



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Fearless 26 Fed Com

#504H

OH

Design: OH

Midland PVA

11 June, 2019

HOBBS OCD
DEC 09 2019
RECEIVED



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			MD Reference:	KB = 25' @ 3424.0usft
Well:	#504H			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	Latitude:	32° 6' 27.700 N
From:	Map	Easting:	755,228.00 usft	Longitude:	103° 38' 33.130 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.37 "

Well	#504H					
Well Position	+N-S	0.0 usft	Northing:	403,612.00 usft	Latitude:	32° 6' 27.811 N
	+E-W	0.0 usft	Easting:	755,185.00 usft	Longitude:	103° 38' 33.513 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,399.0 usft	

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

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	182.35	

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



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 MD Reference: KB = 25' @ 3424.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Asl (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Bulid (°/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
197.0	1.45	313.41	197.0	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	0.8
403.0	1.36	335.55	402.9	6.2	-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	-9.8	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	5.2
769.0	1.27	4.73	768.8	12.3	-6.6	0.56	0.51	12.62	-11.7	7.8
863.0	1.54	26.88	862.8	14.4	-5.9	0.64	0.29	23.56	-10.2	11.8
966.0	2.02	72.41	965.8	16.2	-3.6	1.40	0.47	44.20	-1.5	16.5
1,061.0	1.88	75.13	1,060.7	17.1	-0.4	0.11	-0.04	2.86	-4.4	16.1
1,155.0	2.64	16.86	1,154.7	19.6	1.8	2.47	0.70	-61.99	-17.8	0.0
1,249.0	3.30	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	1.80	-21.09	-4.8	-21.3
1,438.0	5.80	302.16	1,436.9	35.4	-9.2	1.78	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	289.96	1,718.5	50.3	-32.9	0.33	-0.23	-2.34	-2.3	-18.4
1,816.0	6.15	304.79	1,813.0	55.5	-41.0	0.66	0.69	5.08	-5.3	-18.2
1,910.0	6.81	312.26	1,906.4	62.1	-49.3	1.14	0.70	7.95	-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	288.38	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	0.28	-0.28	0.19	-26.2	-12.7



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 MD Reference: KB = 25' @ 3424.0ush
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (ush)	Inc (")	Azi (azimuth) (")	TVD (ush)	NIS (ush)	EAW (ush)	DLag ("/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	-118.3	0.35	-0.33	-1.21	-27.8	-13.0
2,758.0	5.76	300.22	2,749.0	115.8	-127.4	0.75	-0.27	-6.85	-27.7	-15.4
2,852.0	5.63	304.53	2,842.6	121.0	-135.5	0.50	0.18	4.59	-30.2	-12.4
2,946.0	6.07	314.37	2,938.0	127.2	-143.0	1.10	0.15	10.47	-33.5	-7.1
3,041.0	5.45	314.37	3,030.6	133.9	-149.8	0.65	-0.65	0.00	-34.8	-7.8
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	319.29	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	151.8	-165.9	0.74	-0.60	5.56	-35.7	-5.7
3,418.0	3.78	330.81	3,406.3	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
3,606.0	3.03	356.03	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	-20.6	-25.2
3,984.0	2.84	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	4,066.4	188.8	-183.5	1.13	-0.93	17.12	-24.7	-22.7
4,173.0	2.20	317.88	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	-5.89	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	-33.9
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	194.8	-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	325.45	4,892.0	195.8	-192.4	3.02	2.96	15.08	44.7	-48.4
4,999.0	7.16	333.62	4,985.6	203.8	-197.0	3.33	3.22	6.69	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	-60.8



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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)
5,188.0	7.38	334.32	5,172.9	225.8	-207.8	0.34	-0.33	0.47	25.2	-64.6
5,282.0	7.03	333.01	5,266.2	236.5	-213.0	0.41	-0.37	-1.39	22.3	-67.5
5,377.0	6.89	334.68	5,360.5	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	0.87	0.61	-4.96	17.6	-73.6
5,565.0	8.66	323.16	5,546.8	268.4	-231.0	1.56	1.17	-7.30	20.9	-73.8
5,660.0	8.40	322.99	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	-75.0
5,848.0	9.71	301.98	5,826.5	299.6	-260.5	2.44	0.93	-14.02	28.7	-69.4
5,943.0	7.60	291.26	5,920.4	306.1	-273.1	2.79	-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	33.8	-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	-6.36	36.1	-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	1.76	256.54	6,464.1	318.9	-320.1	2.39	-2.26	-17.02	51.6	-15.5
6,604.0	1.36	255.93	6,579.1	318.2	-322.6	0.42	-0.42	-0.64	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	-326.1	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	346.89	6,957.0	320.2	-329.0	2.18	0.04	97.42	6.3	-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	18.8
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	233.95	7,428.8	316.4	-339.8	0.27	0.00	-9.35	44.8	27.2
7,548.0	1.71	234.22	7,522.8	314.8	-342.1	0.04	0.04	0.29	42.1	26.9
7,642.0	1.98	235.62	7,616.7	313.1	-344.5	0.29	0.29	1.49	39.8	25.9



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7,736.0	0.92	229.29	7,710.7	311.6	-346.4	1.14	-1.13	-6.73	34.3	30.0
7,831.0	2.42	231.93	7,805.7	309.9	-348.6	1.58	1.58	2.78	32.9	28.4
7,925.0	2.33	228.06	7,899.6	307.4	-351.6	0.20	-0.10	-4.12	27.0	30.4
8,019.0	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	298.6	-357.0	0.65	0.65	0.74	1.2	37.5
8,302.0	2.29	199.59	8,276.3	294.8	-358.5	0.35	-0.32	-3.42	-5.0	37.4
8,396.0	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	287.9	-361.2	0.24	-0.19	3.84	-9.1	38.1
8,584.0	2.20	204.86	8,558.1	284.6	-362.7	0.05	0.05	0.28	-12.5	38.1
8,678.0	1.54	201.86	8,653.0	281.8	-363.9	0.70	-0.69	-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	275.6	-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	26.6	32.7
9,150.0	1.36	307.43	9,123.9	276.3	-373.1	0.75	-0.14	30.01	36.7	16.9
9,244.0	2.11	302.95	9,217.8	277.9	-375.5	0.81	0.80	-4.77	32.4	16.6
9,338.0	2.73	292.84	9,311.7	279.7	-379.0	0.80	0.66	-10.76	24.5	24.7
9,432.0	2.51	284.84	9,405.6	281.1	-383.0	0.45	-0.23	-8.51	16.6	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	295.21	9,594.4	285.2	-392.0	0.52	-0.51	-2.32	11.4	24.3
9,715.0	2.46	289.06	9,688.3	286.9	-396.1	0.52	-0.43	-8.54	4.4	25.1
9,809.0	1.93	268.76	9,782.2	287.5	-399.6	0.99	-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	267.97	9,970.1	287.2	-405.9	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	-65.26	-39.4	-17.9



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10,325.0	21.19	182.54	10,293.1	249.0	-420.2	10.32	9.97	-9.82	-47.8	-26.3
10,420.0	28.57	181.66	10,379.3	209.1	-421.6	7.78	7.77	-0.93	-56.3	-26.1
10,514.0	41.98	184.47	10,455.8	155.0	-424.7	14.37	14.27	2.99	-66.1	-28.5
10,609.0	50.15	179.46	10,521.7	86.7	-426.8	9.40	8.60	-5.27	-73.1	-35.0
10,703.0	58.37	179.29	10,576.6	10.5	-426.0	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	-79.8	-33.2
10,798.0	64.44	179.99	10,619.8	-74.0	-425.6	0.35	0.08	0.37	-79.4	-32.8
10,845.0	65.19	178.05	10,639.8	-116.6	-424.9	4.06	1.60	-4.13	-74.3	-33.1
10,892.0	65.93	177.53	10,659.2	-159.3	-423.2	1.87	1.57	-1.11	-65.8	-31.8
10,940.0	71.96	177.62	10,676.5	-204.0	-421.3	12.56	12.56	0.19	-55.9	-29.1
10,987.0	77.32	176.05	10,688.9	-249.3	-419.6	11.44	11.40	0.91	-46.6	-27.0
11,081.0	80.13	177.09	10,707.3	-341.4	-415.7	3.15	2.99	-1.02	-29.8	-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	-529.6	-409.1	1.50	1.12	1.01	-19.4	-15.4
11,364.0	88.31	178.85	10,723.7	-623.5	-407.3	0.16	-0.14	-0.09	-18.2	-13.4
11,459.0	87.52	178.41	10,727.1	-718.5	-405.0	0.95	-0.83	-0.46	-16.3	-11.0
11,553.0	87.56	178.85	10,731.1	-812.3	-402.8	0.47	0.04	0.47	-13.8	-8.5
11,648.0	88.44	178.67	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	1.05	0.88	0.56	-11.6	-4.3
11,836.0	89.58	179.29	10,737.3	-1,095.2	-397.8	0.34	0.33	0.10	-12.2	-2.9
11,931.0	89.01	178.85	10,738.5	-1,180.2	-396.2	0.76	-0.60	-0.46	-12.6	-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	0.9
12,119.0	87.47	178.14	10,743.7	-1,378.1	-391.9	1.39	-1.17	-0.76	-10.4	3.6
12,214.0	86.55	177.79	10,746.6	-1,472.9	-388.5	1.04	-0.97	-0.37	-7.0	7.1
12,308.0	86.22	178.85	10,752.9	-1,566.7	-385.7	2.10	1.78	1.13	-4.2	10.1
12,402.0	87.82	179.20	10,756.2	-1,660.7	-384.1	0.57	-0.43	0.37	-2.4	11.8
12,497.0	88.66	180.69	10,759.1	-1,755.6	-384.0	1.80	0.88	1.57	-1.0	12.1



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Fearless 26 Fed Com
 Well: #504H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #504H
 TVD Reference: KB = 25' @ 3424.0usft
 MD Reference: KB = 25' @ 3424.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey											
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)	
12,592.0	90.20	181.22	10,760.0	-1,850.6	-385.6	1.71	1.62	0.56	-1.6	10.7	
12,686.0	90.07	180.98	10,759.8	-1,944.6	-387.4	0.31	-0.14	-0.28	-3.4	9.1	
12,781.0	90.20	181.13	10,758.6	-2,039.6	-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	-0.94	-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	
13,064.0	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	
13,252.0	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	-0.88	-0.56	-11.4	8.0	
13,630.0	88.62	178.93	10,768.2	-2,888.4	-389.0	0.90	0.62	-0.66	-10.2	9.4	
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	89.19	178.32	10,770.7	-3,077.3	-384.4	0.50	-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	179.90	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	89.41	182.45	10,783.2	-3,547.9	-380.7	1.21	0.00	1.21	-5.8	19.1	
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	-1.95	-4.9	10.8	
14,574.0	88.75	182.01	10,788.7	-3,831.6	-392.3	0.83	-0.61	0.56	-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	-3.6	5.3	
14,763.0	87.47	181.57	10,795.2	-4,020.4	-397.8	0.52	-0.52	0.00	-1.4	2.9	
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	10,803.8	-4,303.3	-398.0	1.40	1.12	-0.85	2.5	3.3	



Midland PVA

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 TVD Reference: KB = 25' @ 3424.0usft
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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Asl (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
15,141.0	89.93	178.85	10,804.1	-4,398.2	-395.8	0.83	0.51	0.38	1.5	5.7
15,238.0	88.44	177.97	10,805.4	-4,493.2	-393.1	1.82	-1.57	-0.93	1.3	8.6
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	-388.6	1.20	-1.11	0.48	5.3	15.5
15,518.0	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	-383.4	2.68	1.94	1.85	9.9	19.1
15,708.0	89.05	181.92	10,821.8	-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	-392.4	0.70	-0.28	0.64	12.8	10.6
15,991.0	89.71	181.68	10,829.0	-5,247.4	-395.9	2.19	1.94	-1.03	13.4	7.3
16,088.0	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	1.08	-0.89	0.58	11.4	0.1
16,275.0	87.69	183.59	10,832.2	-5,531.0	-408.9	1.82	-1.66	0.74	12.8	-5.1
16,369.0	88.09	182.38	10,835.7	-5,624.8	-413.8	1.38	0.43	-1.31	14.7	-9.8
16,464.0	89.49	180.89	10,837.7	-5,719.8	-418.3	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
16,748.0	88.92	182.27	10,839.0	-6,001.7	-423.6	1.03	-0.80	0.85	12.8	-18.8
16,841.0	88.26	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	-6,190.5	-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	-428.1	0.89	-0.88	-0.09	18.0	-20.6
17,219.0	87.60	178.05	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	179.90	10,852.3	-6,663.2	-420.2	2.32	2.17	0.83	18.9	-14.1
17,502.0	92.75	180.52	10,847.9	-6,757.1	-420.5	0.69	0.19	0.68	11.2	-14.3
17,597.0	92.04	181.48	10,844.0	-6,852.0	-422.2	1.28	-0.75	1.01	5.9	-15.7



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Fearless 28 Fed Com
 Well: #504H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #504H
 TVD Reference: KB = 25' @ 3424.0usft
 MD Reference: KB = 25' @ 3424.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

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)
17,691.0	91.25	181.57	10,841.3	-6,945.9	-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	2.08	-6.0	-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
17,994.0	90.68	181.39	10,832.8	-7,248.4	-438.8	4.08	-3.10	-2.85	-10.6	-31.5
18,069.0	88.44	181.04	10,833.3	-7,323.4	-440.4	3.02	-2.99	-0.47	-11.0	-32.9
18,086.0	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	-33.6
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	10,849.0	-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	-7,794.8	-438.0	0.57	-0.51	0.27	2.1	-27.8
18,635.0	86.99	179.64	10,856.9	-7,888.8	-434.9	0.98	-0.70	0.66	5.2	-26.4
18,729.0	88.40	179.11	10,860.6	-7,982.7	-433.9	1.60	1.50	-0.56	7.8	-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	-8,266.6	-433.7	1.08	1.06	0.19	11.5	-24.4
19,107.0	89.67	179.64	10,869.4	-8,360.6	-433.8	1.39	1.03	-0.84	11.7	-24.3
19,201.0	90.02	179.55	10,869.6	-8,454.6	-433.2	0.38	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	9.8	-22.4
19,390.0	89.80	179.29	10,870.0	-8,643.6	-431.3	0.19	-0.05	-0.16	8.7	-21.2
19,484.0	88.97	178.41	10,871.0	-8,737.6	-429.4	1.29	-0.88	-0.94	8.5	-19.1
19,578.0	88.09	178.41	10,873.5	-8,831.5	-428.8	0.94	-0.94	0.00	9.7	-16.3
19,673.0	86.99	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	178.85	10,881.4	-9,021.3	-422.0	1.53	1.48	0.38	15.1	-11.2
19,862.0	89.67	178.76	10,882.9	-9,115.2	-420.1	1.35	1.35	-0.10	15.5	-9.0
19,956.0	89.14	178.49	10,883.9	-9,209.2	-417.8	0.63	-0.56	-0.29	15.2	-6.6



Midland PVA

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 Site: Fearless 26 Fed Com
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 TVD Reference: KB = 25' @ 3424.0usft
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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)	
20,051.0	87.47	178.32	10,888.7	-9,304.1	-415.2	1.77	-1.76	-0.18	18.8	-3.8	
20,145.0	89.32	179.20	10,889.4	-9,398.1	-413.2	2.18	1.97	0.94	18.2	-1.5	
20,240.0	89.71	178.05	10,890.2	-9,483.0	-410.9	1.28	0.41	-1.21	17.8	0.9	
20,334.0	90.81	178.76	10,889.7	-9,587.0	-408.3	1.39	1.17	0.76	18.2	3.7	
20,429.0	90.11	178.49	10,889.0	-9,682.0	-406.0	0.79	-0.74	-0.28	14.2	6.2	
20,523.0	89.23	178.23	10,889.5	-9,775.9	-403.3	0.98	-0.94	-0.28	13.5	9.1	
20,617.0	88.66	178.58	10,891.2	-9,869.9	-400.7	0.71	-0.61	0.37	14.0	11.9	
20,640.0	88.53	178.58	10,891.8	-9,892.9	-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 (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
10,110.0	10,083.0	286.3	-410.9	KOP, MD:10110.0', TVD:10083.0', N/S:286.3', 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	-9,892.9	-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: _____

I certify this survey to be true and correct to the best of my belief and knowledge.

Kay Maddox
 Signed

12/05/2019
 Date



Lea County, NM (NAD 83 NME)

Fearless 26 Fed Com #504H

Plan #1



Adjustment to Grid North
True North: -4.37°
Magnetic North: 4.99°
Magnetic Declination: 9.36°
Date: 02/27/2011
North: 10455911

To convert a Magnetic Direction to a Grid Direction, Add 6.58°
To convert a Magnetic Direction to a True Direction, Add 6.25° East
To convert a True Direction to a Grid Direction, Subtract 0.37°

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: #504H

KB = 25' @ 3424.0usft 3399.0
Northing 403812.00 Easting 765195.00 Latitude 32° 6' 27.811 N Longitude 103° 38' 33.513 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1249.9	5.00	308.52	1249.6	6.8	-8.5	2.00	308.52	-8.4	
4	6749.6	5.00	308.52	6728.4	305.2	-383.5	0.00	0.00	-289.3	
5	6999.6	0.00	0.00	6978.0	312.0	-392.0	2.00	180.00	-295.7	
6	10184.6	0.00	0.00	10163.0	312.0	-392.0	0.00	0.00	-295.7	
7	11075.3	89.08	180.12	10735.9	-251.7	-393.1	10.00	180.12	287.6	TGT#1(Fearless 26 Fed Com #504H)
8	13810.2	89.08	180.12	10780.0	-2986.2	-398.7	0.00	0.00	3000.4	TGT#2(Fearless 26 Fed Com #504H)
9	13810.2	89.08	180.12	10780.0	-2986.2	-398.7	2.00	0.00	3000.4	TGT#3(Fearless 26 Fed Com #504H)
10	15811.9	89.08	180.12	10812.0	-4987.7	-402.7	0.00	0.00	5000.0	
11	15817.6	89.20	180.12	10812.1	-4993.4	-402.7	2.00	0.00	5005.7	
12	17813.8	89.20	180.12	10840.0	-6989.2	-406.7	0.00	0.00	7000.0	
13	17816.7	89.28	180.12	10840.0	-6992.2	-406.8	2.00	0.00	7003.0	
14	20908.7	89.28	180.12	10880.0	-10084.0	-413.0	0.00	0.00	10092.5	PBHL (Fearless 26 Fed Com #504H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
TGT#1(Fearless 26 Fed Com #504H)	10735.9	-251.7	-393.1	40025.80	75478.34
TGT#2(Fearless 26 Fed Com #504H)	10780.0	-2986.2	-398.7	38824.30	75472.29
TGT#3(Fearless 26 Fed Com #504H)	10780.0	-2986.2	-398.7	38824.30	75472.29
PBHL (Fearless 26 Fed Com #504H)	10880.0	-10084.0	-413.0	33328.00	75472.00
Brusby Top(Fearless 26 Fed Com #504H)	7318.0	312.0	-392.0	40324.00	754803.00
FTP (Fearless 26 Fed Com #504H)	10732.0	282.0	-392.0	403874.00	754803.00

