



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Rattlesnake 28 Fed Com

#747H

OH

Design: OH

Midland PVA

19 October, 2019



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Rattlesnake 28 Fed Com
 Well: #747H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #747H
 TVD Reference: KB = 25 @ 3275.0usft
 MD Reference: KB = 25 @ 3275.0usft
 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 Rattlesnake 28 Fed Com

Site Position:	Map	Northing:	371,629.00 usft	Latitude:	32° 1' 9.867 N
From:		Easting:	777,030.00 usft	Longitude:	103° 34' 22.279 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 "

Well #747H

Well Position	+N-S	0.0 usft	Northing:	371,629.00 usft	Latitude:	32° 1' 9.867 N
	+E-W	0.0 usft	Easting:	777,065.00 usft	Longitude:	103° 34' 21.873 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,250.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/30/2019	6.69	59.84	47,583.05872440

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	175.31	

Survey Program Date 10/18/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
153.0	20,341.0	Gyrodata MWD (OH)	MWD	OWSG MWD - Standard



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MD (usft)	Inc (")	Azi (azi/muth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Buile ("/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
153.0	0.20	271.99	153.0	0.0	-0.3	0.13	0.13	0.00	-0.3	0.0
331.0	0.43	258.80	331.0	-0.1	-1.2	0.13	0.13	-7.41	-1.2	-0.1
508.0	0.52	262.04	508.0	-0.3	-2.7	0.05	0.05	1.83	-2.7	0.0
685.0	0.74	268.33	685.0	-0.5	-4.6	0.13	0.12	3.55	-4.6	0.4
868.0	0.56	61.57	868.0	-0.1	-5.0	0.70	-0.10	84.66	4.5	2.3
977.0	0.56	296.62	977.0	0.4	-5.0	0.89	0.00	-112.57	-4.7	1.9
1,169.0	3.87	29.06	1,168.8	6.5	-2.7	2.05	1.72	48.15	-3.5	5.6
1,360.0	7.46	35.65	1,358.9	22.2	7.7	1.91	1.88	3.45	-10.7	6.1
1,552.0	7.40	36.50	1,549.3	42.3	22.3	0.07	-0.03	0.44	-12.0	4.9
1,744.0	8.24	31.61	1,739.2	65.3	37.7	1.03	0.96	-2.55	-12.5	3.3
1,936.0	8.84	30.45	1,928.8	91.3	53.3	0.18	-0.16	-0.60	-15.3	3.9
2,127.0	8.38	30.67	2,117.6	116.1	68.0	0.29	-0.29	0.12	-16.7	5.0
2,319.0	8.02	30.84	2,307.7	139.6	82.0	0.19	-0.19	0.09	-16.5	5.9
2,511.0	7.63	32.72	2,497.9	161.8	95.7	0.24	-0.20	0.98	-14.8	6.9
2,704.0	8.77	32.94	2,688.9	185.0	110.7	0.59	0.59	0.11	-14.5	6.9
2,896.0	8.38	35.21	2,878.8	208.7	126.7	0.27	-0.20	1.18	-15.3	6.8
3,087.0	8.07	40.00	3,067.8	230.3	143.3	0.39	-0.16	2.51	-14.7	5.8
3,279.0	7.79	32.46	3,258.0	251.6	159.0	0.56	-0.15	-3.93	-14.1	2.2
3,471.0	7.15	28.38	3,448.3	273.1	171.6	0.43	-0.33	-2.12	-11.6	2.3
3,662.0	7.92	45.71	3,637.7	292.8	186.7	1.25	0.40	9.07	-8.1	3.0
3,854.0	8.33	38.90	3,827.8	313.1	204.5	0.68	0.21	-4.59	-8.0	-2.3
4,046.0	8.03	20.59	4,017.9	336.8	217.6	1.21	-0.16	-8.49	-8.8	-2.5
4,238.0	7.98	24.28	4,208.0	361.5	227.8	0.27	-0.03	1.92	-6.3	2.6
4,429.0	6.86	48.19	4,397.4	381.2	241.7	1.70	-0.59	12.52	-1.7	3.1
4,621.0	7.03	49.75	4,588.0	396.4	259.3	0.13	0.09	0.81	1.6	-4.6
4,813.0	7.56	52.67	4,778.5	411.7	278.3	0.34	0.28	1.52	3.0	-13.5



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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLag (°/100usft)	Buila (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
5,004.0	7.15	32.64	4,967.9	429.3	294.7	1.35	-0.21	-10.49	11.2	-15.9
5,186.0	7.58	29.24	5,158.3	450.4	307.3	0.32	0.22	-1.77	15.1	-14.3
5,368.0	7.78	28.06	5,348.6	473.1	319.4	0.19	0.10	-1.18	17.5	-11.4
5,579.0	7.46	28.28	5,537.9	495.7	330.7	0.17	-0.17	-0.38	19.6	-8.3
5,771.0	8.13	24.43	5,728.2	519.3	341.9	0.37	0.35	-0.96	21.1	-4.1
5,963.0	7.52	22.33	5,918.4	543.2	352.3	0.35	-0.32	-1.09	22.3	1.2
6,154.0	6.83	19.14	6,107.9	565.5	360.7	0.42	-0.38	-1.87	25.1	8.1
6,346.0	7.51	28.91	6,288.4	587.3	370.5	0.73	0.35	5.09	28.9	7.6
6,538.0	7.61	28.29	6,488.7	609.5	382.6	0.07	0.05	-0.32	32.1	9.9
6,730.0	7.60	27.38	6,679.0	631.9	394.5	0.08	-0.01	-0.47	34.0	12.7
6,921.0	7.23	26.64	6,868.4	653.9	405.7	0.20	-0.19	-0.39	36.5	15.9
7,113.0	7.31	33.30	7,058.9	674.9	417.8	0.44	0.04	3.47	41.5	12.7
7,305.0	6.41	35.95	7,249.5	693.8	430.8	0.50	-0.47	1.38	46.7	9.8
7,497.0	5.61	34.72	7,440.5	710.2	442.5	0.42	-0.42	-0.64	54.0	9.6
7,689.0	6.18	36.63	7,631.4	728.2	454.0	0.31	0.30	0.99	61.8	6.3
7,881.0	5.49	40.89	7,822.4	741.4	466.1	0.42	-0.38	2.22	60.1	-0.1
8,049.6	4.55	39.72	7,990.4	752.7	475.7	0.56	-0.56	-0.69	50.1	0.4
Brushy Top(RS 28 FC #747H)										
8,072.0	4.43	39.53	8,012.7	754.0	476.8	0.56	-0.55	-0.66	48.4	0.5
8,264.0	3.42	40.74	8,204.3	764.1	485.3	0.53	-0.53	0.63	35.2	-0.3
8,455.0	2.66	46.98	8,395.0	771.4	492.2	0.43	-0.40	3.27	24.9	-3.6
8,647.0	1.68	50.52	8,586.9	776.3	497.7	0.51	-0.51	1.84	17.4	-4.8
8,839.0	0.71	57.98	8,778.8	778.7	500.8	0.51	-0.51	3.89	12.6	-6.7
9,030.0	0.20	159.28	8,969.8	779.0	502.0	0.41	-0.27	53.04	-9.1	-9.9
9,222.0	0.12	95.80	9,161.8	778.7	502.3	0.09	-0.04	-33.06	4.4	-12.9
9,414.0	0.57	6.52	9,353.8	779.6	502.6	0.30	0.23	-46.50	12.0	4.1
9,606.0	0.59	331.66	9,545.8	781.4	502.2	0.18	0.01	-18.16	5.7	9.6



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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
9,797.0	1.82	333.21	9,736.8	785.1	500.3	0.70	0.70	0.81	1.8	9.5
9,989.0	1.86	309.67	9,828.6	790.1	498.3	0.41	0.02	-12.26	-8.4	8.1
10,181.0	2.20	306.31	10,120.5	794.4	490.9	0.14	0.12	-1.75	-15.8	7.4
10,373.0	1.66	309.56	10,312.4	798.3	485.7	0.29	-0.28	1.69	-21.8	8.5
10,565.0	1.17	358.11	10,504.4	802.1	483.5	0.63	-0.26	24.24	-12.7	23.7
10,757.0	1.54	119.03	10,696.3	802.8	485.6	1.24	0.19	64.02	25.3	-0.6
10,948.0	1.65	138.94	10,887.3	799.4	489.6	0.29	0.08	10.42	18.4	-8.3
11,140.0	1.34	168.38	11,079.2	795.2	491.9	0.43	-0.16	15.32	7.3	-14.9
11,332.0	0.66	194.35	11,271.2	791.9	492.1	0.42	-0.35	13.54	-3.1	-15.6
11,524.0	0.69	288.60	11,463.2	791.2	490.7	0.52	0.02	49.09	-16.4	5.3
11,715.0	1.87	348.90	11,654.1	794.6	489.0	0.86	0.62	31.57	-7.2	17.9
11,907.0	1.52	3.05	11,846.0	800.2	488.6	0.28	-0.18	7.37	-8.2	19.9
12,099.0	0.69	5.33	12,038.0	804.4	488.8	0.28	-0.28	1.19	-11.6	20.3
12,291.0	0.64	33.83	12,230.0	807.0	489.6	0.27	-0.18	14.84	-3.0	24.2
12,303.0	0.64	37.33	12,242.0	807.1	489.7	0.33	0.00	29.17	-1.7	24.3
12,330.0	0.74	39.25	12,269.0	807.3	489.9	0.38	0.37	7.11	-1.2	24.4
12,341.0	0.38	95.58	12,280.0	807.4	490.0	5.60	-3.23	512.11	19.6	14.5
KOP, MD:12341.0', TVD:12280.0', N/S:807.4', E/W:490.0', INC:0.38										
12,417.0	4.26	182.83	12,355.9	804.5	490.1	5.60	5.10	114.80	13.2	-18.6
12,513.0	14.68	178.75	12,450.5	788.8	490.2	10.87	10.85	-4.25	10.6	-17.7
12,550.0	17.34	176.18	12,486.0	778.6	490.6	7.44	7.19	-6.95	9.8	-16.9
12,562.0	18.52	175.04	12,497.4	774.9	490.9	10.26	9.83	-9.50	9.7	-16.5
12,611.0	23.19	175.92	12,543.2	757.5	492.3	9.55	9.53	1.80	7.6	-15.5
12,648.2	29.78	176.69	12,576.5	741.0	493.3	17.75	17.72	2.07	3.4	-14.9
FTP Crossing, MD:12648.2', TVD:12576.5', N/S:741.0', E/W:493.3', INC:29.78										
12,707.0	40.21	177.43	12,624.6	707.3	495.0	17.75	17.73	1.26	-6.3	-13.8
12,803.0	50.96	178.38	12,691.7	638.9	497.5	11.22	11.20	0.99	-23.7	-12.1



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12,827.9	51.95	177.94	12,707.2	619.4	498.1	4.19	3.96	-1.75	-27.3	-11.8
FTP(RS 28 FC #747H)										
12,899.0	54.77	176.76	12,749.6	562.5	500.7	4.18	3.97	-1.67	-32.1	-9.8
12,995.0	60.69	175.88	12,800.9	481.5	508.0	6.22	6.17	-0.92	-27.4	-5.0
13,091.0	63.94	175.82	12,845.5	396.7	512.1	3.39	3.39	-0.06	-9.3	1.2
13,119.0	71.89	177.70	12,856.0	370.8	513.6	29.06	28.39	6.71	-2.9	2.6
13,179.0	77.72	180.22	12,871.7	313.0	514.6	10.53	9.72	4.20	9.2	3.3
13,230.0	90.85	181.57	12,876.8	262.3	513.8	25.88	25.75	2.65	13.7	2.0
13,279.0	91.36	181.71	12,875.8	213.4	512.4	1.08	1.04	0.29	12.2	0.3
13,375.0	88.28	178.91	12,876.1	117.4	511.9	4.34	-3.21	-2.92	11.4	-0.9
13,470.0	88.33	180.29	12,878.9	22.4	512.6	1.45	0.05	1.45	13.2	-0.9
13,566.0	88.44	180.32	12,881.6	-73.5	512.0	0.12	0.11	0.03	14.8	-2.1
13,662.0	88.30	179.59	12,884.4	-169.5	512.1	0.77	-0.15	-0.76	16.5	-2.7
13,758.0	89.92	179.76	12,885.9	-265.5	512.7	1.70	1.69	0.18	16.9	-2.9
13,854.0	90.62	180.93	12,885.4	-361.5	512.1	1.42	0.73	1.22	15.4	-4.1
13,950.0	90.65	181.22	12,884.3	-457.4	510.3	0.30	0.03	0.30	13.2	-6.6
14,046.0	90.40	180.42	12,883.5	-553.4	508.9	0.87	-0.26	-0.83	11.3	-8.7
14,141.0	90.20	180.87	12,883.0	-648.4	507.8	0.52	-0.21	0.47	9.7	-10.4
14,237.0	88.36	177.71	12,884.2	-744.4	509.0	3.81	-1.92	-3.29	9.6	-9.9
14,333.0	88.08	177.09	12,887.2	-840.2	513.4	0.71	-0.29	-0.65	11.8	-6.2
14,429.0	88.39	175.83	12,890.1	-936.0	519.3	1.35	0.32	-1.31	13.7	-1.0
14,525.0	90.48	177.09	12,891.1	-1,031.6	525.2	2.54	2.18	1.31	13.5	4.3
14,620.0	90.74	178.38	12,890.0	-1,126.7	529.0	1.39	0.27	1.36	11.5	7.3
14,716.0	90.71	178.75	12,886.8	-1,222.7	531.4	0.39	-0.03	0.39	9.2	9.0
14,812.0	90.17	179.05	12,888.1	-1,318.7	533.2	0.64	-0.56	0.31	7.4	10.2
14,908.0	90.59	179.15	12,887.5	-1,414.7	534.7	0.45	0.44	0.10	5.7	11.0
15,004.0	89.77	178.75	12,887.2	-1,510.6	536.5	0.95	-0.85	-0.42	4.3	12.1



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15,100.0	89.29	178.22	12,887.9	-1,606.6	539.0	0.74	-0.50	-0.55	4.0	14.0
15,198.0	89.21	178.55	12,889.2	-1,702.6	541.8	0.35	-0.08	0.34	4.2	16.0
15,292.0	89.60	178.58	12,890.2	-1,798.5	544.2	0.41	0.41	0.03	4.1	17.7
15,387.0	89.04	178.87	12,891.3	-1,893.5	546.3	0.68	-0.59	0.31	4.2	19.1
15,483.0	89.69	179.87	12,892.4	-1,989.5	547.3	1.24	0.68	1.04	4.2	19.5
15,579.0	88.98	179.15	12,893.5	-2,085.5	548.1	1.05	-0.74	-0.75	4.2	19.6
15,674.0	91.67	182.52	12,893.0	-2,180.4	546.8	4.54	2.83	3.55	2.6	17.6
15,770.0	92.35	183.82	12,889.6	-2,276.2	541.5	1.53	0.71	1.35	-1.9	11.6
15,866.0	91.38	182.49	12,886.5	-2,372.0	536.2	1.73	-1.03	-1.39	-6.0	5.6
15,962.0	90.23	181.63	12,885.2	-2,468.0	532.7	1.48	-1.18	-0.90	-8.4	1.5
16,057.0	90.62	180.34	12,884.4	-2,562.9	531.1	1.42	0.41	-1.38	-10.2	-0.8
16,153.0	89.63	182.84	12,884.2	-2,658.9	528.4	2.80	-1.03	2.60	-11.4	-4.1
16,249.0	89.01	182.29	12,885.4	-2,754.8	524.1	0.66	-0.65	-0.57	-11.4	-9.1
16,345.0	89.32	182.66	12,885.8	-2,850.7	519.8	0.68	0.32	0.59	-11.1	-14.1
16,441.0	91.13	180.93	12,886.4	-2,946.6	516.6	2.76	1.89	-2.01	-12.5	-18.0
16,450.2	91.22	180.84	12,886.2	-2,955.8	516.5	1.41	1.03	-0.97	-12.8	-18.2
TOT#1(RS 28 FC #747H)										
16,537.0	92.12	180.00	12,883.7	-3,042.6	515.9	1.41	1.03	-0.97	-15.9	-19.4
16,632.0	91.76	178.77	12,880.5	-3,137.5	516.9	1.35	-0.38	-1.29	-19.7	-19.1
16,728.0	89.77	178.02	12,879.2	-3,233.5	519.6	2.22	-2.07	-0.78	-21.6	-17.1
16,824.0	90.85	179.99	12,878.7	-3,328.4	521.2	2.34	1.12	2.05	-22.8	-16.1
16,920.0	90.68	180.84	12,877.4	-3,425.4	520.5	0.90	-0.18	0.89	-24.7	-17.4
17,016.0	87.23	179.56	12,879.1	-3,521.4	520.2	3.83	-3.59	-1.33	-23.5	-18.5
17,112.0	86.52	179.01	12,884.4	-3,617.2	521.4	0.94	-0.74	-0.57	-18.9	-17.9
17,208.0	87.79	178.80	12,889.1	-3,713.1	523.2	1.34	1.32	-0.22	-14.7	-16.8
17,304.0	87.91	178.65	12,892.7	-3,809.0	525.4	0.20	0.12	-0.16	-11.8	-15.3
17,399.0	88.08	179.13	12,896.1	-3,903.9	527.2	0.54	0.18	0.51	-8.0	-14.1



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Rattlesnake 28 Fed Com
 Well: #747H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #747H
 TVD Reference: KB = 25 @ 3275.0usft
 MD Reference: KB = 25 @ 3275.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

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)
17,465.0	88.84	179.99	12,898.6	-3,999.9	527.9	1.20	0.79	0.90	-7.1	-14.1
17,591.0	89.86	178.39	12,899.7	-4,095.9	529.3	1.98	1.06	-1.67	-6.6	-13.4
17,687.0	90.82	178.67	12,899.2	-4,191.8	531.6	1.12	1.00	0.50	-7.8	-11.8
17,782.0	90.34	178.20	12,898.2	-4,286.8	534.0	0.87	-0.51	-0.71	-8.4	-10.0
17,878.0	90.99	179.12	12,897.1	-4,382.8	536.3	1.17	0.68	0.98	-11.1	-8.4
17,974.0	92.15	179.69	12,894.4	-4,478.7	537.3	1.35	1.21	0.59	-14.3	-8.1
18,066.7	91.95	179.65	12,893.3	-4,511.4	537.4	1.00	-0.62	0.79	-15.7	-8.2
TGT#2(RS 28 FC #747H)										
18,069.0	91.56	180.44	12,891.4	-4,573.7	537.2	1.00	-0.62	0.79	-17.9	-8.9
18,165.0	92.69	181.72	12,887.6	-4,669.6	535.4	1.92	1.39	1.33	-22.0	-11.4
18,261.0	91.27	180.39	12,884.2	-4,765.5	533.6	2.18	-1.69	-1.39	-25.8	-13.8
18,356.0	89.75	179.04	12,883.3	-4,860.5	534.1	2.14	-1.60	-1.42	-27.1	-14.0
18,452.0	89.83	177.45	12,883.7	-4,956.4	537.0	1.66	0.08	-1.66	-27.1	-11.7
18,547.0	89.18	175.20	12,884.5	-5,051.2	543.1	2.47	-0.68	-2.37	-26.6	-8.3
18,643.0	90.73	175.89	12,884.6	-5,146.9	550.5	1.77	1.61	0.72	-26.9	0.5
18,739.0	88.47	174.89	12,885.2	-5,242.6	558.3	2.57	-2.35	-1.04	-26.7	7.5
18,835.0	89.32	175.17	12,887.1	-5,338.2	566.6	0.93	0.89	0.29	-25.2	15.1
18,931.0	89.69	176.22	12,887.9	-5,434.0	573.8	1.18	0.39	1.09	-24.7	21.7
19,027.0	88.92	175.74	12,889.1	-5,529.7	580.5	0.95	-0.80	-0.50	-24.0	27.7
19,123.0	90.28	177.84	12,889.7	-5,625.6	585.9	2.61	1.42	2.19	-23.6	32.5
19,219.0	89.63	180.42	12,889.8	-5,721.5	587.3	2.77	-0.68	2.69	-23.9	33.3
19,279.6	89.00	180.34	12,890.5	-5,782.2	586.9	1.04	-1.03	-0.12	-23.5	32.4
TGT#3(RS 28 FC #747H)										
19,315.0	88.64	180.30	12,891.3	-5,817.5	586.7	1.04	-1.03	-0.13	-22.6	32.0
19,410.0	90.68	181.49	12,891.8	-5,912.5	585.3	2.49	2.15	1.25	-21.3	29.8
19,506.0	90.23	181.09	12,891.1	-6,008.5	583.1	0.63	-0.47	-0.42	-21.2	27.0
19,602.0	91.39	181.75	12,889.7	-6,104.4	580.7	1.39	1.21	0.69	-21.8	23.9



Midland PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Rattlesnake 28 Fed Com
Well: #747H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #747H
TVD Reference: KB = 25 @ 3275.0usft
MD Reference: KB = 25 @ 3275.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

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)
19,698.0	91.50	180.93	12,887.3	-6,200.4	578.5	0.88	0.11	-0.85	-23.3	21.0
19,794.0	92.49	182.00	12,884.0	-6,298.3	578.0	1.52	1.03	1.11	-25.9	17.9
19,890.0	92.46	182.46	12,879.8	-6,392.1	572.3	0.48	-0.03	0.48	-29.2	13.5
19,986.0	92.32	182.68	12,875.8	-6,487.9	568.0	0.27	-0.15	0.23	-32.4	8.5
20,082.0	93.28	182.68	12,871.1	-6,583.7	563.5	1.00	1.00	-0.02	-38.2	3.4
20,177.0	93.42	182.87	12,865.8	-6,678.5	558.9	0.27	0.15	0.22	-41.0	-1.8
Last MWD Survey (MD=20177.0')										
20,341.0	93.42	182.87	12,855.8	-6,842.0	550.8	0.00	0.00	0.00	-49.3	-11.2
Projection to Bit (MD=20341.0') - PBHL(RS 28 FC #747H)										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
12,341.0	12,280.0	807.4	490.0	KOP, MD:12341.0', TVD:12280.0', N/S:807.4', E/W:490.0', INC:0.38
12,648.2	12,578.5	741.0	493.3	FTP Crossing, MD:12648.2', TVD:12578.5', N/S:741.0', E/W:493.3', INC:29.78
20,177.0	12,865.8	-6,678.5	558.9	Last MWD Survey (MD=20177.0')
20,341.0	12,855.8	-6,842.0	550.8	Projection to Bit (MD=20341.0')

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

1/27/2020
Date



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

Lea County, NM (NAD 83 NME)

Rattlesnake 28 Fed Com #747H

Plan #4

WELL DETAILS: #747H

KB = 25 @ 3275.00
+N-S 0.0 +E-W 0.0 Northing 371829.00 Easting 777065.00 32° 1' 9.887° N Longitude 103° 34' 21.873° W Sht

SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
1100.0	0.00	0.00	1100.0	0.0	0.0	0.00	0.00	0.0
1513.2	8.28	32.71	1511.8	25.0	16.1	2.00	32.71	-23.6
7639.3	8.28	32.71	7574.2	766.0	491.9	0.00	0.00	-723.2
8052.5	0.00	0.00	7986.0	791.0	508.0	2.00	180.00	-746.9
12396.5	0.00	0.00	12330.0	791.0	508.0	0.00	0.00	-746.9
12596.6	20.00	179.59	12528.0	756.1	508.2	9.90	179.59	-712.0
12633.6	20.00	179.59	12560.9	744.1	508.3	0.00	0.00	-700.1
13188.4	89.36	179.59	12862.5	318.5	611.4	12.50	0.00	-275.7
16483.6	89.36	179.59	12899.0	-2956.3	534.7	0.00	0.00	2990.1
16477.2	89.63	179.60	12899.1	-2969.9	534.8	2.00	1.42	3003.7
18019.2	89.63	179.60	12909.0	-4511.9	545.6	0.00	0.00	4541.4
18028.3	89.77	179.60	12909.0	-4519.0	545.6	2.00	-0.07	4548.5
19289.0	89.77	179.60	12914.0	-5781.6	554.5	0.00	0.00	5807.6
19324.8	90.49	179.60	12913.9	-5817.5	554.8	2.00	0.13	5843.3
20363.4	90.49	179.60	12905.0	-6856.0	562.0	0.00	0.00	6879.0

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting	Shape
Brushy Top (RS 28 FC #747H)	7888.0	791.0	508.0	372425.00	777673.00	Polygon
PTP (RS 28 FC #747H)	12887.0	741.0	508.0	372370.00	777673.00	Point
TOTW (RS 28 FC #747H)	12898.0	-2956.3	534.7	368672.70	777683.70	Point
PRW (RS 28 FC #747H)	12905.0	-6856.0	562.0	364773.00	777627.00	Rectangle (Sides: L0.0 W0.0)
TOTW (RS 28 FC #747H)	12908.0	-4511.9	545.6	367117.10	777615.60	Point
TOTW (RS 28 FC #747H)	12914.0	-5781.6	554.5	365047.40	777615.60	Point

