



Devon Energy

Lea Co., NM (Nad83 - East Zone)

Bell Lake 18-19 State Com

#9H

OH

Design: OH

Standard Survey Report

10 September, 2019



Wellbenders Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well #9H
Project:	Lea Co., NM (Nad83 - East Zone)	TVD Reference:	RKB=30' @ 3571.10usft (Cactus 108)
Site:	Bell Lake 18-19 State Com	MD Reference:	RKB=30' @ 3571.10usft (Cactus 108)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Project	Lea Co., NM (Nad83 - East Zone)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Bell Lake 18-19 State Com				
Site Position:		Northing:	436,249.73 usft	Latitude:	32.197239
From:	Map	Easting:	766,169.93 usft	Longitude:	-103.606488
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.387 °

Well	#9H					
Well Position	+N/-S	0.00 usft	Northing:	436,249.96 usft	Latitude:	32.197239
	+E/-W	0.00 usft	Easting:	766,199.93 usft	Longitude:	-103.606391
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,541.10 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/20/2018	6.804	60.013	47,762.51483144

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	359.56	

Survey Program	Date 9/10/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
230.00	19,442.00	Survey #1 (OH)	MWD+IGRF	OWSG MWD + IGRF or WMM	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230.00	0.75	24.79	229.99	1.37	0.63	1.36	0.33	0.33	0.00
259.00	0.79	19.86	258.99	1.73	0.78	1.72	0.27	0.14	-17.00
357.00	0.79	21.71	356.98	2.99	1.26	2.98	0.03	0.00	1.89
451.00	0.75	8.88	450.97	4.20	1.59	4.19	0.19	-0.04	-13.65
546.00	1.23	1.23	545.96	5.83	1.71	5.82	0.52	0.51	-8.05
640.00	0.79	357.80	639.94	7.49	1.71	7.48	0.47	-0.47	-3.65
733.00	0.97	351.74	732.93	8.91	1.57	8.90	0.22	0.19	-6.52
820.00	1.19	352.18	819.92	10.53	1.34	10.52	0.25	0.25	0.51
914.00	1.36	347.08	913.89	12.59	0.96	12.58	0.22	0.18	-5.43



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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,005.00	1.19	341.02	1,004.87	14.53	0.41	14.53	0.24	-0.19	-6.66
1,100.00	1.10	335.92	1,099.85	16.30	-0.28	16.30	0.14	-0.09	-5.37
1,139.00	1.01	334.51	1,138.85	16.95	-0.58	16.96	0.24	-0.23	-3.62
1,284.00	0.66	336.62	1,283.83	18.87	-1.46	18.88	0.24	-0.24	1.46
1,377.00	0.53	340.40	1,376.83	19.77	-1.82	19.78	0.15	-0.14	4.06
1,470.00	0.48	331.26	1,469.82	20.51	-2.15	20.53	0.10	-0.05	-9.83
1,562.00	0.35	326.25	1,561.82	21.09	-2.49	21.10	0.15	-0.14	-5.45
1,655.00	0.22	10.72	1,654.82	21.50	-2.62	21.52	0.27	-0.14	47.82
1,750.00	0.26	23.03	1,749.82	21.88	-2.50	21.89	0.07	0.04	12.96
1,845.00	0.57	344.18	1,844.81	22.53	-2.55	22.55	0.42	0.33	-40.89
1,939.00	0.57	334.86	1,938.81	23.40	-2.87	23.42	0.10	0.00	-9.91
2,034.00	0.40	1.85	2,033.81	24.16	-3.06	24.18	0.30	-0.18	28.41
2,128.00	0.35	3.17	2,127.81	24.78	-3.04	24.80	0.05	-0.05	1.40
2,223.00	0.57	321.86	2,222.80	25.44	-3.31	25.46	0.40	0.23	-43.48
2,317.00	0.48	346.91	2,316.80	26.19	-3.69	26.22	0.26	-0.10	26.65
2,412.00	0.44	161.90	2,411.80	26.23	-3.67	26.26	0.97	-0.04	184.20
2,507.00	1.71	131.84	2,506.78	24.94	-2.50	24.96	1.42	1.34	-31.64
2,601.00	3.65	124.98	2,600.67	22.29	1.00	22.28	2.09	2.06	-7.30
2,696.00	5.10	129.02	2,695.39	17.89	6.76	17.84	1.56	1.53	4.25
2,790.00	6.51	129.38	2,788.91	11.88	14.12	11.77	1.50	1.50	0.38
2,884.00	8.31	130.87	2,882.12	4.06	23.38	3.88	1.93	1.91	1.59
2,979.00	9.01	132.54	2,976.04	-5.47	34.05	-5.73	0.78	0.74	1.76
3,073.00	9.05	134.21	3,068.87	-15.60	44.78	-15.94	0.28	0.04	1.78
3,168.00	9.93	132.63	3,162.57	-26.36	56.16	-26.79	0.97	0.93	-1.66
3,263.00	11.08	124.63	3,255.98	-37.09	69.70	-37.63	1.95	1.21	-8.42
3,358.00	11.60	120.67	3,349.13	-47.15	85.42	-47.81	0.99	0.55	-4.17
3,452.00	11.08	118.83	3,441.29	-56.33	101.47	-57.11	0.67	-0.55	-1.96
3,547.00	9.45	119.44	3,534.77	-64.56	116.26	-65.45	1.72	-1.72	0.64
3,642.00	8.53	118.83	3,628.60	-71.79	129.22	-72.78	0.97	-0.97	-0.64
3,737.00	7.69	119.09	3,722.65	-78.28	140.95	-79.36	0.89	-0.88	0.27
3,831.00	8.57	113.73	3,815.71	-84.16	152.85	-85.33	1.23	0.94	-5.70
3,926.00	8.66	111.89	3,909.63	-89.67	165.97	-90.95	0.31	0.09	-1.94
4,021.00	7.65	112.06	4,003.67	-94.71	178.47	-96.08	1.06	-1.06	0.18
4,116.00	8.13	108.11	4,097.77	-99.18	190.71	-100.64	0.76	0.51	-4.16
4,210.00	8.26	107.67	4,190.81	-103.29	203.46	-104.85	0.15	0.14	-0.47
4,304.00	7.65	106.26	4,283.91	-107.09	215.90	-108.75	0.68	-0.65	-1.50
4,399.00	7.56	106.79	4,378.07	-110.67	227.96	-112.42	0.12	-0.09	0.56
4,494.00	6.99	108.90	4,472.31	-114.35	239.41	-116.18	0.66	-0.60	2.22
4,589.00	6.51	109.60	4,566.65	-118.03	249.95	-119.94	0.51	-0.51	0.74
4,683.00	6.90	115.05	4,660.01	-122.21	260.09	-124.20	0.79	0.41	5.80
4,778.00	7.96	113.91	4,754.21	-127.29	271.27	-129.37	1.13	1.12	-1.20
4,873.00	8.26	112.59	4,848.26	-132.58	283.58	-134.75	0.37	0.32	-1.39
4,967.00	7.25	112.68	4,941.40	-137.46	295.29	-139.72	1.07	-1.07	0.10
4,997.00	7.03	111.36	4,971.16	-138.85	298.75	-141.14	0.91	-0.73	-4.40



Wellbenders

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,123.00	6.51	110.66	5,096.29	-144.18	312.61	-146.58	0.42	-0.41	-0.56
5,218.00	7.65	110.04	5,190.56	-148.25	323.59	-150.73	1.20	1.20	-0.65
5,313.00	9.27	111.89	5,284.52	-153.27	336.63	-155.85	1.73	1.71	1.95
5,407.00	9.63	112.50	5,377.25	-159.10	350.92	-161.79	0.40	0.38	0.65
5,501.00	10.11	110.30	5,469.86	-164.97	365.92	-167.78	0.65	0.51	-2.34
5,597.00	10.33	109.16	5,564.33	-170.72	381.96	-173.65	0.31	0.23	-1.19
5,692.00	10.99	105.73	5,657.69	-175.97	398.72	-179.03	0.96	0.69	-3.61
5,786.00	11.78	105.29	5,749.84	-180.93	416.60	-184.13	0.85	0.84	-0.47
5,880.00	12.40	103.89	5,841.76	-185.88	435.65	-189.22	0.73	0.66	-1.49
5,975.00	11.56	102.13	5,934.69	-190.33	454.86	-193.82	0.96	-0.88	-1.85
6,070.00	12.00	100.20	6,027.69	-194.08	473.89	-197.72	0.62	0.46	-2.03
6,165.00	12.13	99.76	6,120.59	-197.52	493.44	-201.31	0.17	0.14	-0.46
6,259.00	11.82	104.50	6,212.55	-201.61	512.50	-205.54	1.10	-0.33	5.04
6,354.00	12.04	106.88	6,305.49	-206.92	531.40	-211.00	0.57	0.23	2.51
6,448.00	11.25	108.46	6,397.56	-212.67	549.48	-216.88	0.91	-0.84	1.68
6,543.00	10.11	111.97	6,490.91	-218.73	566.00	-223.07	1.38	-1.20	3.69
6,637.00	10.20	111.09	6,583.44	-224.81	581.42	-229.27	0.19	0.10	-0.94
6,732.00	9.10	107.05	6,677.10	-230.04	596.45	-234.61	1.36	-1.16	-4.25
6,827.00	8.40	104.77	6,770.99	-234.01	610.34	-238.69	0.82	-0.74	-2.40
6,921.00	7.34	104.33	6,864.10	-237.25	622.80	-242.02	1.13	-1.13	-0.47
7,015.00	6.02	100.02	6,957.46	-239.59	633.47	-244.45	1.50	-1.40	-4.59
7,110.00	5.85	99.49	7,051.95	-241.25	643.15	-246.19	0.19	-0.18	-0.56
7,205.00	6.11	104.68	7,146.44	-243.33	652.82	-248.34	0.63	0.27	5.46
7,299.00	5.54	122.08	7,239.96	-247.01	661.50	-252.08	1.97	-0.61	18.51
7,393.00	3.87	136.93	7,333.64	-251.74	667.52	-256.86	2.18	-1.78	15.80
7,487.00	2.90	142.30	7,427.48	-255.94	671.14	-261.08	1.08	-1.03	5.71
7,582.00	2.95	130.52	7,522.36	-259.43	674.46	-264.60	0.63	0.05	-12.40
7,677.00	4.70	89.47	7,617.16	-260.98	680.22	-266.20	3.31	1.84	-43.21
7,771.00	5.23	84.82	7,710.80	-260.56	688.33	-265.84	0.71	0.56	-4.95
7,866.00	5.10	99.41	7,805.42	-260.86	696.81	-266.20	1.39	-0.14	15.36
7,961.00	3.47	115.58	7,900.16	-262.79	703.57	-268.18	2.12	-1.72	17.02
8,055.00	3.38	122.17	7,993.99	-265.49	708.48	-270.93	0.43	-0.10	7.01
8,150.00	2.24	129.38	8,088.87	-268.16	712.29	-273.62	1.25	-1.20	7.59
8,244.00	0.62	157.94	8,182.84	-269.80	713.90	-275.27	1.83	-1.72	30.38
8,339.00	0.79	248.29	8,277.84	-270.52	713.48	-275.99	1.06	0.18	95.11
8,434.00	0.92	238.80	8,372.83	-271.16	712.22	-276.62	0.20	0.14	-9.99
8,528.00	1.10	215.60	8,466.81	-272.28	711.05	-277.73	0.47	0.19	-24.68
8,619.00	1.27	226.67	8,557.79	-273.68	709.81	-279.12	0.31	0.19	12.16
8,685.00	1.27	221.72	8,623.78	-274.73	708.79	-280.16	0.17	0.00	-7.50
KOP @ 8685.00' MD									
8,714.00	1.27	219.55	8,652.77	-275.22	708.37	-280.65	0.17	0.01	-7.49
8,809.00	1.41	234.41	8,747.74	-276.71	706.75	-282.13	0.39	0.15	15.64
8,903.00	3.08	336.18	8,841.69	-275.07	704.79	-280.47	3.87	1.78	108.27



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8,998.00	13.89	358.51	8,935.53	-261.29	703.46	-266.69	11.69	11.38	23.51
9,093.00	23.56	4.48	9,025.40	-230.89	704.65	-236.30	10.36	10.18	6.28
9,188.00	37.10	2.20	9,107.21	-183.11	707.25	-188.53	14.30	14.25	-2.40
9,282.00	44.92	1.06	9,178.09	-121.50	708.95	-126.94	8.36	8.32	-1.21
9,376.00	49.58	0.70	9,241.88	-52.50	710.00	-57.95	4.97	4.96	-0.38
9,471.00	55.82	1.41	9,299.42	23.02	711.41	17.55	6.60	6.57	0.75
9,565.00	65.67	3.96	9,345.31	104.82	715.34	99.33	10.74	10.48	2.71
9,660.00	77.45	3.87	9,375.30	194.58	721.48	189.03	12.40	12.40	-0.09
9,706.00	81.39	4.04	9,383.75	239.68	724.60	234.11	8.57	8.56	0.37
1st Take Point @ 9706.00' MD									
9,755.00	85.58	4.22	9,389.31	288.22	728.10	282.62	8.57	8.56	0.36
9,814.00	87.60	0.53	9,392.82	347.06	730.54	341.44	7.12	3.42	-6.25
9,908.00	88.31	0.35	9,396.17	440.99	731.26	435.36	0.78	0.76	-0.19
10,003.00	88.88	0.70	9,398.50	535.96	732.13	530.32	0.70	0.60	0.37
10,098.00	89.45	1.06	9,399.89	630.94	733.59	625.29	0.71	0.60	0.38
10,192.00	89.36	0.26	9,400.86	724.93	734.67	719.26	0.86	-0.10	-0.85
10,287.00	90.55	359.30	9,400.94	819.92	734.31	814.26	1.61	1.25	-1.01
10,382.00	90.86	358.77	9,399.77	914.90	732.71	909.25	0.65	0.33	-0.56
10,477.00	91.30	358.59	9,397.98	1,009.86	730.52	1,004.22	0.50	0.46	-0.19
10,570.00	92.22	358.42	9,395.12	1,102.78	728.10	1,097.16	1.01	0.99	-0.18
10,662.00	90.55	358.42	9,392.90	1,194.72	725.56	1,189.11	1.82	-1.82	0.00
10,754.00	90.73	358.86	9,391.87	1,286.69	723.38	1,281.09	0.52	0.20	0.48
10,847.00	92.31	359.83	9,389.41	1,379.64	722.31	1,374.06	1.99	1.70	1.04
10,939.00	91.25	359.39	9,386.55	1,471.59	721.69	1,466.01	1.25	-1.15	-0.48
11,031.00	88.97	358.16	9,386.37	1,563.57	719.72	1,557.99	2.82	-2.48	-1.34
11,123.00	89.14	358.24	9,387.89	1,655.51	716.83	1,649.95	0.20	0.18	0.09
11,216.00	89.76	358.51	9,388.78	1,748.47	714.19	1,742.93	0.73	0.67	0.29
11,308.00	90.55	358.86	9,388.53	1,840.44	712.08	1,834.92	0.94	0.86	0.38
11,401.00	90.86	358.77	9,387.39	1,933.41	710.16	1,927.90	0.35	0.33	-0.10
11,494.00	90.59	358.07	9,386.21	2,026.37	707.60	2,020.88	0.81	-0.29	-0.75
11,586.00	91.43	357.89	9,384.59	2,118.30	704.35	2,112.83	0.93	0.91	-0.20
11,679.00	89.49	358.33	9,383.84	2,211.24	701.29	2,205.79	2.14	-2.09	0.47
11,771.00	92.26	359.65	9,382.44	2,303.20	699.66	2,297.76	3.34	3.01	1.43
11,864.00	90.07	359.47	9,380.55	2,396.18	698.95	2,390.74	2.36	-2.35	-0.19
11,959.00	89.76	359.47	9,380.69	2,491.17	698.07	2,485.74	0.33	-0.33	0.00
12,054.00	90.11	359.83	9,380.80	2,586.17	697.49	2,580.74	0.53	0.37	0.38
12,148.00	89.71	359.12	9,380.94	2,680.16	696.63	2,674.74	0.87	-0.43	-0.76
12,243.00	89.23	358.51	9,381.82	2,775.14	694.67	2,769.72	0.82	-0.51	-0.64
12,337.00	89.71	358.51	9,382.69	2,869.10	692.22	2,863.70	0.51	0.51	0.00
12,432.00	90.33	358.42	9,382.66	2,964.07	689.68	2,958.68	0.66	0.65	-0.09
12,526.00	90.15	357.10	9,382.27	3,057.99	686.00	3,052.64	1.42	-0.19	-1.40
12,621.00	91.12	358.59	9,381.21	3,152.92	682.43	3,147.58	1.87	1.02	1.57
12,716.00	91.47	0.88	9,379.06	3,247.88	681.99	3,242.55	2.44	0.37	2.41
12,810.00	90.99	357.89	9,377.05	3,341.85	680.98	3,336.52	3.22	-0.51	-3.18



Wellbenders Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well #9H
Project:	Lea Co., NM (Nad83 - East Zone)	TVD Reference:	RKB=30' @ 3571.10usft (Cactus 108)
Site:	Bell Lake 18-19 State Com	MD Reference:	RKB=30' @ 3571.10usft (Cactus 108)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,905.00	90.33	358.68	9,375.95	3,436.80	678.14	3,431.49	1.08	-0.69	0.83	
12,999.00	90.20	358.59	9,375.52	3,530.77	675.90	3,525.47	0.17	-0.14	-0.10	
13,094.00	91.65	359.65	9,373.98	3,625.74	674.44	3,620.46	1.89	1.53	1.12	
13,188.00	90.86	0.00	9,371.93	3,719.72	674.15	3,714.43	0.92	-0.84	0.37	
13,283.00	89.63	359.56	9,371.52	3,814.71	673.79	3,809.43	1.38	-1.29	-0.46	
13,378.00	89.98	0.09	9,371.84	3,909.71	673.50	3,904.43	0.67	0.37	0.56	
13,472.00	90.77	359.91	9,371.23	4,003.71	673.50	3,998.42	0.86	0.84	-0.19	
13,566.00	90.42	358.24	9,370.25	4,097.69	671.98	4,092.41	1.82	-0.37	-1.78	
13,661.00	91.52	357.45	9,368.64	4,192.61	668.41	4,187.35	1.43	1.16	-0.83	
13,756.00	92.48	358.16	9,365.33	4,287.48	664.77	4,282.25	1.26	1.01	0.75	
13,850.00	93.36	358.24	9,360.54	4,381.31	661.83	4,376.10	0.94	0.94	0.09	
13,945.00	92.53	358.24	9,355.66	4,476.14	658.91	4,470.94	0.87	-0.87	0.00	
14,039.00	94.86	359.83	9,349.60	4,569.92	657.33	4,564.74	3.00	2.48	1.69	
14,134.00	93.23	359.47	9,342.90	4,664.68	656.75	4,659.50	1.76	-1.72	-0.38	
14,228.00	91.30	359.39	9,339.18	4,758.59	655.82	4,753.42	2.05	-2.05	-0.09	
14,323.00	89.45	358.95	9,338.56	4,853.58	654.44	4,848.41	2.00	-1.95	-0.46	
14,418.00	90.86	359.03	9,338.31	4,948.56	652.77	4,943.40	1.49	1.48	0.08	
14,512.00	88.97	0.18	9,338.44	5,042.55	652.12	5,037.40	2.35	-2.01	1.22	
14,604.00	89.71	0.26	9,339.50	5,134.54	652.47	5,129.38	0.81	0.80	0.09	
14,698.00	88.31	0.18	9,341.13	5,228.53	652.83	5,223.36	1.49	-1.49	-0.09	
14,793.00	88.18	0.18	9,344.04	5,323.48	653.13	5,318.31	0.14	-0.14	0.00	
14,887.00	88.00	0.00	9,347.17	5,417.43	653.28	5,412.25	0.27	-0.19	-0.19	
14,982.00	87.60	359.47	9,350.82	5,512.36	652.84	5,507.18	0.70	-0.42	-0.56	
15,077.00	88.97	359.21	9,353.66	5,607.31	651.74	5,602.14	1.47	1.44	-0.27	
15,171.00	89.10	358.86	9,355.24	5,701.28	650.16	5,696.12	0.40	0.14	-0.37	
15,266.00	89.32	358.86	9,356.55	5,796.25	648.27	5,791.10	0.23	0.23	0.00	
15,361.00	89.89	359.12	9,357.21	5,891.23	646.60	5,886.10	0.66	0.60	0.27	
15,455.00	90.15	358.59	9,357.18	5,985.22	644.72	5,980.09	0.63	0.28	-0.56	
15,549.00	88.88	359.12	9,357.97	6,079.19	642.84	6,074.08	1.46	-1.35	0.56	
15,644.00	88.79	358.59	9,359.90	6,174.15	640.94	6,169.05	0.57	-0.09	-0.56	
15,740.00	88.75	0.35	9,361.96	6,270.12	640.06	6,265.02	1.83	-0.04	1.83	
15,834.00	87.74	1.23	9,364.84	6,364.07	641.35	6,358.95	1.42	-1.07	0.94	
15,929.00	89.98	2.90	9,366.73	6,458.98	644.77	6,453.84	2.94	2.36	1.76	
16,024.00	90.68	2.90	9,366.19	6,553.85	649.58	6,548.67	0.74	0.74	0.00	
16,118.00	90.51	2.99	9,365.21	6,647.72	654.41	6,642.50	0.20	-0.18	0.10	
16,212.00	91.21	2.73	9,363.80	6,741.60	659.10	6,736.34	0.79	0.74	-0.28	
16,307.00	91.91	2.20	9,361.21	6,836.47	663.18	6,831.18	0.92	0.74	-0.56	
16,402.00	91.43	1.85	9,358.44	6,931.37	666.54	6,926.05	0.63	-0.51	-0.37	
16,496.00	90.29	0.09	9,357.03	7,025.34	668.13	7,020.00	2.23	-1.21	-1.87	
16,590.00	90.59	359.91	9,356.31	7,119.34	668.13	7,114.00	0.37	0.32	-0.19	
16,685.00	90.33	359.21	9,355.55	7,214.33	667.40	7,209.00	0.79	-0.27	-0.74	
16,780.00	90.11	359.21	9,355.18	7,309.32	666.09	7,303.99	0.23	-0.23	0.00	
16,874.00	90.11	358.86	9,355.00	7,403.31	664.51	7,397.99	0.37	0.00	-0.37	



Wellbenders Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well #9H
Project:	Lea Co., NM (Nad83 - East Zone)	TVD Reference:	RKB=30' @ 3571.10usft (Cactus 108)
Site:	Bell Lake 18-19 State Com	MD Reference:	RKB=30' @ 3571.10usft (Cactus 108)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	WBDS_SQL_2

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,968.00	90.51	358.33	9,354.49	7,497.28	662.20	7,491.97	0.71	0.43	-0.56
17,063.00	90.51	358.59	9,353.65	7,592.24	659.65	7,586.95	0.27	0.00	0.27
17,158.00	90.59	357.80	9,352.74	7,687.19	656.66	7,681.92	0.84	0.08	-0.83
17,251.00	89.27	356.75	9,352.85	7,780.08	652.24	7,774.84	1.81	-1.42	-1.13
17,346.00	89.32	357.89	9,354.02	7,874.97	647.79	7,869.76	1.20	0.05	1.20
17,440.00	87.65	357.89	9,356.50	7,968.87	644.33	7,963.68	1.78	-1.78	0.00
17,535.00	88.79	358.33	9,359.46	8,063.77	641.20	8,058.61	1.29	1.20	0.46
17,629.00	89.19	357.89	9,361.11	8,157.70	638.10	8,152.56	0.63	0.43	-0.47
17,724.00	89.63	357.36	9,362.09	8,252.62	634.17	8,247.50	0.73	0.46	-0.56
17,818.00	90.02	357.45	9,362.38	8,346.52	629.91	8,341.43	0.43	0.41	0.10
17,914.00	90.24	357.80	9,362.16	8,442.44	625.93	8,437.38	0.43	0.23	0.36
18,008.00	89.49	359.12	9,362.38	8,536.40	623.41	8,531.36	1.62	-0.80	1.40
18,102.00	89.05	359.12	9,363.58	8,630.38	621.96	8,625.35	0.47	-0.47	0.00
18,196.00	89.32	358.86	9,364.92	8,724.36	620.31	8,719.33	0.40	0.29	-0.28
18,291.00	89.85	0.00	9,365.60	8,819.35	619.36	8,814.33	1.32	0.56	1.20
18,386.00	89.67	359.30	9,366.00	8,914.34	618.78	8,909.33	0.76	-0.19	-0.74
18,480.00	90.24	0.18	9,366.08	9,008.34	618.35	9,003.33	1.12	0.61	0.94
18,574.00	90.37	359.74	9,365.58	9,102.34	618.29	9,097.32	0.49	0.14	-0.47
18,669.00	89.63	0.09	9,365.58	9,197.34	618.15	9,192.32	0.86	-0.78	0.37
18,763.00	90.73	0.44	9,365.28	9,291.33	618.58	9,286.31	1.23	1.17	0.37
18,858.00	89.89	359.30	9,364.77	9,386.33	618.37	9,381.31	1.49	-0.88	-1.20
18,952.00	90.68	359.91	9,364.30	9,480.33	617.72	9,475.30	1.06	0.84	0.65
19,046.00	92.57	0.18	9,361.63	9,574.28	617.79	9,569.26	2.03	2.01	0.29
19,141.00	93.76	0.62	9,356.39	9,669.13	618.45	9,664.10	1.34	1.25	0.46
19,235.00	92.97	0.97	9,350.87	9,762.96	619.76	9,757.92	0.92	-0.84	0.37
19,330.00	94.11	1.23	9,345.01	9,857.76	621.58	9,852.70	1.23	1.20	0.27
19,375.00	94.77	1.06	9,341.52	9,902.62	622.47	9,897.55	1.51	1.47	-0.38
19,417.00	94.77	1.06	9,338.03	9,944.47	623.25	9,939.39	0.00	0.00	0.00
Last Take Point @ 19417.00' MD									
19,442.00	94.77	1.06	9,335.95	9,969.37	623.71	9,964.29	0.00	0.00	0.00

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,685.00	8,623.78	-274.73	708.79	KOP @ 8685.00' MD
9,706.00	9,383.75	239.68	724.60	1st Take Point @ 9706.00' MD
19,417.00	9,338.03	9,944.47	623.25	Last Take Point @ 19417.00' MD

Checked By: _____	Approved By: _____	Date: _____
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I **Larry Wright**, certify that I am employed by **Wellbenders Directional Services**. That I did on the day(s) of **03/30/19** thru **04/15/19** conduct or supervise the taking of a **MWD Survey** from a depth of **230'** to a depth of **19442'**; that the data is true, correct, complete and within the limitations of the tool as set forth by **Wellbenders Directional Services**; that I am authorized and qualified to make this report; that this survey was conducted at the request of **Devon Energy** for the **Bell Lake 18-19 State Com #9H** API No. **30-025-45452** in **Lea County, New Mexico**; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by **Wellbenders Directional Services**.

Larry Wright

*1125 Beach Airport Rd, Conroe, Texas
77301
PH 936-756-3225 FAX 936-756-3248*