



HOBBS OCD
MAR 15 2019
RECEIVED

Fighting Okra 18-19 Fed No. 5H

Lea County, NM

August 08, 2018

Job No. LNM5172518

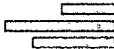
Survey Completion Report



PRODIRECTIONAL

Survey Certification Letter

August 08, 2018



devon

Operator Name: Devon Energy Corp.
Well Name: Fighting Okra 18-19 Fed No. 5H
County/Parish: Lea County,
State: NM
Rig Name: Cactus 126
Job Number: LNM5172518

This is to certify the surveys performed on the referenced well by Professional Directional Ent., Inc. are true and correct MWD Surveys, data provided as follows:

<u>Surveyor</u>	<u>Surveyed Depths</u>	<u>Projection to Bit</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
ProDirectional	187' MD – 22,843' MD	22,906' MD	04/24/18 – 07/11/18	MWD

Sincerely,



Mike Coats
Regulatory Specialist
Professional Directional

850 Conroe Park West Drive | Conroe, TX 77303 | Phone: 936.441.7266

prodirectional.com



Devon Energy Corp.

Lea County, NM

Fighting Okra 18-19 Fed

No. 5H

OH

Survey: ProDirectional

Survey Report

08 August, 2018





ProDirectional Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Fighting Okra 18-19 Fed
Well: 5H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 5H
TVD Reference: GL 3365'+25.5' @ 3390.50usft (Cactus 126)
MD Reference: GL 3365'+25.5' @ 3390.50usft (Cactus 126)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Project Lea County, NM (NAD83)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site Fighting Okra 18-19 Fed

Site Position:		Northing:	382,643.65 usft	Latitude:	32.049254
From:	Map	Easting:	798,304.66 usft	Longitude:	-103.503944
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.44 °

Well 5H

Well Position	+N/-S	0.00 usft	Northing:	382,781.60 usft	Latitude:	32.049667
	+E/-W	0.00 usft	Easting:	796,697.09 usft	Longitude:	-103.509129
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,365.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/30/2018	6.75	59.72	47,811.20

Design Surveys

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	179.50

Survey Program **Date** 8/8/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
187.00	22,906.00	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM



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Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	382,781.60	796,697.09		
187.00	0.40	60.10	187.00	-0.32	0.33	0.57	0.65	60.10	382,781.93	796,697.66		
Pro MWD First Survey: 187' MD												
280.00	0.50	82.70	280.00	-0.53	0.54	1.25	1.36	66.68	382,782.14	796,698.34		
371.00	0.60	78.90	370.99	-0.66	0.68	2.11	2.22	72.12	382,782.28	796,699.20		
462.00	0.50	91.00	461.99	-0.74	0.77	2.98	3.07	75.57	382,782.37	796,700.07		
554.00	0.50	90.80	553.98	-0.72	0.75	3.78	3.85	78.73	382,782.35	796,700.87		
647.00	0.70	126.10	646.98	-0.37	0.41	4.64	4.66	84.92	382,782.01	796,701.73		
739.00	1.00	119.00	738.97	0.36	-0.31	5.80	5.81	93.04	382,781.29	796,702.89		
829.00	1.10	123.60	828.95	1.23	-1.17	7.21	7.30	99.19	382,780.43	796,704.30		
974.00	1.00	120.50	973.93	2.66	-2.58	9.46	9.80	105.26	382,779.02	796,706.55		
1,066.00	1.50	101.00	1,065.91	3.31	-3.22	11.33	11.78	105.85	382,778.38	796,708.42		
1,158.00	2.10	88.80	1,157.86	3.53	-3.41	14.20	14.60	103.51	382,778.19	796,711.29		
1,250.00	2.50	79.00	1,249.79	3.15	-2.99	17.85	18.10	99.52	382,778.61	796,714.94		
1,344.00	2.20	71.00	1,343.71	2.20	-2.01	21.57	21.66	95.33	382,779.59	796,718.66		
1,435.00	3.30	65.80	1,434.60	0.59	-0.37	25.61	25.61	90.83	382,781.23	796,722.70		
1,528.00	3.50	55.50	1,527.44	-2.07	2.33	30.39	30.48	85.61	382,783.93	796,727.48		
1,620.00	4.00	49.10	1,619.24	-5.72	6.03	35.13	35.64	80.27	382,787.63	796,732.22		
1,712.00	4.10	40.60	1,711.01	-10.28	10.62	39.70	41.09	75.02	382,792.22	796,736.79		
1,806.00	4.60	36.30	1,804.74	-15.83	16.21	44.12	47.00	69.82	382,797.81	796,741.21		
1,900.00	4.70	36.00	1,898.43	-21.94	22.37	48.61	53.51	65.29	382,803.97	796,745.70		
1,994.00	5.10	35.80	1,992.09	-28.40	28.87	53.32	60.63	61.57	382,810.47	796,750.41		
2,088.00	5.30	36.20	2,085.70	-35.25	35.76	58.33	68.42	58.49	382,817.36	796,755.42		
2,182.00	5.30	37.30	2,179.30	-42.16	42.72	63.52	76.55	56.08	382,824.32	796,760.61		
2,276.00	5.50	37.10	2,272.88	-49.16	49.77	68.87	84.97	54.15	382,831.37	796,765.96		
2,370.00	5.50	38.60	2,366.45	-56.23	56.88	74.40	93.65	52.60	382,838.48	796,771.49		
2,464.00	5.80	40.40	2,460.00	-63.31	64.02	80.29	102.68	51.43	382,845.62	796,777.38		



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Design: Surveys

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2,558.00	5.70	43.70	2,553.52	-70.25	71.01	86.59	111.98	50.65	382,852.61	796,783.68	
2,652.00	4.80	43.70	2,647.13	-76.42	77.23	92.53	120.52	50.15	382,858.83	796,789.62	
2,746.00	4.70	46.30	2,740.80	-81.87	82.73	98.03	128.28	49.84	382,864.33	796,795.12	
2,840.00	5.30	49.60	2,834.45	-87.29	88.21	104.12	136.46	49.73	382,869.81	796,801.21	
2,934.00	4.90	49.10	2,928.07	-92.68	93.65	110.46	144.82	49.71	382,875.25	796,807.55	
3,028.00	5.00	47.30	3,021.72	-98.03	99.05	116.51	152.92	49.63	382,880.65	796,813.60	
3,122.00	4.60	49.90	3,115.39	-103.19	104.26	122.40	160.79	49.58	382,885.86	796,819.49	
3,216.00	4.60	51.50	3,209.09	-107.91	109.03	128.24	168.32	49.63	382,890.63	796,825.33	
3,310.00	4.50	46.00	3,302.80	-112.77	113.94	133.84	175.77	49.59	382,895.54	796,830.93	
3,404.00	5.30	48.00	3,396.45	-118.19	119.41	139.72	183.79	49.48	382,901.01	796,836.81	
3,498.00	5.30	41.80	3,490.05	-124.27	125.55	145.84	192.44	49.27	382,907.15	796,842.93	
3,592.00	4.40	35.80	3,583.71	-130.39	131.71	150.84	200.25	48.87	382,913.31	796,847.93	
3,685.00	3.90	30.30	3,676.47	-135.98	137.34	154.52	206.73	48.37	382,918.94	796,851.61	
3,780.00	3.30	38.60	3,771.28	-140.88	142.26	157.86	212.50	47.97	382,923.86	796,854.95	
3,874.00	3.60	48.50	3,865.11	-144.92	146.33	161.76	218.13	47.87	382,927.93	796,858.85	
3,968.00	3.30	39.50	3,958.94	-148.92	150.38	165.69	223.75	47.77	382,931.98	796,862.78	
4,062.00	3.60	40.80	4,052.77	-153.21	154.70	169.34	229.36	47.59	382,936.30	796,866.43	
4,156.00	3.20	46.70	4,146.61	-157.21	158.73	173.18	234.92	47.49	382,940.33	796,870.27	
4,250.00	2.80	40.10	4,240.48	-160.74	162.29	176.56	239.82	47.41	382,943.89	796,873.65	
4,344.00	2.70	53.90	4,334.37	-163.77	165.35	179.83	244.29	47.40	382,946.95	796,876.92	
4,438.00	2.70	52.70	4,428.27	-166.39	167.99	183.38	248.70	47.51	382,949.59	796,880.47	
4,533.00	3.70	52.70	4,523.12	-169.56	171.21	187.60	253.98	47.62	382,952.81	796,884.69	
4,627.00	4.70	60.00	4,616.86	-173.28	174.97	193.35	260.76	47.86	382,956.57	796,890.44	
4,721.00	4.40	58.40	4,710.57	-177.04	178.79	199.75	268.08	48.17	382,960.39	796,896.84	
4,815.00	4.00	48.70	4,804.32	-181.04	182.84	205.29	274.91	48.31	382,964.44	796,902.38	
4,909.00	4.00	41.70	4,898.09	-185.61	187.45	209.93	281.44	48.24	382,969.05	796,907.02	
5,003.00	3.90	52.50	4,991.87	-189.96	191.84	214.65	287.89	48.21	382,973.44	796,911.74	



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Survey Report



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5,097.00	3.30	43.60	5,085.68	-193.83	195.75	219.05	293.77	48.22	382,977.35	796,916.14	
5,191.00	3.30	21.10	5,179.53	-198.29	200.23	221.89	298.88	47.94	382,981.83	796,918.98	
5,285.00	3.30	13.50	5,273.37	-203.43	205.39	223.50	303.54	47.42	382,986.99	796,920.59	
5,379.00	2.50	21.00	5,367.25	-207.96	209.93	224.86	307.63	46.97	382,991.53	796,921.95	
5,473.00	3.00	31.60	5,461.14	-211.95	213.94	226.89	311.85	46.68	382,995.54	796,923.98	
5,568.00	3.30	35.30	5,556.00	-216.28	218.29	229.77	316.93	46.47	382,999.89	796,926.86	
5,662.00	3.30	34.50	5,649.85	-220.69	222.73	232.87	322.23	46.27	383,004.33	796,929.96	
5,756.00	3.30	33.00	5,743.69	-225.16	227.23	235.87	327.52	46.07	383,008.83	796,932.96	
5,850.00	3.70	33.40	5,837.51	-229.93	232.03	239.01	333.11	45.85	383,013.63	796,936.10	
5,944.00	3.80	30.00	5,931.31	-235.14	237.26	242.24	339.08	45.60	383,018.86	796,939.33	
6,038.00	3.80	28.60	6,025.11	-240.54	242.69	245.29	345.06	45.31	383,024.29	796,942.38	
6,132.00	4.10	34.50	6,118.88	-246.02	248.19	248.68	351.35	45.06	383,029.79	796,945.77	
6,226.00	4.30	38.90	6,212.63	-251.49	253.71	252.80	358.16	44.90	383,035.31	796,949.89	
6,320.00	4.20	38.00	6,306.37	-256.91	259.16	257.13	365.08	44.77	383,040.76	796,954.22	
6,414.00	3.90	39.30	6,400.14	-262.06	264.35	261.28	371.68	44.67	383,045.95	796,958.37	
6,508.00	4.20	45.70	6,493.90	-266.90	269.23	265.77	378.30	44.63	383,050.83	796,962.86	
6,602.00	4.30	47.10	6,587.64	-271.66	274.03	270.81	385.27	44.66	383,055.63	796,967.90	
6,696.00	4.30	46.80	6,681.38	-276.42	278.84	275.96	392.31	44.70	383,060.44	796,973.05	
6,790.00	4.30	46.90	6,775.12	-281.20	283.66	281.10	399.35	44.74	383,065.26	796,978.19	
6,884.00	4.40	47.60	6,868.84	-285.99	288.50	286.34	406.47	44.78	383,070.10	796,983.43	
6,978.00	4.40	48.20	6,962.57	-290.78	293.33	291.69	413.68	44.84	383,074.93	796,988.78	
7,072.00	4.50	47.50	7,056.28	-295.62	298.23	297.10	420.96	44.89	383,079.83	796,994.19	
7,167.00	4.50	46.80	7,150.99	-300.65	303.30	302.56	428.41	44.93	383,084.90	796,999.65	
7,261.00	4.30	46.70	7,244.71	-305.54	308.24	307.81	435.61	44.96	383,089.84	797,004.90	
7,355.00	4.20	45.60	7,338.46	-310.32	313.06	312.84	442.58	44.98	383,094.66	797,009.93	
7,449.00	4.00	43.00	7,432.22	-315.09	317.87	317.53	449.30	44.97	383,099.47	797,014.62	
7,543.00	3.70	41.20	7,526.00	-319.73	322.55	321.77	455.60	44.93	383,104.15	797,018.86	



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7,637.00	3.30	41.40		7,619.83	-324.01	326.86	325.55	461.33	44.89	383,108.46	797,022.64
7,731.00	3.10	44.10		7,713.68	-327.83	330.72	329.11	466.57	44.86	383,112.32	797,026.20
7,825.00	2.40	45.80		7,807.57	-331.00	333.91	332.29	471.08	44.86	383,115.51	797,029.38
7,919.00	1.80	49.60		7,901.51	-333.31	336.24	334.83	474.52	44.88	383,117.84	797,031.92
8,013.00	1.00	68.60		7,995.48	-334.55	337.50	336.71	476.74	44.93	383,119.10	797,033.80
8,107.00	0.80	119.20		8,089.47	-334.52	337.48	338.05	477.67	45.05	383,119.08	797,035.14
8,202.00	1.10	127.60		8,184.46	-333.62	336.60	339.35	477.97	45.23	383,118.20	797,036.44
8,296.00	1.20	129.70		8,278.44	-332.43	335.42	340.82	478.19	45.46	383,117.02	797,037.91
8,390.00	1.20	130.10		8,372.42	-331.16	334.16	342.34	478.39	45.69	383,115.76	797,039.43
8,484.00	1.10	125.70		8,466.40	-329.98	333.00	343.82	478.64	45.92	383,114.60	797,040.91
8,578.00	1.20	128.20		8,560.38	-328.83	331.86	345.33	478.94	46.14	383,113.46	797,042.42
8,672.00	1.10	125.10		8,654.36	-327.69	330.73	346.84	479.25	46.36	383,112.33	797,043.93
8,766.00	1.20	122.10		8,748.34	-326.64	329.69	348.41	479.67	46.58	383,111.29	797,045.50
8,860.00	1.10	126.50		8,842.32	-325.56	328.63	349.97	480.08	46.80	383,110.23	797,047.06
8,954.00	1.10	132.60		8,936.31	-324.41	327.48	351.36	480.31	47.01	383,109.08	797,048.45
9,048.00	1.10	141.40		9,030.29	-323.08	326.17	352.59	480.32	47.23	383,107.77	797,049.68
9,142.00	1.00	140.30		9,124.27	-321.73	324.83	353.67	480.21	47.43	383,106.43	797,050.76
9,236.00	1.00	146.60		9,218.26	-320.41	323.52	354.65	480.04	47.63	383,105.12	797,051.74
9,330.00	1.00	145.40		9,312.24	-319.04	322.16	355.57	479.80	47.82	383,103.76	797,052.66
9,424.00	1.00	142.80		9,406.23	-317.70	320.83	356.53	479.63	48.02	383,102.43	797,053.62
9,518.00	0.90	146.30		9,500.22	-316.43	319.56	357.43	479.45	48.20	383,101.16	797,054.52
9,612.00	0.80	145.20		9,594.21	-315.27	318.41	358.22	479.27	48.37	383,100.01	797,055.31
9,707.00	0.70	130.60		9,689.20	-314.34	317.48	359.04	479.27	48.51	383,099.08	797,056.13
9,801.00	0.20	40.70		9,783.20	-314.09	317.24	359.58	479.52	48.58	383,098.84	797,056.67
9,895.00	0.40	42.70		9,877.19	-314.45	317.60	359.91	480.00	48.57	383,099.20	797,057.00
9,989.00	0.40	50.50		9,971.19	-314.89	318.05	360.38	480.66	48.57	383,099.65	797,057.47
10,083.00	0.30	342.70		10,065.19	-315.34	318.49	360.56	481.09	48.55	383,100.09	797,057.65



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Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
10,177.00	0.30	343.50	10,159.19	-315.81	318.97	360.42	481.29	48.49	383,100.57	797,057.51	
10,271.00	0.20	0.60	10,253.19	-316.21	319.37	360.35	481.51	48.45	383,100.97	797,057.44	
10,366.00	0.30	314.70	10,348.19	-316.55	319.71	360.18	481.60	48.41	383,101.31	797,057.27	
10,460.00	0.70	293.20	10,442.18	-316.96	320.11	359.48	481.34	48.32	383,101.71	797,056.57	
10,554.00	0.90	268.40	10,536.18	-317.17	320.31	358.21	480.53	48.20	383,101.91	797,055.30	
10,648.00	1.50	274.40	10,630.15	-317.26	320.38	356.25	479.12	48.03	383,101.98	797,053.34	
10,742.00	2.10	273.00	10,724.11	-317.47	320.57	353.30	477.06	47.78	383,102.17	797,050.39	
10,836.00	2.80	288.40	10,818.02	-318.32	321.38	349.40	474.73	47.39	383,102.98	797,046.49	
10,930.00	2.20	303.90	10,911.93	-320.09	323.12	345.72	473.21	46.94	383,104.72	797,042.81	
11,025.00	1.80	324.00	11,006.88	-322.33	325.34	343.33	472.99	46.54	383,106.94	797,040.42	
11,119.00	1.00	11.70	11,100.85	-324.33	327.34	342.63	473.86	46.31	383,108.94	797,039.72	
11,213.00	1.40	35.30	11,194.83	-326.07	329.08	343.46	475.67	46.23	383,110.68	797,040.55	
11,307.00	2.50	37.80	11,288.77	-328.61	331.63	345.38	478.82	46.16	383,113.23	797,042.47	
11,401.00	3.00	43.70	11,382.67	-331.98	335.03	348.34	483.31	46.12	383,116.63	797,045.43	
11,495.00	3.00	51.60	11,476.54	-335.25	338.34	351.97	488.21	46.13	383,119.94	797,049.06	
11,589.00	2.30	63.10	11,570.44	-337.60	340.72	355.58	492.47	46.22	383,122.32	797,052.67	
11,684.00	1.90	75.70	11,665.37	-338.83	341.97	358.80	495.66	46.38	383,123.57	797,055.89	
11,778.00	1.10	90.90	11,759.34	-339.18	342.34	361.21	497.67	46.54	383,123.94	797,058.30	
11,872.00	0.40	114.20	11,853.33	-339.02	342.19	362.41	498.44	46.64	383,123.79	797,059.50	
11,966.00	0.30	98.60	11,947.33	-338.84	342.02	362.96	498.72	46.70	383,123.62	797,060.05	
12,060.00	0.40	118.60	12,041.33	-338.64	341.83	363.49	498.97	46.76	383,123.43	797,060.58	
12,154.00	0.50	94.10	12,135.33	-338.45	341.64	364.19	499.35	46.83	383,123.24	797,061.28	
12,179.00	0.30	100.30	12,160.33	-338.43	341.62	364.36	499.46	46.84	383,123.22	797,061.45	
12,247.00	1.10	148.00	12,228.32	-337.84	341.04	364.88	499.44	46.93	383,122.64	797,061.97	
12,341.00	12.20	164.70	12,321.54	-327.44	330.66	367.99	494.72	48.06	383,112.26	797,065.08	
12,435.00	24.90	169.40	12,410.48	-298.23	301.51	374.28	480.61	51.15	383,083.11	797,071.37	
12,529.00	34.10	173.50	12,492.22	-252.44	255.77	380.91	458.82	56.12	383,037.37	797,078.00	



ProDirectional Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Fighting Okra 18-19 Fed
Well: 5H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 5H
TVD Reference: GL 3365'+25.5' @ 3390.50usft (Cactus 126)
MD Reference: GL 3365'+25.5' @ 3390.50usft (Cactus 126)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
12,623.00	42.20	179.20	12,566.10	-194.55	197.91	384.34	432.31	62.75	382,979.51	797,081.43	
12,717.00	49.80	181.90	12,631.36	-127.01	130.36	383.59	405.14	71.23	382,911.96	797,080.68	
12,811.00	55.40	184.50	12,688.43	-52.53	55.84	379.36	383.45	81.63	382,837.44	797,076.45	
12,905.00	62.80	176.10	12,736.74	27.96	-24.65	379.17	379.97	93.72	382,756.95	797,076.26	
12,999.00	75.30	179.10	12,770.29	115.51	-112.17	382.74	398.84	106.33	382,669.43	797,079.83	
13,098.00	76.80	179.40	12,794.15	211.59	-208.24	384.00	436.83	118.47	382,573.36	797,081.09	
13,192.00	79.50	179.30	12,813.45	303.57	-300.23	385.05	488.26	127.94	382,481.37	797,082.14	
13,286.00	86.00	179.90	12,825.31	396.77	-393.42	385.69	550.94	135.57	382,388.18	797,082.78	
13,333.00	92.80	180.00	12,825.80	443.74	-440.39	385.73	585.44	138.79	382,341.21	797,082.82	
13,381.00	94.00	180.70	12,822.95	491.65	-488.31	385.44	622.10	141.71	382,293.29	797,082.53	
13,475.00	90.60	181.70	12,819.18	585.52	-582.19	383.47	697.14	146.63	382,199.41	797,080.56	
13,570.00	92.10	185.20	12,816.94	680.25	-676.98	377.76	775.24	150.84	382,104.62	797,074.85	
13,664.00	89.00	180.60	12,816.04	774.04	-770.82	373.01	856.33	154.18	382,010.78	797,070.10	
13,758.00	90.60	183.20	12,816.37	867.95	-864.75	369.89	940.54	156.84	381,916.85	797,066.98	
13,853.00	90.10	178.80	12,815.79	962.89	-959.71	368.23	1,027.93	159.01	381,821.89	797,065.32	
13,948.00	89.80	173.40	12,815.87	1,057.69	-1,054.46	374.69	1,119.05	160.44	381,727.14	797,071.78	
14,042.00	88.90	174.70	12,816.94	1,151.25	-1,147.94	384.44	1,210.60	161.48	381,633.66	797,081.53	
14,136.00	90.60	174.10	12,817.35	1,244.88	-1,241.49	393.61	1,302.39	162.41	381,540.11	797,090.70	
14,231.00	90.70	176.20	12,816.27	1,339.59	-1,336.14	401.64	1,395.20	163.27	381,445.46	797,098.73	
14,325.00	90.80	179.10	12,815.04	1,433.52	-1,430.04	405.49	1,486.42	164.17	381,351.56	797,102.58	
14,421.00	93.10	181.80	12,811.77	1,529.44	-1,525.97	404.74	1,578.73	165.15	381,255.63	797,101.83	
14,515.00	88.40	180.00	12,810.54	1,623.37	-1,619.92	403.27	1,669.36	166.02	381,161.68	797,100.36	
14,609.00	88.60	180.50	12,813.00	1,717.33	-1,713.88	402.86	1,760.59	166.77	381,067.72	797,099.95	
14,704.00	87.60	183.10	12,816.15	1,812.20	-1,808.78	399.87	1,852.45	167.53	380,972.82	797,096.96	
14,798.00	86.20	182.40	12,821.24	1,905.90	-1,902.53	395.37	1,943.17	168.26	380,879.07	797,092.46	
14,894.00	91.90	185.30	12,822.83	2,001.56	-1,998.25	388.93	2,035.74	168.99	380,783.35	797,086.02	
14,988.00	93.90	186.80	12,818.07	2,094.82	-2,091.60	379.03	2,125.66	169.73	380,690.00	797,076.12	



ProDirectional
Survey Report



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Site: Fighting Okra 18-19 Fed
Well: 5H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 5H
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Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
15,084.00	91.10	185.30	12,813.88	2,190.09	-2,186.96	368.93	2,217.86	170.42	380,594.64	797,066.02	
15,178.00	89.50	185.00	12,813.39	2,283.63	-2,280.57	360.49	2,308.89	171.02	380,501.03	797,057.58	
15,273.00	87.30	182.00	12,816.05	2,378.35	-2,375.34	354.69	2,401.68	171.51	380,406.26	797,051.78	
15,367.00	88.10	179.60	12,819.82	2,472.24	-2,469.25	353.38	2,494.41	171.86	380,312.35	797,050.47	
15,462.00	88.60	178.90	12,822.55	2,567.20	-2,564.20	354.63	2,588.61	172.13	380,217.40	797,051.72	
15,557.00	90.60	177.50	12,823.22	2,662.17	-2,659.15	357.61	2,683.09	172.34	380,122.45	797,054.70	
15,651.00	92.10	176.80	12,821.00	2,756.06	-2,753.00	362.28	2,776.74	172.50	380,028.60	797,059.37	
15,746.00	92.80	177.20	12,816.94	2,850.88	-2,847.78	367.25	2,871.37	172.65	379,933.82	797,064.34	
15,840.00	92.90	179.90	12,812.27	2,944.74	-2,941.63	369.62	2,964.76	172.84	379,839.97	797,066.71	
15,936.00	88.80	178.70	12,810.84	3,040.71	-3,037.59	370.80	3,060.14	173.04	379,744.01	797,067.89	
16,031.00	89.30	181.20	12,812.42	3,135.68	-3,132.57	370.88	3,154.45	173.25	379,649.03	797,067.97	
16,127.00	89.50	179.40	12,813.42	3,231.67	-3,228.56	370.38	3,249.73	173.46	379,553.04	797,067.47	
16,221.00	85.00	177.00	12,817.93	3,325.50	-3,322.37	373.32	3,343.28	173.59	379,459.23	797,070.41	
16,316.00	88.80	177.40	12,823.07	3,420.27	-3,417.10	377.95	3,437.94	173.69	379,364.50	797,075.04	
16,411.00	92.50	179.00	12,821.99	3,515.22	-3,512.03	380.94	3,532.63	173.81	379,269.57	797,078.03	
16,505.00	85.60	176.30	12,823.55	3,609.09	-3,605.87	384.79	3,626.34	173.91	379,175.73	797,081.88	
16,599.00	87.70	177.10	12,829.04	3,702.81	-3,699.55	390.19	3,720.07	173.98	379,082.05	797,087.28	
16,693.00	92.70	179.40	12,828.71	3,796.75	-3,793.47	393.06	3,813.78	174.08	378,988.13	797,090.15	
16,787.00	87.90	177.80	12,828.22	3,890.71	-3,887.41	395.35	3,907.46	174.19	378,894.19	797,092.44	
16,882.00	90.20	180.70	12,829.80	3,985.68	-3,982.37	396.60	4,002.07	174.31	378,799.23	797,093.69	
16,978.00	89.90	178.80	12,829.71	4,081.68	-4,078.37	397.02	4,097.64	174.44	378,703.23	797,094.11	
17,072.00	89.90	175.60	12,829.88	4,175.59	-4,172.24	401.61	4,191.53	174.50	378,609.36	797,098.70	
17,167.00	91.10	177.10	12,829.05	4,270.44	-4,267.04	407.65	4,286.47	174.54	378,514.56	797,104.74	
17,262.00	91.00	187.50	12,827.30	4,365.18	-4,361.82	403.85	4,380.47	174.71	378,419.78	797,100.94	
17,356.00	89.40	182.50	12,826.97	4,458.71	-4,455.43	395.66	4,472.96	174.93	378,326.17	797,092.75	
17,450.00	90.40	175.70	12,827.14	4,552.65	-4,549.36	397.13	4,566.66	175.01	378,232.24	797,094.22	
17,544.00	90.40	172.00	12,826.48	4,646.18	-4,642.80	407.20	4,660.62	174.99	378,138.80	797,104.29	



ProDirectional Survey Report



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Database: WellPlanner1

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
17,639.00	94.30	176.60	12,822.59	4,740.66	-4,737.21	416.63	4,755.49	174.97	378,044.39	797,113.72	
17,734.00	95.60	178.60	12,814.39	4,835.25	-4,831.76	420.59	4,850.03	175.03	377,949.84	797,117.68	
17,829.00	93.20	179.50	12,807.10	4,929.96	-4,926.46	422.16	4,944.52	175.10	377,855.14	797,119.25	
17,917.00	92.20	183.00	12,802.95	5,017.80	-5,014.33	420.25	5,031.91	175.21	377,767.27	797,117.34	
18,012.00	88.40	183.90	12,802.46	5,112.56	-5,109.14	414.53	5,125.92	175.36	377,672.46	797,111.62	
18,107.00	86.30	181.70	12,806.85	5,207.29	-5,203.91	409.89	5,220.03	175.50	377,577.69	797,106.98	
18,201.00	89.70	181.50	12,810.13	5,301.15	-5,297.80	407.27	5,313.43	175.60	377,483.80	797,104.36	
18,295.00	87.70	182.60	12,812.26	5,395.03	-5,391.71	403.91	5,406.82	175.72	377,389.89	797,101.00	
18,390.00	88.50	182.20	12,815.41	5,489.86	-5,486.57	399.93	5,501.13	175.83	377,295.03	797,097.02	
18,484.00	88.30	181.80	12,818.04	5,583.73	-5,580.48	396.65	5,594.56	175.93	377,201.12	797,093.74	
18,580.00	93.40	181.50	12,816.61	5,679.62	-5,676.40	393.89	5,690.05	176.03	377,105.20	797,090.98	
18,674.00	88.90	178.80	12,814.73	5,773.56	-5,770.35	393.65	5,783.76	176.10	377,011.25	797,090.74	
18,769.00	87.10	178.10	12,818.04	5,868.48	-5,865.25	396.21	5,878.62	176.14	376,916.35	797,093.30	
18,864.00	88.20	177.20	12,821.94	5,963.35	-5,960.09	400.11	5,973.50	176.16	376,821.51	797,097.20	
18,958.00	89.00	176.00	12,824.23	6,057.20	-6,053.89	405.68	6,067.47	176.17	376,727.71	797,102.77	
19,053.00	91.50	180.50	12,823.82	6,152.15	-6,148.81	408.58	6,162.37	176.20	376,632.79	797,105.67	
19,147.00	88.60	180.00	12,823.74	6,246.13	-6,242.80	408.17	6,256.13	176.26	376,538.80	797,105.26	
19,241.00	89.80	178.40	12,825.05	6,340.11	-6,336.78	409.48	6,350.00	176.30	376,444.82	797,106.57	
19,336.00	91.70	176.60	12,823.81	6,435.04	-6,431.67	413.63	6,444.96	176.32	376,349.93	797,110.72	
19,430.00	89.20	173.80	12,823.07	6,528.75	-6,525.32	421.49	6,538.92	176.30	376,256.28	797,118.58	
19,526.00	88.50	179.90	12,825.00	6,624.58	-6,621.11	426.76	6,634.85	176.31	376,160.49	797,123.85	
19,620.00	89.20	180.40	12,826.88	6,718.56	-6,715.09	426.52	6,728.62	176.37	376,066.51	797,123.61	
19,714.00	91.20	180.50	12,826.55	6,812.54	-6,809.08	425.78	6,822.38	176.42	375,972.52	797,122.87	
19,809.00	90.50	181.10	12,825.14	6,907.50	-6,904.06	424.45	6,917.10	176.48	375,877.54	797,121.54	
19,904.00	89.70	181.30	12,824.98	7,002.46	-6,999.04	422.46	7,011.78	176.55	375,782.56	797,119.55	
19,999.00	91.40	178.00	12,824.07	7,097.44	-7,094.02	423.04	7,106.62	176.59	375,687.58	797,120.13	
20,094.00	93.40	179.40	12,820.09	7,192.34	-7,188.90	425.20	7,201.47	176.62	375,592.70	797,122.29	



ProDirectional Survey Report



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Well: 5H
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Local Co-ordinate Reference: Well 5H
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Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
20,189.00	90.60	181.10	12,816.77	7,287.26	-7,283.83	424.78	7,296.21	176.66	375,497.77	797,121.87
20,283.00	88.90	185.40	12,817.18	7,381.03	-7,377.65	419.45	7,389.57	176.75	375,403.95	797,116.54
20,378.00	89.50	181.40	12,818.51	7,475.79	-7,472.46	413.82	7,483.91	176.83	375,309.14	797,110.91
20,473.00	88.30	177.90	12,820.33	7,570.75	-7,567.42	414.40	7,578.76	176.87	375,214.18	797,111.49
20,568.00	90.90	181.00	12,821.00	7,665.73	-7,662.40	415.31	7,673.64	176.90	375,119.20	797,112.40
20,663.00	88.40	182.90	12,821.58	7,760.63	-7,757.33	412.08	7,768.27	176.96	375,024.27	797,109.17
20,758.00	87.30	183.50	12,825.14	7,855.36	-7,852.11	406.78	7,862.64	177.03	374,929.49	797,103.87
20,853.00	87.50	181.70	12,829.45	7,950.12	-7,946.91	402.48	7,957.10	177.10	374,834.69	797,099.57
20,947.00	91.40	180.80	12,830.35	8,044.05	-8,040.87	400.43	8,050.83	177.15	374,740.73	797,097.52
21,042.00	92.20	179.90	12,827.37	8,139.00	-8,135.82	399.85	8,145.64	177.19	374,645.78	797,096.94
21,137.00	90.90	179.90	12,824.80	8,233.96	-8,230.78	400.01	8,240.49	177.22	374,550.82	797,097.10
21,232.00	89.20	179.60	12,824.72	8,328.95	-8,325.77	400.43	8,335.40	177.25	374,455.83	797,097.52
21,326.00	88.00	178.10	12,827.01	8,422.91	-8,419.72	402.31	8,429.33	177.26	374,361.88	797,099.40
21,421.00	88.20	176.60	12,830.16	8,517.79	-8,514.57	406.70	8,524.27	177.27	374,267.03	797,103.79
21,516.00	90.80	176.60	12,830.99	8,612.66	-8,609.39	412.34	8,619.26	177.26	374,172.21	797,109.43
21,611.00	90.90	175.60	12,829.58	8,707.48	-8,704.16	418.80	8,714.22	177.25	374,077.44	797,115.89
21,706.00	90.20	177.10	12,828.67	8,802.33	-8,798.96	424.84	8,809.21	177.24	373,982.64	797,121.93
21,801.00	89.80	179.10	12,828.67	8,897.29	-8,893.90	427.99	8,904.19	177.24	373,887.70	797,125.08
21,896.00	87.70	178.80	12,830.74	8,992.26	-8,988.85	429.73	8,999.12	177.26	373,792.75	797,126.82
21,991.00	90.10	179.40	12,832.57	9,087.23	-9,083.82	431.22	9,094.05	177.28	373,697.78	797,128.31
22,086.00	91.50	180.00	12,831.24	9,182.22	-9,178.80	431.72	9,188.95	177.31	373,602.80	797,128.81
22,180.00	89.60	179.20	12,830.34	9,276.21	-9,272.79	432.38	9,282.87	177.33	373,508.81	797,129.47
22,274.00	88.90	181.20	12,831.57	9,370.19	-9,366.78	432.05	9,376.74	177.36	373,414.82	797,129.14
22,369.00	91.10	181.70	12,831.57	9,465.13	-9,461.74	429.65	9,471.49	177.40	373,319.86	797,126.74
22,464.00	89.90	183.10	12,830.74	9,560.00	-9,556.65	425.67	9,566.13	177.45	373,224.95	797,122.76
22,559.00	89.50	182.70	12,831.24	9,654.83	-9,651.53	420.86	9,660.70	177.50	373,130.07	797,117.95
22,654.00	89.50	182.20	12,832.07	9,749.70	-9,746.44	416.80	9,755.34	177.55	373,035.16	797,113.89



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Fighting Okra 18-19 Fed
Well: 5H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 5H
TVD Reference: GL 3365'+25.5' @ 3390.50usft (Cactus 126)
MD Reference: GL 3365'+25.5' @ 3390.50usft (Cactus 126)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
22,749.00	92.70	181.50	12,830.24	9,844.59	-9,841.36	413.74	9,850.05	177.59	372,940.24	797,110.83
22,843.00	93.10	181.10	12,825.49	9,938.43	-9,935.21	411.61	9,943.73	177.63	372,846.39	797,108.70
Last Survey, 22843.00' MD, 12825.49' TVD										
22,906.00	93.10	181.10	12,822.08	10,001.31	-9,998.11	410.40	10,006.53	177.65	372,783.49	797,107.49
PTB, 22906.00' MD, 12822.08' TVD										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
187.00	187.00	0.33	0.57	Pro MWD First Survey: 187' MD
22,843.00	12,825.49	-9,935.21	411.61	Last Survey, 22843.00' MD, 12825.49' TVD
22,906.00	12,822.08	-9,998.11	410.40	PTB, 22906.00' MD, 12822.08' TVD