



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Fearless 26 Fed Com

#504H

OH

Design: OH

Midland PVA

11 June, 2019



Midland PVA

Company:	EOG Resources - Midland			Local Co-ordinate Reference:	Well #5504H
Project:	Lea County, NM (NAD 83 NME)			TVD Reference:	KB = 25' @ 3424.0usft
Site:	Fearless 26 Fed Com			MD Reference:	KB = 25' @ 3424.0usft
Well:	#5504H			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	Fearless 26 Fed Com		
Site Position:		Northing:	403,601.00 usft
From:	Map	Easting:	755,228.00 usft
Position Uncertainty:	0.0 usft	Sight Radius:	13-3/16 "
		Latitude:	32° 6' 27.700 N
		Longitude:	103° 38' 33.130 W
		Grid Convergence:	0.17 "

Well	#5504H		
Well Position	+NLS 0.0 usft	Northing:	403,612.00 usft
	+EAW 0.0 usft	Easting:	755,195.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 6' 27.811 N
		Longitude:	103° 38' 33.513 W
		Ground Level:	3,399.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	9/27/2017	6.95
			Dip Angle
			59.94
			Field Strength
			47,832.96040098

Design	OH		
Auth Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+NLS	+EAW
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			182.35

Survey Program	Date 6/11/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
197.0	20,830.0	Intrepid MWD (OH)	MWD
			Description
			OWSG MWD - Standard



Midland PVA

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Site:	Fearless 26 Fed Com	MD Reference:	KB = 25' @ 3424.0ush
Well:	#504H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EGM 5000.14

MD (ustf)	Inc (°)	Asl (azimuth) (°)	TVD (ustf)	NS (ustf)	EW (ustf)	DLog (°/100ustf)	Bullid (°/100ustf)	Turn (°/100ustf)	High to Plan (ustf)	Right to Plan (ustf)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
187.0	1.45	313.41	187.0	1.7	-1.8	0.74	0.74	0.00	-2.5	0.0
316.0	1.71	324.92	315.9	4.2	-3.9	0.34	0.22	9.67	-5.7	0.6
403.0	1.38	335.85	402.9	8.2	-5.1	0.52	-0.40	12.22	-7.8	2.1
491.0	0.92	331.51	490.9	7.8	-5.9	0.51	-0.50	-4.59	-9.9	1.4
578.0	0.97	349.09	577.9	9.1	-6.3	0.34	0.06	20.21	-10.1	4.5
675.0	0.79	352.87	674.9	10.6	-6.6	0.19	-0.19	3.90	-11.3	8.2
769.0	1.27	4.73	768.8	12.3	-8.8	0.56	0.51	12.62	-11.7	7.8
863.0	1.54	28.68	862.8	14.4	-5.9	0.64	0.29	23.56	-10.2	11.8
966.0	2.02	72.41	965.8	18.2	-3.6	1.40	0.47	44.20	-1.5	16.5
1,061.0	1.68	75.13	1,060.7	17.1	-0.4	0.11	-0.04	2.66	-4.4	16.1
1,159.0	2.64	16.68	1,154.7	19.8	1.8	2.47	0.70	-61.99	-17.6	0.0
1,249.0	3.20	337.75	1,248.5	24.2	1.4	2.22	0.70	-41.61	-12.4	-15.8
1,344.0	5.01	317.71	1,343.3	29.8	-2.4	2.34	1.89	-21.09	-4.8	-21.3
1,438.0	5.80	302.16	1,436.9	35.4	-8.2	1.76	0.84	-16.54	0.5	-22.0
1,533.0	5.71	303.39	1,531.4	40.5	-17.2	0.16	-0.09	1.29	-1.3	-21.2
1,627.0	5.71	302.16	1,624.9	45.6	-25.1	0.13	0.00	-1.31	-2.0	-20.4
1,721.0	5.49	299.96	1,718.5	50.3	-32.9	0.33	-0.23	-2.34	-2.3	-19.4
1,816.0	6.15	304.79	1,813.0	55.5	-41.0	0.86	0.69	5.08	-5.3	-18.2
1,910.0	6.81	312.26	1,906.4	62.1	-48.3	1.14	0.70	7.85	-10.0	-17.3
2,004.0	6.73	308.04	1,999.7	69.3	-57.8	0.54	-0.09	-4.49	-11.6	-18.3
2,099.0	6.51	305.23	2,094.1	75.8	-66.5	0.41	-0.23	-2.96	-13.4	-18.7
2,193.0	6.55	302.33	2,187.5	81.7	-75.4	0.35	0.04	-3.09	-15.0	-18.7
2,287.0	6.46	299.38	2,280.9	87.1	-84.6	0.49	-0.10	-4.20	-16.3	-18.6
2,381.0	6.46	297.76	2,374.3	92.1	-93.9	0.07	0.00	-0.66	-18.6	-17.3
2,475.0	6.59	307.69	2,467.7	97.9	-102.9	1.21	0.14	10.56	-23.7	-12.8
2,569.0	6.33	307.87	2,561.1	104.3	-111.2	0.26	-0.28	0.19	-26.2	-12.7



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #504H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3424.0ush
Site:	Fearless 20 Fed Com	MD Reference:	KB = 25' @ 3424.0ush
Well:	#504H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (ush)	Inc (")	Ad (azimuth) (")	TVD (ush)	N/S (ush)	EW (ush)	DLog ("/100ush)	Build ("/100ush)	Turn ("/100ush)	High to Plan (ush)	Right to Plan (ush)
2,663.0	6.02	306.73	2,654.5	110.5	-119.3	0.33	-0.33	-1.21	-27.8	-13.0
2,759.0	5.76	300.22	2,749.0	115.9	-127.4	0.73	-0.27	-6.65	-27.7	-15.4
2,852.0	5.93	304.53	2,842.6	121.0	-135.5	0.50	0.16	4.59	-30.2	-12.4
2,948.0	6.07	314.57	2,938.0	127.2	-143.0	1.10	0.15	10.47	-33.5	-7.1
3,041.0	5.45	314.57	3,030.6	133.9	-149.8	0.65	-0.65	0.00	-34.8	-7.9
3,135.0	5.10	315.52	3,124.2	140.0	-156.0	0.39	-0.37	1.22	-35.4	-8.1
3,229.0	4.70	318.29	3,217.8	145.9	-161.4	0.55	-0.43	4.01	-35.9	-7.1
3,324.0	4.13	324.57	3,312.5	151.6	-165.9	0.74	-0.60	5.56	-35.7	-5.7
3,418.0	3.78	330.61	3,408.3	157.1	-169.4	0.59	-0.37	6.64	-35.0	-4.5
3,512.0	3.38	336.79	3,500.1	162.3	-172.0	0.58	-0.43	6.36	-33.9	-4.4
3,609.0	3.03	350.03	3,594.0	167.3	-173.3	1.20	-0.37	20.47	-33.0	1.9
3,701.0	3.12	338.46	3,688.9	172.3	-174.4	0.99	0.09	-18.49	-29.8	-13.0
3,796.0	3.38	326.94	3,783.7	177.0	-176.9	0.74	0.27	-12.13	-24.1	-21.9
3,890.0	3.08	324.57	3,877.5	181.4	-179.8	0.35	-0.32	-2.52	-20.8	-25.2
3,984.0	2.64	333.09	3,971.4	185.4	-182.3	0.65	-0.47	9.06	-21.3	-24.9
4,079.0	1.76	349.35	4,068.4	188.6	-183.5	1.13	-0.93	17.12	-24.7	-22.7
4,173.0	2.20	317.98	4,160.3	191.5	-185.0	1.22	0.47	-33.37	-4.3	-34.4
4,267.0	2.51	312.35	4,254.2	194.2	-187.7	0.41	0.33	-5.99	3.5	-35.4
4,361.0	0.92	303.04	4,348.2	196.0	-189.9	1.71	-1.69	-9.90	14.5	-33.8
4,456.0	0.66	209.34	4,443.2	196.0	-190.8	1.23	-0.27	-98.63	31.1	24.0
4,550.0	1.01	154.85	4,537.2	194.9	-190.7	0.88	0.37	-57.97	-9.9	42.5
4,599.0	1.01	149.67	4,586.2	194.0	-190.3	0.19	0.00	-10.57	-18.5	43.0
4,716.0	1.01	149.40	4,703.1	192.2	-189.3	0.00	0.00	-0.23	-30.3	46.5
4,810.0	1.32	311.12	4,797.1	192.2	-189.7	2.45	0.33	172.04	51.3	-34.7
4,905.0	4.13	328.45	4,892.0	195.8	-192.4	3.02	2.98	15.08	44.7	-48.4
4,999.0	7.16	333.62	4,985.8	203.8	-197.0	3.33	3.22	8.69	35.6	-57.2
5,094.0	7.69	333.88	5,079.8	214.8	-202.4	0.56	0.56	0.27	30.6	-60.9



Midland PVA

Company:	Eog Resources - Midland	Local Co-ordinate Reference:	Well 6504H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3424.0ush
Site:	Fearless 26 Fed Com	MD Reference:	KB = 25' @ 3424.0ush
Well:	6504H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (ush)	Inc (°)	Azi (azimuth) (°)	TVD (ush)	NS (ush)	E/W (ush)	DLeg (°/100ush)	Bulld (°/100ush)	Turn (°/100ush)	High to Plan (ush)	Right to Plan (ush)
6,188.0	7.38	334.32	5,172.9	225.9	-207.8	0.34	-0.33	0.47	25.2	-64.8
5,282.0	7.03	333.01	5,268.2	238.5	-213.0	0.41	-0.37	-1.39	22.3	-67.5
5,377.0	6.99	334.68	5,360.8	246.9	-218.1	0.22	-0.04	1.76	16.1	-71.6
5,471.0	7.56	330.02	5,453.7	257.4	-223.6	0.67	0.61	-4.96	17.6	-73.6
5,565.0	6.68	323.16	5,546.6	268.4	-231.0	1.56	1.17	-7.30	20.9	-73.8
5,660.0	8.40	322.89	5,640.7	279.7	-239.4	0.27	-0.27	-0.18	15.0	-75.8
5,754.0	8.84	315.16	5,733.7	290.3	-248.7	1.33	0.47	-8.33	19.2	-76.0
5,848.0	9.71	301.88	5,826.5	299.8	-260.5	2.44	0.93	-14.02	28.7	-69.4
5,943.0	7.60	291.28	5,920.4	306.1	-273.1	2.78	-2.22	-11.28	34.8	-61.9
6,037.0	5.71	289.15	6,013.8	309.9	-283.3	2.03	-2.01	-2.24	33.9	-58.1
6,132.0	5.58	288.80	6,108.3	312.9	-292.2	0.14	-0.14	-0.37	32.7	-55.1
6,225.0	5.45	288.62	6,200.9	315.8	-300.6	0.14	-0.14	-0.19	31.6	-52.3
6,320.0	4.57	282.56	6,285.5	318.1	-308.6	1.08	-0.93	-6.38	38.1	-45.5
6,414.0	3.91	272.71	6,369.2	319.0	-315.5	1.04	-0.70	-10.48	43.1	-34.5
6,509.0	1.78	256.54	6,484.1	318.9	-320.1	2.39	-2.28	-17.02	51.6	-13.5
6,604.0	1.36	255.83	6,578.1	318.2	-322.6	0.42	-0.42	-0.84	54.2	-8.4
6,698.0	1.27	255.22	6,673.1	317.7	-324.7	0.10	-0.10	-0.76	57.0	-1.2
6,793.0	1.41	342.76	6,768.0	318.6	-328.1	1.95	0.15	92.15	6.8	-60.5
6,887.0	1.41	254.34	6,862.0	319.3	-327.6	2.09	0.00	-94.06	62.6	8.4
6,982.0	1.45	348.89	6,957.0	320.2	-329.0	2.18	0.04	97.42	8.3	-63.2
7,076.0	1.36	249.25	7,051.0	321.0	-330.3	2.25	-0.10	-103.87	60.9	13.5
7,171.0	1.58	244.32	7,146.0	320.0	-332.5	0.27	0.23	-5.19	57.1	18.6
7,265.0	1.67	249.77	7,239.9	319.0	-335.0	0.19	0.10	5.80	55.9	13.2
7,360.0	1.67	242.74	7,334.9	317.9	-337.5	0.22	0.00	-7.40	51.1	19.8
7,454.0	1.67	233.85	7,428.8	316.4	-339.8	0.27	0.00	-8.35	44.8	27.2
7,548.0	1.71	234.22	7,522.8	314.6	-342.1	0.04	0.04	0.29	42.1	26.9
7,642.0	1.88	235.62	7,616.7	313.1	-344.5	0.29	0.28	1.49	38.8	25.9



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #504H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3424.0ust
Site:	Fearless 28 Fed Com	MD Reference:	KB = 25' @ 3424.0ust
Well:	#504H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey										
MD (ust)	Inc (°)	Azi (azimuth) (°)	TVD (ust)	N/S (ust)	E/W (ust)	D Leg (°/100ust)	Bull (°/100ust)	Turn (°/100ust)	High to Plan (ust)	Right to Plan (ust)
7,738.0	0.92	229.29	7,710.7	311.8	-348.4	1.14	-1.13	-8.73	34.3	30.0
7,831.0	2.42	231.93	7,805.7	309.9	-348.8	1.58	1.58	2.78	32.9	28.4
7,929.0	2.33	228.06	7,899.6	307.4	-351.6	0.20	-0.10	-4.12	27.0	30.4
8,016.0	1.98	216.46	7,993.5	304.8	-354.0	0.59	-0.37	-12.34	16.8	34.9
8,113.0	1.98	202.14	8,087.5	302.0	-355.5	0.52	0.00	-15.23	4.5	37.5
8,207.0	2.59	202.84	8,181.4	298.8	-357.0	0.65	0.65	0.74	1.2	37.5
8,302.0	2.29	199.59	8,278.3	294.8	-358.5	0.35	-0.32	-3.42	-5.0	37.4
8,398.0	2.33	200.99	8,370.2	291.2	-359.8	0.07	0.04	1.49	-7.8	37.5
8,490.0	2.15	204.60	8,464.2	287.8	-361.2	0.24	-0.19	3.84	-9.1	38.1
8,584.0	2.20	204.86	8,558.1	284.8	-362.7	0.05	0.05	0.28	-12.5	38.1
8,679.0	1.54	201.88	8,653.0	281.8	-363.9	0.70	-0.89	-3.05	-17.5	37.3
8,773.0	1.80	206.71	8,747.0	279.3	-365.1	0.31	0.28	5.05	-17.1	38.8
8,867.0	1.67	223.41	8,841.0	277.0	-366.7	0.55	-0.14	17.77	-8.0	42.5
8,961.0	1.41	251.44	8,934.9	275.8	-368.7	0.84	-0.28	29.82	10.5	41.9
9,056.0	1.49	279.22	9,029.9	275.4	-371.0	0.74	0.08	29.24	26.8	32.7
9,150.0	1.38	307.43	9,123.9	278.3	-373.1	0.75	-0.14	30.01	38.7	16.9
9,244.0	2.11	302.85	9,217.8	277.9	-375.5	0.81	0.80	-4.77	32.4	19.6
9,338.0	2.73	282.84	9,311.7	278.7	-378.0	0.80	0.66	-10.76	24.5	24.7
9,432.0	2.51	284.84	9,405.6	281.1	-381.0	0.45	-0.23	-8.51	16.8	27.5
9,526.0	3.34	297.41	9,499.5	282.9	-387.4	1.11	0.88	13.37	17.4	23.7
9,621.0	2.86	285.21	9,594.4	285.2	-382.0	0.52	-0.51	-2.32	11.4	24.3
9,715.0	2.48	289.08	9,688.3	288.9	-396.1	0.52	-0.43	-8.54	4.4	28.1
9,809.0	1.93	268.76	9,782.2	287.5	-399.6	0.89	-0.56	-21.60	-8.1	24.3
9,903.0	1.93	268.38	9,876.2	287.3	-402.7	0.09	0.00	-2.53	-12.3	23.9
9,997.0	1.89	287.97	9,970.1	287.2	-405.8	0.07	-0.04	1.69	-14.7	24.3
10,137.0	3.74	253.11	10,109.9	285.8	-412.5	1.41	1.32	-10.61	-27.2	19.1
10,231.0	11.82	191.77	10,203.1	275.4	-417.4	11.22	8.60	-85.26	-39.4	-17.9



Midland PVA

Company:	EOG Resources - Midland	Local Coordinate Reference:	Well #504H
Project:	Lee County, NM (NAD 83 NME)	TVD Reference:	K8 = 25' @ 3424.0usft
Site:	Fearless 26 Fed Com	MD Reference:	K8 = 25' @ 3424.0usft
Well:	#504H	North Reference:	G/d
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (")	Azl (azimuth) (")	TVD (usft)	NS (usft)	E/W (usft)	Dleg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	Hgh to Plan (usft)	Right to Plan (usft)
10,323.0	21.19	182.84	10,293.1	249.0	-420.2	10.32	9.87	-8.82	-47.8	-26.3
10,420.0	28.57	181.68	10,378.3	209.1	-421.6	7.78	7.77	-0.93	-50.3	-28.1
10,514.0	41.88	184.47	10,455.8	155.0	-424.7	14.37	14.27	2.89	-68.1	-28.5
10,608.0	50.15	179.48	10,521.7	86.7	-426.8	9.40	8.60	-3.27	-73.1	-35.0
10,703.0	58.37	179.29	10,576.6	10.5	-428.0	8.75	8.74	-0.18	-78.0	-34.0
10,750.0	64.40	179.81	10,599.1	-30.7	-425.7	12.87	12.83	1.11	-78.8	-33.2
10,798.0	64.44	179.99	10,619.8	-74.0	-425.8	0.35	0.08	0.37	-79.4	-32.8
10,845.0	65.19	178.05	10,639.8	-118.6	-424.8	4.06	1.60	-4.13	-74.3	-33.1
10,892.0	65.83	177.53	10,659.2	-158.3	-423.2	1.87	1.57	-1.11	-85.8	-31.6
10,940.0	71.96	177.62	10,678.5	-204.0	-421.3	12.56	12.58	0.19	-85.9	-28.1
10,987.0	77.32	178.05	10,688.8	-248.3	-419.8	11.44	11.40	0.01	-48.8	-27.0
11,081.0	80.13	177.09	10,707.3	-341.4	-415.7	3.15	2.99	-1.02	-28.8	-22.7
11,175.0	87.38	177.97	10,717.5	-434.7	-411.7	7.77	7.71	0.94	-21.3	-18.2
11,270.0	88.44	178.93	10,721.0	-529.8	-409.1	1.50	1.12	1.01	-19.4	-15.4
11,364.0	88.31	178.95	10,723.7	-623.5	-407.3	0.18	-0.14	-0.09	-18.2	-13.4
11,459.0	87.52	178.41	10,727.1	-718.8	-405.0	0.95	-0.83	-0.48	-18.3	-11.0
11,553.0	87.58	178.95	10,731.1	-812.3	-402.8	0.47	0.04	0.47	-13.8	-8.5
11,648.0	88.44	178.87	10,734.5	-907.3	-400.7	0.95	0.93	-0.19	-12.0	-6.3
11,742.0	89.27	179.20	10,736.3	-1,001.2	-399.0	1.03	0.88	0.58	-11.6	-4.3
11,836.0	88.58	179.29	10,737.3	-1,095.2	-397.8	0.34	0.33	0.10	-12.2	-3.0
11,931.0	89.01	178.85	10,738.5	-1,190.2	-396.2	0.76	-0.60	-0.48	-12.8	-1.2
12,025.0	88.57	178.85	10,740.4	-1,284.2	-394.3	0.47	-0.47	0.00	-12.1	0.0
12,119.0	87.47	178.14	10,743.7	-1,378.1	-391.9	1.39	-1.17	-0.78	-10.4	3.6
12,214.0	88.55	177.79	10,748.6	-1,472.9	-388.5	1.04	-0.97	-0.37	-7.0	7.1
12,308.0	88.22	178.85	10,752.9	-1,568.7	-385.7	2.10	1.78	1.13	-4.2	10.1
12,402.0	87.82	179.20	10,758.2	-1,660.7	-384.1	0.57	-0.43	0.37	-2.4	11.8
12,487.0	88.68	180.89	10,759.1	-1,753.6	-384.0	1.80	0.88	1.57	-1.0	12.1



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #504H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3424.0usft
Site:	Fearless 26 Fed Com	ND Reference:	KB = 25' @ 3424.0usft
Well:	#504H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Asi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLdg (°/100usft)	BuId (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
12,592.0	90.20	181.22	10,760.0	-1,850.6	-385.6	1.71	1.82	0.56	-1.6	10.7
12,668.0	90.07	180.99	10,759.8	-1,944.8	-387.4	0.31	-0.14	-0.28	-3.4	9.1
12,781.0	90.20	181.13	10,759.6	-2,038.6	-389.1	0.23	0.14	0.18	-5.1	7.8
12,875.0	90.68	180.25	10,758.9	-2,133.5	-390.3	1.07	0.51	-0.64	-7.4	6.7
12,970.0	90.73	179.72	10,757.7	-2,228.5	-390.3	0.56	0.05	-0.56	-10.1	6.9
13,084.0	90.02	179.81	10,757.1	-2,322.5	-389.9	0.76	-0.76	0.10	-12.2	7.5
13,158.0	89.23	180.16	10,757.7	-2,416.5	-389.8	0.92	-0.84	0.37	-13.1	7.7
13,282.0	88.92	180.34	10,759.2	-2,510.5	-390.3	0.38	-0.33	0.19	-13.1	7.4
13,347.0	88.75	179.99	10,761.2	-2,605.5	-390.5	0.41	-0.18	-0.37	-12.7	7.4
13,441.0	88.97	180.08	10,763.0	-2,699.5	-390.6	0.25	0.23	0.10	-12.4	7.5
13,536.0	88.04	179.55	10,765.5	-2,794.4	-390.3	1.13	-0.98	-0.56	-11.4	8.0
13,630.0	88.62	178.93	10,768.2	-2,888.4	-389.0	0.90	0.82	-0.66	-10.2	8.4
13,725.0	89.58	178.58	10,769.7	-2,983.4	-387.0	1.08	1.01	-0.37	-10.2	11.7
13,819.0	89.18	178.32	10,770.7	-3,077.3	-384.4	0.80	-0.41	-0.28	-10.7	14.4
13,913.0	88.35	177.97	10,772.8	-3,171.2	-381.4	0.97	-0.89	-0.37	-10.2	17.6
14,007.0	87.74	178.14	10,776.0	-3,265.1	-378.2	0.67	-0.65	0.18	-8.5	21.0
14,102.0	87.65	178.90	10,779.8	-3,360.0	-376.6	1.85	-0.09	1.85	-6.2	22.8
14,196.0	89.41	181.31	10,782.2	-3,454.0	-377.6	2.40	1.87	1.50	-5.3	22.0
14,290.0	88.41	182.45	10,783.2	-3,547.9	-380.7	1.21	0.00	1.21	-5.8	18.1
14,385.0	88.26	183.33	10,785.1	-3,642.8	-385.4	1.52	-1.21	0.93	-5.4	14.6
14,480.0	89.32	181.48	10,787.1	-3,737.7	-389.4	2.24	1.12	-1.85	-4.9	10.8
14,574.0	88.73	182.01	10,788.7	-3,831.6	-392.3	0.83	-0.81	0.86	-4.8	8.1
14,668.0	87.96	181.57	10,791.4	-3,925.5	-395.2	0.98	-0.84	-0.47	-3.8	5.3
14,763.0	87.47	181.57	10,795.2	-4,020.4	-397.8	0.62	-0.52	0.00	-1.4	2.8
14,857.0	88.04	180.78	10,798.9	-4,114.3	-399.7	1.04	0.61	-0.84	0.8	1.2
14,952.0	88.40	179.29	10,801.8	-4,209.3	-399.8	1.61	0.38	-1.57	2.3	1.3
15,046.0	89.45	178.49	10,803.6	-4,303.3	-398.0	1.40	1.12	-0.85	2.5	3.3



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #504H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3424.0usft
Site:	Fearless 28 Fed Com	MD Reference:	KB = 25' @ 3424.0usft
Well:	8904H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 8000.14

MD (usft)	Inc. (°)	Adj (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	D Leg (°/100usft)	Bull (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
15,141.0	89.93	178.85	10,804.1	-4,399.2	-395.8	0.83	0.51	0.38	1.5	5.7
15,236.0	88.44	177.97	10,805.4	-4,493.2	-393.1	1.82	-1.57	-0.93	1.3	8.8
15,330.0	88.04	177.88	10,808.3	-4,587.1	-389.7	0.44	-0.43	-0.10	2.7	12.2
15,425.0	88.99	178.32	10,812.4	-4,681.9	-386.6	1.20	-1.11	0.46	5.3	15.5
15,519.0	87.30	178.67	10,817.1	-4,775.8	-384.1	0.50	0.33	0.37	8.5	18.2
15,614.0	89.14	180.43	10,820.1	-4,870.7	-393.4	2.68	1.94	1.85	9.9	18.1
15,708.0	89.03	181.92	10,821.6	-4,964.7	-385.3	1.59	-0.10	1.59	9.9	17.3
15,803.0	88.18	182.01	10,823.9	-5,059.6	-388.6	0.92	-0.92	0.09	10.9	14.3
15,898.0	87.91	182.62	10,827.1	-5,154.5	-382.4	0.70	-0.28	0.64	12.6	10.6
15,991.0	89.71	181.66	10,829.0	-5,247.4	-395.9	2.19	1.94	-1.03	13.4	7.3
16,086.0	90.11	182.38	10,829.2	-5,342.3	-399.2	0.85	0.42	0.74	12.2	4.2
16,180.0	89.27	182.89	10,829.7	-5,436.2	-403.5	1.06	-0.89	0.56	11.4	0.1
16,275.0	87.89	183.59	10,832.2	-5,531.0	-406.9	1.82	-1.68	0.74	12.6	-5.1
16,369.0	88.09	182.39	10,835.7	-5,624.8	-413.8	1.38	0.43	-1.31	14.7	-8.9
16,464.0	89.49	180.89	10,837.7	-5,719.6	-416.3	2.29	1.47	-1.78	15.4	-12.1
16,558.0	90.33	181.31	10,837.8	-5,813.8	-417.9	1.11	0.89	0.66	14.3	-13.5
16,652.0	89.67	181.66	10,837.8	-5,907.7	-420.4	0.79	-0.70	0.37	12.9	-15.8
16,746.0	88.92	182.27	10,839.0	-6,001.7	-423.6	1.03	-0.80	0.65	12.8	-18.6
16,841.0	88.28	182.36	10,841.3	-6,096.6	-427.4	0.70	-0.69	0.09	13.8	-22.5
16,935.0	88.57	180.08	10,843.9	-6,190.6	-429.4	2.45	0.33	-2.43	15.1	-24.3
17,030.0	88.53	178.67	10,846.3	-6,285.5	-428.4	1.48	-0.04	-1.48	16.2	-23.0
17,125.0	87.69	178.58	10,849.5	-6,380.4	-426.1	0.89	-0.88	-0.09	18.0	-20.8
17,219.0	87.60	178.03	10,853.3	-6,474.3	-423.3	0.57	-0.10	-0.56	20.5	-17.6
17,313.0	90.51	179.11	10,854.9	-6,568.2	-421.0	3.29	3.10	1.13	20.8	-15.1
17,408.0	92.57	179.60	10,852.3	-6,663.2	-420.2	2.32	2.17	0.83	16.9	-14.1
17,502.0	92.75	180.52	10,847.9	-6,757.1	-420.5	0.69	0.19	0.66	11.2	-14.3
17,597.0	92.04	181.48	10,844.0	-6,852.0	-422.2	1.26	-0.75	1.01	5.9	-15.7



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #504H
Project:	Lea County, NM (MAD 83 NME)	TVD Reference:	KB = 25' @ 3424.0usft
Site:	Fearless 26 Fed Corn	MD Reference:	KB = 25' @ 3424.0usft
Well:	#504H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

ND (usft)	Inc (°)	Adj (azimuth) (°)	TVD (usft)	NS (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
17,891.0	91.25	181.57	10,841.3	-8,945.9	-424.7	0.85	-0.84	0.10	1.9	-18.0
17,788.0	91.69	182.27	10,838.8	-7,040.8	-427.9	0.87	0.46	0.74	-1.8	-21.0
17,880.0	92.00	184.21	10,835.8	-7,134.6	-433.2	2.09	0.33	2.06	-8.0	-26.2
17,974.0	91.30	181.92	10,833.1	-7,228.4	-438.2	2.55	-0.74	-2.44	-10.0	-31.0
17,894.0	90.68	181.39	10,832.8	-7,248.4	-438.8	4.08	-3.10	-2.65	-10.6	-31.5
18,068.0	88.44	181.04	10,833.3	-7,323.4	-440.4	3.02	-2.89	-0.47	-11.0	-32.8
18,098.0	87.30	180.87	10,834.0	-7,340.4	-440.7	6.78	-6.71	-1.00	-10.6	-33.2
18,163.0	88.13	179.99	10,837.0	-7,417.3	-441.2	1.57	1.08	-1.14	-8.5	-33.8
18,257.0	87.82	179.55	10,840.4	-7,511.2	-440.9	0.57	-0.33	-0.47	-8.4	-33.1
18,352.0	88.81	179.02	10,844.8	-7,606.1	-439.7	1.20	-1.06	-0.56	-3.1	-31.7
18,446.0	88.13	178.76	10,848.0	-7,700.0	-437.9	1.43	1.40	-0.28	-0.2	-29.7
18,541.0	87.85	179.02	10,852.5	-7,784.9	-436.0	0.57	-0.51	0.27	2.1	-27.8
18,635.0	86.99	179.64	10,856.9	-7,868.8	-434.9	0.96	-0.70	0.66	5.2	-28.4
18,729.0	85.40	179.11	10,860.6	-7,982.7	-433.9	1.60	1.50	-0.56	7.9	-25.1
18,824.0	89.27	179.72	10,862.8	-8,077.7	-432.9	1.12	0.92	0.64	8.5	-24.0
18,918.0	87.69	180.34	10,865.1	-8,171.7	-433.0	1.81	-1.68	0.66	9.8	-23.8
19,013.0	88.70	180.52	10,868.1	-8,268.8	-433.7	1.08	1.06	0.18	11.5	-24.4
19,107.0	89.67	179.84	10,869.4	-8,360.8	-433.8	1.39	1.03	-0.84	11.7	-24.3
19,201.0	90.02	179.55	10,869.8	-8,454.6	-433.2	0.36	0.37	-0.10	10.7	-23.4
19,296.0	89.85	179.46	10,869.8	-8,549.6	-432.3	0.20	-0.18	-0.09	9.6	-22.4
19,390.0	89.80	179.29	10,870.0	-8,643.8	-431.3	0.18	-0.05	-0.18	8.7	-21.2
19,484.0	88.97	178.41	10,871.0	-8,737.8	-429.4	1.29	-0.89	-0.84	8.3	-19.1
19,578.0	88.09	178.41	10,873.8	-8,831.5	-428.8	0.94	-0.84	0.00	8.7	-18.3
19,673.0	86.89	178.49	10,877.5	-8,926.4	-424.2	1.16	-1.16	0.08	12.5	-13.6
19,768.0	88.40	178.83	10,881.4	-9,021.3	-422.0	1.53	1.48	0.38	15.1	-11.2
19,862.0	88.67	178.78	10,882.9	-9,116.2	-420.1	1.35	1.35	-0.10	15.5	-9.0
19,956.0	88.14	178.49	10,883.9	-9,209.2	-417.9	0.83	-0.56	-0.29	15.2	-6.6



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #504H
Project:	Las County, NM (HAD 83 NME)	TVD Reference:	KB = 25' @ 3424.0ush
Site:	Fearless 28 Fed Com	MD Reference:	KB = 25' @ 3424.0ush
Well:	#504H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (ush)	Inc (")	Asl (azimuth) (°)	TVD (ush)	N/S (ush)	EW (ush)	QLeg (°/100ush)	Build (°/100ush)	Turn (°/100ush)	High to Plan (ush)	Right to Plan (ush)
20,051.0	87.47	178.32	10,896.7	-8,304.1	-415.2	1.77	-1.78	-0.18	18.8	-3.8
20,145.0	88.32	178.20	10,888.4	-8,398.1	-413.2	2.18	1.97	0.94	18.2	-1.8
20,240.0	89.71	178.05	10,890.2	-8,493.0	-410.9	1.28	0.41	-1.21	17.8	0.8
20,334.0	90.81	178.76	10,889.7	-8,587.0	-408.3	1.39	1.17	0.76	16.2	3.7
20,428.0	90.11	178.49	10,889.0	-8,682.0	-406.0	0.79	-0.74	-0.28	14.2	6.2
20,523.0	89.23	178.23	10,888.5	-8,775.9	-403.3	0.88	-0.94	-0.28	13.5	9.1
20,617.0	88.66	178.58	10,891.2	-8,869.9	-400.7	0.71	-0.61	0.37	14.0	11.9
20,640.0	88.53	178.58	10,891.8	-8,892.9	-400.1	0.57	-0.57	0.00	14.3	12.5
20,830.0	88.53	178.58	10,896.7	-10,082.7	-395.4	0.00	0.00	0.00	16.7	17.8

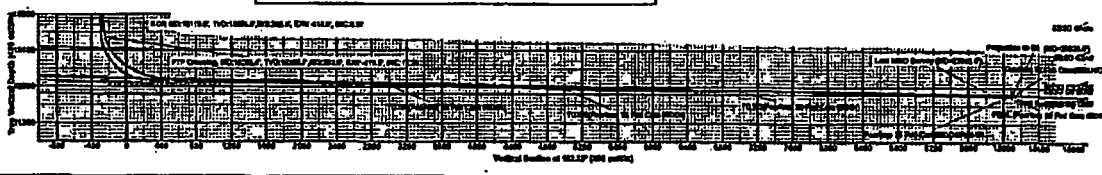
Design Annotations				
Measured Depth (ush)	Vertical Depth (ush)	Local Coordinates +N/S (ush)	+E/W (ush)	Comment
10,110.0	10,083.0	288.3	-410.9	KOP, MD:10110.0, TVD:10083.0, N/S:288.3, E/W:-410.9, INC:3.37
10,285.4	10,255.7	262.0	-419.3	FTP Crossing, MD:10285.4, TVD:10255.7, N/S:262.0, E/W:-419.3, INC:17.20
20,640.0	10,891.8	-8,892.9	-400.1	Last MWD Survey (MD=20640.0)
20,830.0	10,896.7	-10,082.7	-395.4	Projection to Bit (MD=20830.0)

Checked By: _____	Approved By: _____	Date: _____
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I certify this survey to be true and correct to the best of my belief and knowledge.

Kay Muddox
Signed

12/05/2019
Date





United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Carlsbad Field Office

620 E. Greene St.

Carlsbad, NM 88220-6292



Notice of Change to Procedure – Please Read

To All Operators,

This is to notify you that the Bureau of Land Management (BLM) Carlsbad Field Office will no longer be supplying copies of sundries (3160-5), applications for permit to drill (APDs), or completion reports (3160-4) to the New Mexico Oil Conservation Division (NMOCD).

Effective immediately, to be in compliance with C-104 requirements, the NMOCD is requiring operators to submit a copy of any sundries, APDs, or completion reports processed by the BLM to the appropriate NMOCD office. This change will affect all BLM sundries, APDs, and completion reports in Eddy and Lea counties.

If a copy of a previously processed sundry, APD, or completion report is needed for submission to NMOCD, the Carlsbad Field Office will send a copy to the operator.

If you have any questions, please contact Jonathon Shepard (BLM) 575-234-2237.

Thank you

Note: This notice is being included in multiple communications from the BLM Carlsbad Field Office and you may receive multiple copies.