



Fighting Okra 18-19 Fed No. 21H

Lea County, NM

April 16, 2018

Job No. LNM5163718

Survey Completion Report



PRODIRECTIONAL

Survey Certification Letter

April 16, 2018



Operator Name: Devon Energy Corp.
Well Name: Fighting Okra 18-19 Fed No. 21H
County/Parish: Lea County,
State: NM
Rig Name: Cactus 126
Job Number: LNM5163718

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	1,071' MD – 17,700' MD	17,758' MD	03/10/18 – 03/20/18	MWD

Sincerely,

Mike Coats
Regulatory Specialist
Professional Directional

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

prodirectional.com

The Standard of Excellence in Directional Supervision



Devon Energy Corp.

Lea County, NM

Fighting Okra 18-19 Fed

No. 21H

OH

Survey: ProDirectional

Survey Report

16 April, 2018





ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Fighting Okra 18-19 Fed
Well: 21H
Wellbore: OH
Design: Surveys 151-17758 MD

Local Co-ordinate Reference: Well 21H
TVD Reference: GL 3357.5'+KB 25.5' @ 3383.00usft (Cactus 126)
MD Reference: GL 3357.5'+KB 25.5' @ 3383.00usft (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:	32.0493
From:	Map	Easting:	798,304.66 usft	Longitude:	-103.5039
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.44 °

Well 21H

Well Position	+N/-S	0.00 usft	Northing:	380,777.98 usft	Latitude:	32.0442
	+E/-W	0.00 usft	Easting:	794,437.24 usft	Longitude:	-103.5165
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,357.50 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/31/2018	6.78	59.72	47,832.60

Design Surveys 151-17758 MD

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	179.58	



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Survey Program Date 4/16/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
151.00	967.00	Survey #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s
1,071.00	17,758.00	Survey #2 (OH)	MWD+HDGM	OWSG MWD + HDGM

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	380,777.98	794,437.24
151.00	0.60	53.96	151.00	-0.46	0.47	0.64	0.79	53.96	380,778.45	794,437.88
242.00	0.60	85.96	241.99	-0.77	0.78	1.50	1.69	62.55	380,778.76	794,438.74
339.00	0.90	74.96	338.98	-0.99	1.01	2.74	2.92	69.73	380,778.99	794,439.98
433.00	0.70	55.96	432.98	-1.50	1.53	3.93	4.22	68.79	380,779.51	794,441.17
527.00	0.60	78.96	526.97	-1.91	1.94	4.89	5.26	68.35	380,779.92	794,442.13
621.00	0.30	90.96	620.97	-1.99	2.03	5.62	5.97	70.12	380,780.01	794,442.86
716.00	0.40	68.96	715.96	-2.10	2.15	6.18	6.54	70.84	380,780.13	794,443.42
810.00	0.50	68.96	809.96	-2.36	2.41	6.87	7.28	70.65	380,780.39	794,444.11
904.00	0.50	14.96	903.96	-2.90	2.95	7.35	7.93	68.11	380,780.93	794,444.59
967.00	0.50	18.96	966.96	-3.43	3.48	7.52	8.28	65.15	380,781.46	794,444.76
1,071.00	0.20	13.80	1,070.95	-4.03	4.09	7.71	8.72	62.07	380,782.07	794,444.95
First ProD Survey: 1071' MD										
1,163.00	0.30	35.30	1,162.95	-4.38	4.44	7.88	9.05	60.62	380,782.42	794,445.12
1,256.00	0.20	30.80	1,255.95	-4.72	4.78	8.11	9.41	59.50	380,782.76	794,445.35
1,348.00	0.10	168.60	1,347.95	-4.78	4.84	8.21	9.52	59.49	380,782.82	794,445.45
1,441.00	0.30	203.00	1,440.95	-4.47	4.53	8.13	9.30	60.85	380,782.51	794,445.37
1,533.00	0.30	221.50	1,532.95	-4.07	4.13	7.87	8.89	62.32	380,782.11	794,445.11
1,625.00	0.30	234.90	1,624.95	-3.76	3.81	7.52	8.43	63.11	380,781.79	794,444.76
1,719.00	0.30	245.10	1,718.95	-3.51	3.57	7.09	7.94	63.30	380,781.55	794,444.33
1,813.00	0.40	226.70	1,812.95	-3.19	3.24	6.63	7.38	63.97	380,781.22	794,443.87



ProDirectional
Survey Report



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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)
1,907.00	0.20	231.40	1,906.94	-2.86	2.91	6.26	6.91	65.08	380,780.89	794,443.50
2,001.00	0.30	225.50	2,000.94	-2.59	2.63	5.96	6.52	66.14	380,780.61	794,443.20
2,095.00	0.10	166.60	2,094.94	-2.34	2.38	5.80	6.27	67.67	380,780.36	794,443.04
2,190.00	0.30	250.00	2,189.94	-2.18	2.22	5.59	6.01	68.36	380,780.20	794,442.83
2,284.00	0.30	286.10	2,283.94	-2.16	2.20	5.12	5.57	66.74	380,780.18	794,442.36
2,378.00	0.20	260.60	2,377.94	-2.21	2.24	4.72	5.23	64.59	380,780.22	794,441.96
2,472.00	0.30	50.60	2,471.94	-2.34	2.37	4.75	5.31	63.46	380,780.35	794,441.99
2,566.00	0.30	112.80	2,565.94	-2.39	2.43	5.17	5.71	64.79	380,780.41	794,442.41
2,660.00	0.30	79.20	2,659.94	-2.34	2.38	5.64	6.12	67.07	380,780.36	794,442.88
2,754.00	0.30	121.00	2,753.94	-2.26	2.30	6.09	6.51	69.28	380,780.28	794,443.33
2,849.00	0.30	87.30	2,848.94	-2.14	2.19	6.55	6.91	71.54	380,780.17	794,443.79
2,943.00	0.20	88.80	2,942.93	-2.15	2.20	6.96	7.30	72.45	380,780.18	794,444.20
3,037.00	0.40	92.70	3,036.93	-2.13	2.19	7.45	7.77	73.63	380,780.17	794,444.69
3,131.00	0.40	77.40	3,130.93	-2.19	2.25	8.10	8.40	74.50	380,780.23	794,445.34
3,225.00	0.50	80.90	3,224.93	-2.32	2.38	8.82	9.14	74.89	380,780.36	794,446.06
3,319.00	0.70	103.10	3,318.92	-2.24	2.32	9.79	10.06	76.68	380,780.30	794,447.03
3,413.00	0.70	84.30	3,412.92	-2.16	2.24	10.92	11.15	78.39	380,780.22	794,448.16
3,507.00	0.70	90.60	3,506.91	-2.21	2.29	12.06	12.28	79.23	380,780.27	794,449.30
3,602.00	0.30	66.90	3,601.91	-2.29	2.39	12.87	13.09	79.50	380,780.37	794,450.11
3,696.00	0.50	92.10	3,695.90	-2.37	2.47	13.51	13.73	79.65	380,780.45	794,450.75
3,790.00	0.70	81.10	3,789.90	-2.44	2.54	14.49	14.71	80.05	380,780.52	794,451.73
3,884.00	0.70	49.80	3,883.89	-2.89	3.00	15.49	15.78	79.04	380,780.98	794,452.73
3,978.00	0.70	65.80	3,977.88	-3.49	3.61	16.46	16.85	77.64	380,781.59	794,453.70
4,072.00	0.50	68.20	4,071.88	-3.87	3.99	17.36	17.81	77.04	380,781.97	794,454.60
4,166.00	0.60	29.50	4,165.88	-4.44	4.58	17.98	18.56	75.73	380,782.56	794,455.22
4,260.00	0.60	51.50	4,259.87	-5.17	5.31	18.61	19.35	74.08	380,783.29	794,455.85
4,354.00	0.80	9.70	4,353.86	-6.12	6.26	19.11	20.11	71.85	380,784.24	794,456.35



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4,448.00	0.80	359.90	4,447.85	-7.43	7.57	19.22	20.65	68.51	380,785.55	794,456.46
4,543.00	0.80	7.40	4,542.85	-8.75	8.89	19.30	21.25	65.28	380,786.87	794,456.54
4,636.00	0.50	46.20	4,635.84	-9.67	9.81	19.68	21.99	63.50	380,787.79	794,456.92
4,731.00	0.30	358.60	4,730.84	-10.20	10.35	19.97	22.49	62.61	380,788.33	794,457.21
4,825.00	0.40	49.20	4,824.84	-10.66	10.81	20.21	22.92	61.87	380,788.79	794,457.45
4,919.00	0.10	80.00	4,918.83	-10.89	11.04	20.54	23.32	61.75	380,789.02	794,457.78
5,013.00	0.60	101.80	5,012.83	-10.80	10.95	21.10	23.78	62.58	380,788.93	794,458.34
5,107.00	0.30	104.50	5,106.83	-10.63	10.79	21.82	24.34	63.70	380,788.77	794,459.06
5,201.00	0.30	164.90	5,200.83	-10.33	10.49	22.13	24.49	64.64	380,788.47	794,459.37
5,290.00	0.20	155.00	5,289.83	-9.96	10.12	22.25	24.45	65.54	380,788.10	794,459.49
5,384.00	0.10	114.40	5,383.83	-9.78	9.94	22.40	24.50	66.07	380,787.92	794,459.64
5,478.00	0.10	164.00	5,477.83	-9.66	9.83	22.49	24.55	66.40	380,787.81	794,459.73
5,572.00	0.10	237.60	5,571.83	-9.54	9.70	22.45	24.46	66.62	380,787.68	794,459.69
5,667.00	1.20	354.10	5,666.82	-10.49	10.65	22.28	24.69	64.45	380,788.63	794,459.52
5,761.00	2.60	341.10	5,760.77	-13.49	13.65	21.48	25.45	57.58	380,791.63	794,458.72
5,855.00	3.00	337.80	5,854.65	-17.79	17.94	19.86	26.77	47.91	380,795.92	794,457.10
5,949.00	2.90	338.50	5,948.53	-22.30	22.43	18.06	28.80	38.84	380,800.41	794,455.30
6,043.00	3.80	340.50	6,042.37	-27.46	27.58	16.15	31.96	30.35	380,805.56	794,453.39
6,137.00	4.20	340.10	6,136.14	-33.65	33.75	13.94	36.52	22.44	380,811.73	794,451.18
6,231.00	3.90	339.40	6,229.90	-39.89	39.98	11.64	41.64	16.24	380,817.96	794,448.88
6,325.00	3.70	338.70	6,323.70	-45.73	45.80	9.42	46.76	11.62	380,823.78	794,446.66
6,419.00	3.70	341.10	6,417.50	-51.44	51.49	7.33	52.01	8.10	380,829.47	794,444.57
6,514.00	3.60	340.70	6,512.31	-57.17	57.21	5.35	57.46	5.35	380,835.19	794,442.59
6,608.00	3.70	341.00	6,606.12	-62.84	62.86	3.39	62.95	3.09	380,840.84	794,440.63
6,702.00	3.70	342.60	6,699.92	-68.61	68.62	1.50	68.64	1.25	380,846.60	794,438.74
6,796.00	3.80	345.10	6,793.72	-74.53	74.53	-0.21	74.53	359.84	380,852.51	794,437.03
6,890.00	3.70	342.70	6,887.52	-80.45	80.44	-1.91	80.46	358.64	380,858.42	794,435.33



ProDirectional
Survey Report



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6,984.00	3.80	342.40	6,981.32	-86.33	86.30	-3.76	86.38	357.51	380,864.28	794,433.48
7,078.00	3.70	346.70	7,075.12	-92.26	92.22	-5.40	92.38	356.65	380,870.20	794,431.84
7,172.00	3.80	343.20	7,168.92	-98.20	98.15	-7.00	98.40	355.92	380,876.13	794,430.24
7,266.00	3.80	342.50	7,262.71	-104.17	104.11	-8.83	104.48	355.15	380,882.09	794,428.41
7,360.00	4.00	344.30	7,356.49	-110.31	110.23	-10.66	110.75	354.48	380,888.21	794,426.58
7,454.00	3.90	343.40	7,450.27	-116.54	116.45	-12.46	117.12	353.89	380,894.43	794,424.78
7,548.00	3.80	342.80	7,544.06	-122.59	122.49	-14.29	123.32	353.35	380,900.47	794,422.95
7,642.00	3.70	341.50	7,637.86	-128.46	128.34	-16.17	129.36	352.82	380,906.32	794,421.07
7,736.00	3.90	351.20	7,731.65	-134.51	134.38	-17.63	135.53	352.53	380,912.36	794,419.61
7,830.00	3.70	352.80	7,825.44	-140.68	140.55	-18.50	141.76	352.50	380,918.53	794,418.74
7,924.00	3.70	352.80	7,919.25	-146.70	146.57	-19.26	147.83	352.52	380,924.55	794,417.98
8,018.00	3.40	354.20	8,013.07	-152.49	152.35	-19.92	153.65	352.55	380,930.33	794,417.32
8,112.00	2.90	348.10	8,106.92	-157.60	157.45	-20.69	158.80	352.51	380,935.43	794,416.55
8,206.00	2.80	358.80	8,200.81	-162.22	162.07	-21.23	163.46	352.54	380,940.05	794,416.01
8,300.00	3.10	1.10	8,294.68	-167.06	166.91	-21.23	168.25	352.75	380,944.89	794,416.01
8,394.00	3.00	358.30	8,388.55	-172.06	171.91	-21.25	173.22	352.95	380,949.89	794,415.99
8,488.00	2.90	359.00	8,482.43	-176.90	176.74	-21.37	178.03	353.11	380,954.72	794,415.87
8,582.00	2.90	357.60	8,576.31	-181.65	181.50	-21.51	182.77	353.24	380,959.48	794,415.73
8,676.00	2.70	359.80	8,670.19	-186.24	186.09	-21.61	187.34	353.37	380,964.07	794,415.63
8,770.00	1.90	2.10	8,764.12	-190.01	189.86	-21.56	191.08	353.52	380,967.84	794,415.68
8,863.00	1.40	1.20	8,857.08	-192.69	192.53	-21.48	193.73	353.63	380,970.51	794,415.76
8,957.00	1.30	358.50	8,951.05	-194.90	194.75	-21.49	195.93	353.70	380,972.73	794,415.75
9,051.00	1.20	352.30	9,045.03	-196.94	196.79	-21.65	197.98	353.72	380,974.77	794,415.59
9,145.00	1.00	352.40	9,139.01	-198.73	198.58	-21.89	199.78	353.71	380,976.56	794,415.35
9,213.00	1.00	335.50	9,207.00	-199.86	199.71	-22.21	200.94	353.65	380,977.69	794,415.03
9,239.00	1.00	336.40	9,233.00	-200.28	200.12	-22.40	201.37	353.61	380,978.10	794,414.84
9,333.00	8.50	173.90	9,326.69	-194.11	193.95	-21.99	195.19	353.53	380,971.93	794,415.25



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9,427.00	22.00	172.50	9,417.17	-169.61	169.47	-18.94	170.53	353.62	380,947.45	794,418.30
9,521.00	33.40	172.00	9,500.26	-126.35	126.25	-13.02	126.92	354.11	380,904.23	794,424.22
9,615.00	39.00	173.20	9,576.08	-71.26	71.22	-5.91	71.46	355.26	380,849.20	794,431.33
9,683.00	46.60	172.74	9,625.94	-25.40	25.40	-0.25	25.40	359.44	380,803.38	794,436.99
330' FWL: 9683' MD										
9,709.00	49.50	172.60	9,643.32	-6.21	6.23	2.22	6.61	19.61	380,784.21	794,439.46
9,803.00	60.20	173.70	9,697.36	70.06	-69.98	11.32	70.89	170.81	380,708.00	794,448.56
9,897.00	69.40	175.20	9,737.34	154.68	-154.54	19.50	155.77	172.81	380,623.44	794,456.74
9,991.00	78.20	172.10	9,763.55	244.36	-244.15	29.52	245.93	173.10	380,533.83	794,466.76
10,041.00	85.80	172.60	9,770.50	293.44	-293.19	36.11	295.40	172.98	380,484.79	794,473.35
10,110.00	90.10	170.00	9,772.97	361.66	-361.33	46.54	364.31	172.66	380,416.65	794,483.78
10,204.00	89.80	171.70	9,773.05	454.57	-454.13	61.49	458.27	172.29	380,323.85	794,498.73
10,298.00	89.30	173.70	9,773.79	547.88	-547.36	73.43	552.26	172.36	380,230.62	794,510.67
10,392.00	88.20	174.90	9,775.84	641.46	-640.87	82.76	646.19	172.64	380,137.11	794,520.00
10,486.00	89.00	177.20	9,778.14	735.24	-734.61	89.24	740.01	173.07	380,043.37	794,526.48
10,580.00	89.30	180.70	9,779.53	829.21	-828.57	90.96	833.55	173.74	379,949.41	794,528.20
10,674.00	90.00	182.00	9,780.11	923.16	-922.54	88.74	926.80	174.51	379,855.44	794,525.98
10,768.00	89.40	181.90	9,780.60	1,017.08	-1,016.48	85.54	1,020.07	175.19	379,761.50	794,522.78
10,862.00	90.10	182.80	9,781.01	1,110.97	-1,110.40	81.69	1,113.40	175.79	379,667.58	794,518.93
10,956.00	89.80	183.00	9,781.09	1,204.81	-1,204.28	76.93	1,206.73	176.34	379,573.70	794,514.17
11,050.00	89.00	182.60	9,782.08	1,298.66	-1,298.16	72.34	1,300.17	176.81	379,479.82	794,509.58
11,144.00	90.70	183.10	9,782.32	1,392.50	-1,392.04	67.67	1,393.68	177.22	379,385.94	794,504.91
11,238.00	90.10	183.10	9,781.67	1,486.32	-1,485.90	62.59	1,487.22	177.59	379,292.08	794,499.83
11,332.00	89.50	182.20	9,782.00	1,580.18	-1,579.80	58.24	1,580.87	177.89	379,198.18	794,495.48
11,426.00	90.80	180.70	9,781.75	1,674.13	-1,673.76	55.86	1,674.69	178.09	379,104.22	794,493.10
11,520.00	91.30	180.50	9,780.03	1,768.10	-1,767.74	54.88	1,768.59	178.22	379,010.24	794,492.12
11,614.00	90.90	179.10	9,778.22	1,862.08	-1,861.72	55.20	1,862.54	178.30	378,916.26	794,492.44



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Fighting Okra 18-19 Fed
Well: 21H
Wellbore: OH
Design: Surveys 151-17758 MD

Local Co-ordinate Reference: Well 21H
TVD Reference: GL 3357.5'+KB 25.5' @ 3383.00usft (Cactus 126)
MD Reference: GL 3357.5'+KB 25.5' @ 3383.00usft (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)
11,708.00	90.30	179.20	9,777.24	1,956.07	-1,955.70	56.60	1,956.52	178.34	378,822.28	794,493.84
11,802.00	88.90	179.10	9,777.89	2,050.06	-2,049.69	57.99	2,050.51	178.38	378,728.29	794,495.23
11,896.00	88.80	179.70	9,779.78	2,144.04	-2,143.67	58.98	2,144.48	178.42	378,634.31	794,496.22
11,990.00	88.80	179.60	9,781.75	2,238.02	-2,237.64	59.55	2,238.44	178.48	378,540.34	794,496.79
12,084.00	87.90	180.20	9,784.46	2,331.98	-2,331.60	59.72	2,332.37	178.53	378,446.38	794,496.96
12,178.00	89.70	179.50	9,786.42	2,425.95	-2,425.58	59.96	2,426.32	178.58	378,352.40	794,497.20
12,273.00	89.50	176.40	9,787.09	2,520.90	-2,520.50	63.36	2,521.30	178.56	378,257.48	794,500.60
12,367.00	89.30	178.20	9,788.07	2,614.82	-2,614.39	67.79	2,615.27	178.51	378,163.59	794,505.03
12,461.00	89.60	178.80	9,788.97	2,708.79	-2,708.35	70.25	2,709.26	178.51	378,069.63	794,507.49
12,555.00	89.90	179.90	9,789.38	2,802.79	-2,802.34	71.31	2,803.25	178.54	377,975.64	794,508.55
12,649.00	90.00	179.90	9,789.47	2,896.79	-2,896.34	71.48	2,897.23	178.59	377,881.64	794,508.72
12,743.00	90.60	178.90	9,788.97	2,990.79	-2,990.34	72.46	2,991.21	178.61	377,787.64	794,509.70
12,837.00	91.20	179.20	9,787.50	3,084.77	-3,084.31	74.02	3,085.20	178.63	377,693.67	794,511.26
12,931.00	89.50	178.60	9,786.92	3,178.76	-3,178.29	75.83	3,179.19	178.63	377,599.69	794,513.07
13,025.00	89.10	178.90	9,788.07	3,272.74	-3,272.26	77.88	3,273.18	178.64	377,505.72	794,515.12
13,119.00	89.60	178.70	9,789.14	3,366.73	-3,366.23	79.84	3,367.18	178.64	377,411.75	794,517.08
13,213.00	89.30	179.10	9,790.04	3,460.71	-3,460.21	81.65	3,461.17	178.65	377,317.77	794,518.89
13,307.00	88.90	179.00	9,791.52	3,554.70	-3,554.18	83.21	3,555.16	178.66	377,223.80	794,520.45
13,401.00	89.40	179.80	9,792.91	3,648.69	-3,648.17	84.19	3,649.14	178.68	377,129.81	794,521.43
13,495.00	87.70	179.90	9,795.29	3,742.65	-3,742.13	84.44	3,743.09	178.71	377,035.85	794,521.68
13,589.00	89.80	181.60	9,797.34	3,836.60	-3,836.09	83.21	3,837.00	178.76	376,941.89	794,520.45
13,683.00	90.50	182.50	9,797.10	3,930.51	-3,930.03	79.84	3,930.84	178.84	376,847.95	794,517.08
13,777.00	90.20	182.20	9,796.52	4,024.40	-4,023.95	75.99	4,024.67	178.92	376,754.03	794,513.23
13,871.00	90.20	180.90	9,796.19	4,118.34	-4,117.91	73.45	4,118.57	178.98	376,660.07	794,510.69
13,965.00	89.00	179.70	9,796.85	4,212.33	-4,211.91	72.96	4,212.54	179.01	376,566.07	794,510.20
14,060.00	88.10	180.00	9,799.25	4,307.30	-4,306.88	73.20	4,307.50	179.03	376,471.10	794,510.44
14,154.00	87.50	180.30	9,802.86	4,401.22	-4,400.81	72.96	4,401.41	179.05	376,377.17	794,510.20



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Fighting Okra 18-19 Fed
Well: 21H
Wellbore: OH
Design: Surveys 151-17758 MD

Local Co-ordinate Reference: Well 21H
TVD Reference: GL 3357.5'+KB 25.5' @ 3383.00usft (Cactus 126)
MD Reference: GL 3357.5'+KB 25.5' @ 3383.00usft (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)
14,248.00	89.40	180.20	9,805.40	4,495.18	-4,494.77	72.55	4,495.35	179.08	376,283.21	794,509.79
14,342.00	89.30	177.80	9,806.47	4,589.16	-4,588.74	74.19	4,589.34	179.07	376,189.24	794,511.43
14,436.00	88.50	178.50	9,808.27	4,683.11	-4,682.67	77.22	4,683.31	179.06	376,095.31	794,514.46
14,530.00	89.40	178.00	9,810.00	4,777.07	-4,776.61	80.09	4,777.28	179.04	376,001.37	794,517.33
14,624.00	91.10	177.80	9,809.59	4,871.02	-4,870.54	83.54	4,871.26	179.02	375,907.44	794,520.78
14,718.00	89.70	176.90	9,808.93	4,964.95	-4,964.44	87.88	4,965.21	178.99	375,813.54	794,525.12
14,812.00	90.50	178.70	9,808.77	5,058.90	-5,058.36	91.49	5,059.19	178.96	375,719.62	794,528.73
14,906.00	90.30	177.90	9,808.11	5,152.87	-5,152.32	94.28	5,153.18	178.95	375,625.66	794,531.52
15,000.00	90.30	178.80	9,807.62	5,246.85	-5,246.28	96.99	5,247.17	178.94	375,531.70	794,534.23
15,094.00	89.80	178.90	9,807.54	5,340.84	-5,340.26	98.87	5,341.17	178.94	375,437.72	794,536.11
15,189.00	90.30	180.70	9,807.45	5,435.83	-5,435.25	99.20	5,436.16	178.95	375,342.73	794,536.44
15,283.00	89.70	180.80	9,807.45	5,529.81	-5,529.24	97.97	5,530.11	178.98	375,248.74	794,535.21
15,377.00	88.10	180.90	9,809.26	5,623.77	-5,623.21	96.58	5,624.04	179.02	375,154.77	794,533.82
15,471.00	89.70	181.20	9,811.06	5,717.72	-5,717.18	94.86	5,717.96	179.05	375,060.80	794,532.10
15,565.00	89.30	181.30	9,811.88	5,811.68	-5,811.15	92.81	5,811.89	179.09	374,966.83	794,530.05
15,659.00	90.30	180.50	9,812.21	5,905.65	-5,905.14	91.33	5,905.84	179.11	374,872.84	794,528.57
15,753.00	89.80	181.10	9,812.13	5,999.63	-5,999.13	90.02	5,999.80	179.14	374,778.85	794,527.26
15,847.00	91.30	182.50	9,811.23	6,093.55	-6,093.07	87.07	6,093.69	179.18	374,684.91	794,524.31
15,941.00	90.90	181.40	9,809.42	6,187.45	-6,187.00	83.87	6,187.57	179.22	374,590.98	794,521.11
16,035.00	90.80	181.40	9,808.03	6,281.39	-6,280.96	81.57	6,281.49	179.26	374,497.02	794,518.81
16,129.00	89.60	179.90	9,807.70	6,375.37	-6,374.95	80.51	6,375.46	179.28	374,403.03	794,517.75
16,223.00	88.80	179.20	9,809.01	6,469.36	-6,468.93	81.24	6,469.44	179.28	374,309.05	794,518.48
16,317.00	88.30	179.00	9,811.39	6,563.32	-6,562.89	82.72	6,563.41	179.28	374,215.09	794,519.96
16,411.00	89.40	178.80	9,813.28	6,657.30	-6,656.85	84.52	6,657.39	179.27	374,121.13	794,521.76
16,505.00	88.20	178.70	9,815.25	6,751.26	-6,750.81	86.57	6,751.37	179.27	374,027.17	794,523.81
16,599.00	89.40	178.40	9,817.21	6,845.23	-6,844.76	88.95	6,845.34	179.26	373,933.22	794,526.19
16,693.00	89.40	178.50	9,818.20	6,939.20	-6,938.72	91.49	6,939.32	179.24	373,839.26	794,528.73



ProDirectional Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Fighting Okra 18-19 Fed
Well: 21H
Wellbore: OH
Design: Surveys 151-17758 MD

Local Co-ordinate Reference: Well 21H
TVD Reference: GL 3357.5'+KB 25.5' @ 3383.00usft (Cactus 126)
MD Reference: GL 3357.5'+KB 25.5' @ 3383.00usft (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)
16,787.00	88.90	178.30	9,819.59	7,033.17	-7,032.67	94.12	7,033.30	179.23	373,745.31	794,531.36
16,881.00	89.80	178.40	9,820.66	7,127.14	-7,126.62	96.83	7,127.28	179.22	373,651.36	794,534.07
16,976.00	91.00	178.70	9,820.00	7,222.12	-7,221.59	99.23	7,222.27	179.21	373,556.39	794,536.47
17,070.00	89.90	178.30	9,819.26	7,316.10	-7,315.55	101.69	7,316.26	179.20	373,462.43	794,538.93
17,164.00	89.60	177.90	9,819.67	7,410.07	-7,409.50	104.81	7,410.24	179.19	373,368.48	794,542.05
17,258.00	90.90	180.10	9,819.26	7,504.06	-7,503.48	106.45	7,504.23	179.19	373,274.50	794,543.69
17,352.00	91.00	180.10	9,817.70	7,598.04	-7,597.46	106.28	7,598.21	179.20	373,180.52	794,543.52
17,446.00	91.30	181.30	9,815.81	7,692.00	-7,691.44	105.13	7,692.16	179.22	373,086.54	794,542.37
17,540.00	91.00	181.90	9,813.93	7,785.92	-7,785.38	102.51	7,786.06	179.25	372,992.60	794,539.75
17,629.00	90.62	181.52	9,812.67	7,874.85	-7,874.33	99.85	7,874.96	179.27	372,903.65	794,537.09
330' FSL: 17629' MD										
17,634.00	90.60	181.50	9,812.61	7,879.85	-7,879.33	99.72	7,879.96	179.27	372,898.65	794,536.96
17,700.00	90.70	181.80	9,811.86	7,945.80	-7,945.30	97.82	7,945.90	179.29	372,832.68	794,535.06
Final Survey: 17700' MD										
17,758.00	90.70	181.80	9,811.16	8,003.75	-8,003.27	96.00	8,003.84	179.31	372,774.71	794,533.24
Final TD: 17758' MD										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,071.00	1,070.95	4.09	7.71	First ProD Survey: 1071' MD
9,683.00	9,625.94	25.40	-0.25	330' FWL: 9683' MD
17,629.00	9,812.67	-7,874.33	99.85	330' FSL: 17629' MD
17,700.00	9,811.86	-7,945.30	97.82	Final Survey: 17700' MD
17,758.00	9,811.16	-8,003.27	96.00	Final TD: 17758' MD