-0.21	-15.05	-75.9	-11.9
10,150.0	2.50	173.50	10,078.8	635.6	-558.1	0.77	0.28	-19.28	-56.8	-61.0
10,244.0	3.40	154.20	10,172.7	631.1	-556.7	1.41	0.96	-20.53	-38.2	-77.0
10,339.0	9.70	153.70	10,267.1	621.4	-551.9	6.63	6.63	-0.53	-47.8	-76.9
10,433.0	22.00	171.00	10,357.3	596.8	-545.6	13.88	13.09	18.40	-80.8	-51.8
10,528.0	22.30	175.80	10,445.3	561.2	-541.5	1.93	0.32	5.05	-89.9	-34.8
10,622.0	32.70	180.40	10,528.6	517.9	-540.4	11.28	11.06	4.89	-86.9	-18.1
10,717.0	41.50	189.20	10,604.4	461.0	-545.6	10.80	9.26	9.26	-79.7	-3.6
10,812.0	50.80	191.50	10,670.1	383.7	-558.0	9.84	9.79	2.42	-68.1	-3.8
10,906.0	63.10	187.60	10,721.3	316.2	-570.9	13.54	13.09	-4.15	-56.6	-6.4
11,001.0	78.30	185.10	10,752.6	227.3	-580.7	16.19	16.00	-2.83	-50.6	-2.2
11,097.0	80.80	184.90	10,770.0	133.3	-588.9	2.61	2.60	-0.21	-41.9	5.2
11,192.0	82.40	184.70	10,783.9	39.6	-596.8	1.70	1.68	-0.21	-28.0	9.9
11,287.0	85.60	184.10	10,793.8	-54.6	-604.0	3.43	3.37	-0.63	-18.1	10.6
11,381.0	86.40	183.90	10,800.4	-148.1	-610.6	0.88	0.85	-0.21	-11.6	7.3
11,476.0	86.30	183.80	10,806.4	-242.7	-616.9	0.15	-0.11	-0.11	-5.5	0.5
11,570.0	88.70	181.20	10,810.5	-336.5	-621.0	3.76	2.55	-2.77	-1.5	-4.3
11,665.0	88.60	181.10	10,812.8	-431.4	-622.9	0.15	-0.11	-0.11	0.8	-6.9
11,759.0	88.60	181.10	10,815.1	-525.4	-624.7	0.00	0.00	0.00	3.1	-9.4
11,854.0	90.20	179.80	10,816.1	-620.4	-625.5	2.17	1.68	-1.37	4.2	-10.8
11,949.0	90.40	179.60	10,815.8	-715.4	-625.0	0.30	0.21	-0.21	4.4	-11.0
12,043.0	90.40	179.20	10,814.9	-809.4	-624.0	0.43	0.00	-0.43	4.4	-10.7
12,138.0	89.30	179.00	10,815.2	-904.4	-622.5	1.18	-1.16	-0.21	5.3	-9.9
12,232.0	89.00	179.10	10,816.5	-998.3	-620.9	0.34	-0.32	0.11	7.3	-9.0



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12,327.0	88.60	179.40	10,818.5	-1,093.3	-619.7	0.53	-0.42	0.32	10.0	-8.5
12,421.0	88.40	179.60	10,821.0	-1,187.3	-618.9	0.30	-0.21	0.21	13.1	-8.3
12,516.0	89.30	178.40	10,822.9	-1,282.2	-617.2	1.58	0.95	-1.26	15.7	-7.4
12,610.0	91.20	177.40	10,822.5	-1,376.2	-613.8	2.28	2.02	-1.06	15.9	-4.6
12,705.0	91.20	177.20	10,820.5	-1,471.0	-609.3	0.21	0.00	-0.21	14.6	-0.8
12,799.0	91.30	177.80	10,818.5	-1,564.9	-605.2	0.65	0.11	0.64	13.2	2.6
12,893.0	91.40	177.40	10,816.2	-1,658.8	-601.3	0.44	0.11	-0.43	11.6	5.8
12,987.0	91.50	177.20	10,813.9	-1,752.7	-596.8	0.24	0.11	-0.21	9.9	9.6
13,082.0	91.20	177.90	10,811.6	-1,847.6	-592.8	0.80	-0.32	0.74	8.3	12.9
13,176.0	91.60	178.50	10,809.3	-1,941.5	-589.8	0.77	0.43	0.64	6.7	15.2
13,270.0	89.50	179.60	10,808.4	-2,035.5	-588.3	2.52	-2.23	1.17	6.4	16.1
13,364.0	88.80	179.10	10,809.8	-2,129.5	-587.2	0.82	-0.74	-0.53	8.0	16.5
13,458.0	88.80	179.30	10,811.8	-2,223.4	-585.9	0.21	0.00	0.21	10.2	17.1
13,553.0	88.40	179.30	10,814.1	-2,318.4	-584.7	0.42	-0.42	0.00	12.7	17.6
13,647.0	88.00	178.80	10,817.1	-2,412.3	-583.2	0.68	-0.43	-0.53	15.9	18.5
13,741.0	90.20	179.30	10,818.5	-2,506.3	-581.6	2.40	2.34	0.53	17.5	19.3
13,836.0	90.10	178.50	10,818.3	-2,601.3	-579.8	0.85	-0.11	-0.84	17.5	20.5
13,930.0	90.50	178.20	10,817.8	-2,695.2	-577.1	0.53	0.43	-0.32	17.2	22.5
14,024.0	90.60	178.20	10,816.9	-2,789.2	-574.1	0.11	0.11	0.00	16.5	24.7
14,119.0	91.60	179.90	10,815.1	-2,884.2	-572.6	2.08	1.05	1.79	14.9	25.6
14,213.0	91.70	180.20	10,812.4	-2,978.1	-572.6	0.34	0.11	0.32	12.3	24.9
14,308.0	92.20	180.40	10,809.1	-3,073.1	-573.1	0.57	0.53	0.21	9.3	23.7
14,403.0	90.50	181.60	10,806.9	-3,168.0	-574.8	2.19	-1.79	1.26	7.3	21.3
14,497.0	90.20	181.80	10,806.3	-3,262.0	-577.6	0.38	-0.32	0.21	6.9	17.9
14,592.0	89.80	181.80	10,806.3	-3,356.9	-580.6	0.42	-0.42	0.00	7.1	14.2
14,687.0	89.30	181.70	10,807.1	-3,451.9	-583.5	0.54	-0.53	-0.11	8.0	10.6
14,782.0	88.90	181.60	10,808.6	-3,546.8	-586.2	0.43	-0.42	-0.11	9.7	7.2



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14,877.0	88.00	181.00	10,810.3	-3,641.8	-588.4	0.64	0.11	-0.63	11.7	4.3
14,972.0	88.70	181.10	10,812.2	-3,738.8	-590.1	0.33	-0.32	0.11	13.8	1.9
15,067.0	88.90	181.20	10,814.2	-3,831.7	-592.0	0.24	0.21	0.11	16.0	-0.7
15,162.0	89.00	181.80	10,815.9	-3,926.7	-594.3	0.43	0.11	0.42	17.9	-3.7
15,257.0	88.70	181.10	10,817.8	-4,021.6	-596.6	0.61	-0.32	-0.53	20.0	-6.6
15,352.0	88.60	180.80	10,820.1	-4,116.6	-598.1	0.33	-0.11	-0.32	22.4	-8.9
15,446.0	88.40	180.60	10,822.5	-4,210.5	-599.3	0.30	-0.21	-0.21	25.1	-10.7
15,541.0	88.80	180.30	10,824.9	-4,305.5	-600.0	0.53	0.42	-0.32	27.6	-12.2
15,601.0	88.40	180.10	10,826.3	-4,365.5	-600.2	0.75	-0.67	-0.33	29.2	-12.8
15,657.0	88.40	180.10	10,827.8	-4,421.5	-600.3	0.00	0.00	0.00	30.9	-13.3

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
9,652.6	9,581.8	649.0	-548.0	FTP Crossing, MD:9652.6', TVD:9581.8', N/S:649.0', E/W:-548.0', INC:2.33
10,240.0	10,168.7	631.3	-556.8	KOP, MD:10240.0', TVD:10168.7', N/S:631.3', E/W:-556.8', INC:3.36
15,601.0	10,826.3	-4,365.5	-600.2	Last MWD Survey (MD=15601.0')
15,657.0	10,827.8	-4,421.5	-600.3	Projection to Bit (MD=15657.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)
Lomas Rojas 26 State Com #506H
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: #506H

KB = 22 @ 3364.0usft 3342.0
Northing 403441.00 Easting 784319.00 Latitude 32° 6' 24.146 N Longitude 103° 32' 54.933 W

To convert a Magnetic Direction to a Grid Direction, Add 8.33°
To convert a Magnetic Direction to a True Direction, Add 8.74° East
To convert a True Direction to a Grid Direction, Subtract 0.42°

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSeal	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	0.0	0.00	0.00	0.0	
3	1802.0	8.04	324.21	1800.7	22.8	-18.5	2.00	324.21	-20.5	
4	7380.2	8.04	324.21	7302.3	678.2	-487.5	0.00	0.00	-406.1	
5	7782.2	0.00	0.00	7703.0	899.0	-504.0	2.00	180.00	-426.6	Brushy Top(Lomas Rojas 26 SC #506H)
6	10298.2	0.00	0.00	10239.0	899.0	-504.0	0.00	0.00	-426.6	
7	11198.2	80.00	189.05	10812.0	135.2	-84.1	10.00	189.05	-43.8	
8	11613.8	80.00	179.58	10812.0	-181.1	-417.8	3.00	-80.03	260.8	TGT#1(Lomas Rojas 26 SC #506H)
9	11918.9	80.00	179.58	10812.0	-488.2	-414.9	0.00	0.00	682.0	
10	11939.0	80.40	179.58	10811.9	-406.3	-414.8	2.00	-0.11	681.9	
11	13371.0	90.40	179.58	10802.0	-2038.2	-404.3	0.00	0.00	2100.0	TGT#2(Lomas Rojas 26 SC #506H)
12	13384.9	90.12	179.58	10801.9	-2052.1	-404.2	2.00	180.00	2113.8	
13	15754.8	90.12	179.58	10797.0	-4422.0	-487.0	0.00	0.00	4460.8	PBHL(Lomas Rojas 26 SC #506H)

CASING DETAILS

No casing data is available

WELLSBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Brushy Top(Lomas Rojas 26 SC #506H)	7703.0	899.0	-504.0	404140.00	783815.00
PBHL(Lomas Rojas 26 SC #506H)	10797.0	-4422.0	-487.0	389019.00	783732.00
TGT#1(Lomas Rojas 26 SC #506H)	10802.0	-2038.2	-404.3	401422.80	783714.68
TGT#2(Lomas Rojas 26 SC #506H)	10812.0	-2052.1	-404.2	404080.00	783635.00
TGT#3(Lomas Rojas 26 SC #506H)	10812.0	-488.2	-414.9	402354.80	783704.09

