



HOBBS OCD

MAR 15 2019

RECEIVED

Fighting Okra 18-19 Fed No. 4H

Lea County, NM

June 19, 2018

Job No. LNM5172618

Survey Completion Report



PRODIRECTIONAL

Survey Certification Letter

June 19, 2018


devon

Operator Name: Devon Energy Corp.
Well Name: Fighting Okra 18-19 Fed No. 4H
County/Parish: Lea County,
State: NM
Rig Name: Cactus 126
Job Number: LNM5172618

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	180' MD – 22,563' MD	22,620' MD	04/26/18 – 06/20/18	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. 4H

OH

Survey: ProDirectional

Survey Report

19 July, 2018





ProDirectional
Survey Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD83)	TVD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Site:	Fighting Okra 18-19 Fed	MD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Well:	4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys 180-22620 MD	Database:	WellPlanner1

Project	Lea County, NM (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Fighting Okra 18-19 Fed		
Site Position:		Northing:	382,643.65 usft
From:	Map	Easting:	798,304.66 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.049254
		Longitude:	-103.503944
		Grid Convergence:	0.44 °

Well	4H		
Well Position	+N/-S	0.00 usft	Northing: 382,782.10 usft
	+E/-W	0.00 usft	Easting: 796,757.08 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32.049667
		Longitude:	-103.508935
		Ground Level:	3,365.00 usft

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

Design	Surveys 180-22620 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)
	0.00	0.00	0.00
		Direction (°)	179.50

Survey Program	Date 7/19/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
180.00	22,620.00	Survey #1 (OH)	MWD+HDGM
			Description OWSG MWD + HDGM



ProDirectional
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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys 180-22620 MD	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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	382,782.10	796,757.08
180.00	0.50	88.90	180.00	-0.01	0.02	0.79	0.79	88.90	382,782.12	796,757.87
Pro MWD First Survey: 180' MD										
218.00	0.50	88.90	218.00	-0.01	0.02	1.12	1.12	88.90	382,782.12	796,758.20
310.00	0.50	101.60	309.99	0.07	-0.05	1.91	1.91	91.55	382,782.05	796,758.99
401.00	0.70	103.30	400.99	0.28	-0.26	2.84	2.85	95.21	382,781.84	796,759.92
493.00	0.80	111.30	492.98	0.66	-0.62	3.99	4.03	98.87	382,781.48	796,761.07
585.00	0.80	116.10	584.97	1.18	-1.14	5.16	5.29	102.43	382,780.96	796,762.24
678.00	0.90	120.20	677.96	1.85	-1.79	6.38	6.62	105.69	382,780.31	796,763.46
769.00	1.00	119.90	768.95	2.61	-2.55	7.68	8.09	108.34	382,779.55	796,764.76
819.00	1.00	128.40	818.94	3.11	-3.03	8.40	8.93	109.86	382,779.07	796,765.48
974.00	1.10	124.80	973.91	4.82	-4.72	10.68	11.68	113.85	382,777.38	796,767.76
1,066.00	2.20	96.60	1,065.88	5.55	-5.43	13.16	14.24	112.42	382,776.67	796,770.24
1,158.00	2.30	91.40	1,157.81	5.82	-5.68	16.76	17.70	108.72	382,776.42	796,773.84
1,250.00	3.20	69.70	1,249.70	5.02	-4.83	21.02	21.57	102.95	382,777.27	796,778.10
1,343.00	3.30	70.00	1,342.55	3.24	-3.02	25.97	26.14	96.63	382,779.08	796,783.05
1,435.00	3.50	68.30	1,434.39	1.34	-1.07	31.06	31.08	91.98	382,781.03	796,788.14
1,527.00	4.80	76.10	1,526.15	-0.56	0.89	37.41	37.42	88.64	382,782.99	796,794.49
1,619.00	5.90	77.80	1,617.74	-2.41	2.81	45.77	45.86	86.48	382,784.91	796,802.85
1,712.00	7.10	81.30	1,710.15	-4.20	4.69	56.12	56.32	85.22	382,786.79	796,813.20
1,806.00	7.40	81.60	1,803.39	-5.86	6.46	67.85	68.16	84.56	382,788.56	796,824.93
1,900.00	7.40	83.10	1,896.61	-7.37	8.07	79.85	80.26	84.23	382,790.17	796,836.93
1,994.00	7.50	85.00	1,989.82	-8.53	9.33	91.97	92.44	84.21	382,791.43	796,849.05
2,088.00	7.50	86.00	2,083.01	-9.38	10.29	104.20	104.71	84.36	382,792.39	796,861.28
2,182.00	7.40	81.50	2,176.22	-10.60	11.62	116.31	116.89	84.30	382,793.72	796,873.39
2,276.00	7.60	80.60	2,269.42	-12.40	13.53	128.43	129.14	83.99	382,795.63	796,885.51
2,370.00	7.80	81.20	2,362.57	-14.29	15.52	140.87	141.72	83.71	382,797.62	796,897.95



ProDirectional
Survey Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD83)	TVD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Site:	Fighting Okra 18-19 Fed	MD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Well:	4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys 180-22620 MD	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)	
2,464.00	8.00	82.20	2,455.68	-16.04	17.38	153.65	154.63	83.55	382,799.48	796,910.73	
2,558.00	8.40	83.70	2,548.72	-17.56	19.02	166.96	168.04	83.50	382,801.12	796,924.04	
2,652.00	7.80	80.80	2,641.78	-19.22	20.79	180.08	181.27	83.41	382,802.89	796,937.16	
2,746.00	8.10	81.90	2,734.87	-21.06	22.75	192.93	194.27	83.28	382,804.85	796,950.01	
2,840.00	8.70	83.00	2,827.87	-22.74	24.55	206.54	208.00	83.22	382,806.65	796,963.62	
2,934.00	8.70	81.80	2,920.78	-24.50	26.43	220.63	222.21	83.17	382,808.53	796,977.71	
3,028.00	8.30	79.30	3,013.75	-26.65	28.70	234.34	236.09	83.02	382,810.80	796,991.42	
3,122.00	7.70	79.30	3,106.84	-28.97	31.13	247.19	249.15	82.82	382,813.23	797,004.27	
3,216.00	8.30	80.90	3,199.92	-31.10	33.37	260.08	262.21	82.69	382,815.47	797,017.16	
3,310.00	7.90	79.40	3,292.98	-33.25	35.63	273.13	275.44	82.57	382,817.73	797,030.21	
3,404.00	7.50	75.60	3,386.14	-35.86	38.35	285.42	287.99	82.35	382,820.45	797,042.50	
3,498.00	8.00	75.70	3,479.28	-38.89	41.49	297.70	300.58	82.07	382,823.59	797,054.78	
3,592.00	6.90	79.90	3,572.48	-41.39	44.09	309.60	312.72	81.89	382,826.19	797,066.68	
3,686.00	7.00	81.60	3,665.79	-43.12	45.92	320.82	324.09	81.85	382,828.02	797,077.90	
3,780.00	7.20	82.60	3,759.07	-44.62	47.52	332.33	335.71	81.86	382,829.62	797,089.41	
3,874.00	7.30	83.50	3,852.32	-45.95	48.95	344.11	347.57	81.90	382,831.05	797,101.19	
3,968.00	7.00	84.70	3,945.59	-47.05	50.16	355.75	359.26	81.97	382,832.26	797,112.83	
4,062.00	6.90	84.80	4,038.90	-47.99	51.20	367.07	370.63	82.06	382,833.30	797,124.15	
4,156.00	6.40	88.00	4,132.27	-48.59	51.89	377.93	381.48	82.18	382,833.99	797,135.01	
4,250.00	5.90	79.40	4,225.73	-49.58	52.96	387.92	391.51	82.23	382,835.06	797,145.00	
4,345.00	6.60	80.20	4,320.16	-51.32	54.79	398.10	401.85	82.16	382,836.89	797,155.18	
4,439.00	8.00	77.60	4,413.40	-53.54	57.12	409.81	413.77	82.07	382,839.22	797,166.89	
4,533.00	8.80	78.90	4,506.39	-56.21	59.90	423.25	427.47	81.94	382,842.00	797,180.33	
4,627.00	9.20	83.10	4,599.23	-58.37	62.19	437.77	442.16	81.91	382,844.29	797,194.85	
4,721.00	9.10	85.20	4,692.04	-59.76	63.72	452.64	457.10	81.99	382,845.82	797,209.72	
4,815.00	9.40	85.80	4,784.81	-60.82	64.90	467.70	472.18	82.10	382,847.00	797,224.78	
4,909.00	9.00	83.40	4,877.61	-62.09	66.31	482.66	487.19	82.18	382,848.41	797,239.74	



ProDirectional
Survey Report



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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)
5,003.00	9.30	87.30	4,970.41	-63.17	67.51	497.55	502.11	82.27	382,849.61	797,254.63
5,097.00	9.60	88.60	5,063.13	-63.58	68.06	512.97	517.47	82.44	382,850.16	797,270.05
5,191.00	6.90	88.00	5,156.15	-63.85	68.45	526.45	530.88	82.59	382,850.55	797,283.53
5,285.00	6.00	75.70	5,249.56	-65.17	69.86	536.86	541.38	82.59	382,851.96	797,293.94
5,379.00	6.70	73.80	5,342.98	-67.83	72.60	546.88	551.68	82.44	382,854.70	797,303.96
5,474.00	7.50	77.90	5,437.26	-70.57	75.45	558.27	563.34	82.30	382,857.55	797,315.35
5,568.00	8.30	79.40	5,530.36	-73.00	77.98	570.94	576.24	82.22	382,860.08	797,328.02
5,662.00	8.30	79.20	5,623.38	-75.40	80.50	584.27	589.79	82.16	382,862.60	797,341.35
5,756.00	8.00	79.20	5,716.43	-77.78	83.00	597.36	603.10	82.09	382,865.10	797,354.44
5,850.00	7.70	79.90	5,809.55	-80.00	85.33	609.98	615.92	82.04	382,867.43	797,367.06
5,945.00	7.40	79.30	5,903.72	-82.15	87.58	622.26	628.39	81.99	382,869.68	797,379.34
6,038.00	8.00	73.80	5,995.89	-84.96	90.50	634.36	640.78	81.88	382,872.60	797,391.44
6,132.00	7.90	73.50	6,088.98	-88.51	94.16	646.84	653.65	81.72	382,876.26	797,403.92
6,226.00	8.40	74.40	6,182.03	-92.08	97.84	659.64	666.86	81.56	382,879.94	797,416.72
6,320.00	8.20	74.90	6,275.05	-95.56	101.43	672.73	680.33	81.43	382,883.53	797,429.81
6,414.00	7.60	74.60	6,368.16	-98.85	104.83	685.19	693.17	81.30	382,886.93	797,442.27
6,509.00	8.00	78.50	6,462.28	-101.72	107.82	697.73	706.01	81.22	382,889.92	797,454.81
6,602.00	8.10	80.10	6,554.36	-104.03	110.23	710.52	719.02	81.18	382,892.33	797,467.60
6,697.00	8.00	80.60	6,648.43	-106.14	112.46	723.64	732.33	81.17	382,894.56	797,480.72
6,791.00	7.60	81.10	6,741.56	-108.06	114.49	736.23	745.08	81.16	382,896.59	797,493.31
6,885.00	8.00	80.60	6,834.69	-109.98	116.52	748.83	757.84	81.16	382,898.62	797,505.91
6,979.00	8.20	80.00	6,927.75	-112.10	118.76	761.88	771.08	81.14	382,900.86	797,518.96
7,073.00	8.00	79.90	7,020.81	-114.30	121.07	774.93	784.33	81.12	382,903.17	797,532.01
7,167.00	7.90	79.80	7,113.91	-116.48	123.36	787.72	797.32	81.10	382,905.46	797,544.80
7,261.00	7.40	79.30	7,207.07	-118.64	125.63	800.03	809.83	81.08	382,907.73	797,557.11
7,355.00	7.00	78.30	7,300.33	-120.82	127.91	811.59	821.60	81.04	382,910.01	797,568.67
7,449.00	7.70	78.90	7,393.56	-123.09	130.28	823.37	833.62	81.01	382,912.38	797,580.45



ProDirectional
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7,543.00	7.60	79.50	7,486.72	-125.33	132.63	835.67	846.13	80.98	382,914.73	797,592.75
7,637.00	7.10	79.00	7,579.95	-127.47	134.87	847.48	858.15	80.96	382,916.97	797,604.56
7,731.00	6.50	79.30	7,673.28	-129.47	136.97	858.41	869.27	80.93	382,919.07	797,615.49
7,826.00	6.10	79.50	7,767.71	-131.30	138.89	868.66	879.69	80.92	382,920.99	797,625.74
7,920.00	5.60	80.70	7,861.22	-132.87	140.54	878.09	889.27	80.91	382,922.64	797,635.17
8,014.00	5.20	80.10	7,954.80	-134.27	142.01	886.82	898.12	80.90	382,924.11	797,643.90
8,108.00	4.70	81.30	8,048.45	-135.51	143.33	894.82	906.23	80.90	382,925.43	797,651.90
8,202.00	4.30	81.50	8,142.16	-136.55	144.43	902.11	913.60	80.90	382,926.53	797,659.19
8,296.00	3.90	82.40	8,235.92	-137.44	145.37	908.77	920.32	80.91	382,927.47	797,665.85
8,390.00	3.90	84.30	8,329.70	-138.12	146.11	915.12	926.71	80.93	382,928.21	797,672.20
8,484.00	3.50	85.30	8,423.51	-138.62	146.67	921.16	932.76	80.95	382,928.77	797,678.24
8,578.00	3.40	86.60	8,517.34	-138.97	147.07	926.80	938.39	80.98	382,929.17	797,683.88
8,672.00	3.10	88.10	8,611.19	-139.18	147.32	932.12	943.69	81.02	382,929.42	797,689.20
8,766.00	2.90	88.70	8,705.06	-139.27	147.45	937.04	948.57	81.06	382,929.55	797,694.12
8,860.00	2.00	95.50	8,798.97	-139.13	147.35	941.05	952.52	81.10	382,929.45	797,698.13
8,954.00	1.90	100.60	8,892.92	-138.66	146.91	944.21	955.57	81.16	382,929.01	797,701.29
9,048.00	1.20	140.60	8,986.88	-137.59	145.86	946.37	957.54	81.24	382,927.96	797,703.45
9,142.00	0.40	153.10	9,080.87	-136.54	144.81	947.14	958.15	81.31	382,926.91	797,704.22
9,236.00	0.30	167.80	9,174.87	-136.00	144.27	947.34	958.27	81.34	382,926.37	797,704.42
9,330.00	0.50	175.60	9,268.87	-135.35	143.62	947.43	958.25	81.38	382,925.72	797,704.51
9,424.00	0.50	175.30	9,362.87	-134.53	142.81	947.49	958.19	81.43	382,924.91	797,704.57
9,519.00	0.50	167.60	9,457.86	-133.71	141.99	947.62	958.19	81.48	382,924.09	797,704.70
9,613.00	0.50	149.00	9,551.86	-132.96	141.24	947.91	958.38	81.53	382,923.34	797,704.99
9,707.00	0.60	137.30	9,645.86	-132.24	140.52	948.46	958.81	81.57	382,922.62	797,705.54
9,801.00	0.50	120.40	9,739.85	-131.66	139.95	949.15	959.41	81.61	382,922.05	797,706.23
9,895.00	0.50	99.00	9,833.85	-131.39	139.68	949.91	960.12	81.63	382,921.78	797,706.99
9,990.00	0.60	88.40	9,928.84	-131.33	139.63	950.81	961.01	81.65	382,921.73	797,707.89



ProDirectional
Survey Report



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Well:	4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys 180-22620 MD	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)
10,084.00	1.00	88.10	10,022.83	-131.36	139.67	952.12	962.31	81.65	382,921.77	797,709.20
10,178.00	1.10	124.00	10,116.82	-130.87	139.19	953.69	963.80	81.70	382,921.29	797,710.77
10,272.00	1.00	149.00	10,210.80	-129.65	137.99	954.86	964.78	81.78	382,920.09	797,711.94
10,366.00	1.50	123.50	10,304.78	-128.25	136.60	956.31	966.02	81.87	382,918.70	797,713.39
10,460.00	1.10	93.80	10,398.76	-127.50	135.87	958.24	967.82	81.93	382,917.97	797,715.32
10,554.00	0.20	332.50	10,492.75	-127.58	135.95	959.06	968.65	81.93	382,918.05	797,716.14
10,649.00	0.20	11.40	10,587.75	-127.89	136.26	959.02	968.65	81.91	382,918.36	797,716.10
10,743.00	0.50	27.90	10,681.75	-128.41	136.78	959.24	968.95	81.88	382,918.88	797,716.32
10,837.00	1.10	294.10	10,775.74	-129.14	137.51	958.61	968.42	81.84	382,919.61	797,715.69
10,931.00	0.50	0.20	10,869.74	-129.93	138.29	957.79	967.72	81.78	382,920.39	797,714.87
11,025.00	0.30	311.00	10,963.73	-130.50	138.86	957.60	967.62	81.75	382,920.96	797,714.68
11,120.00	1.00	261.20	11,058.73	-130.55	138.90	956.60	966.63	81.74	382,921.00	797,713.68
11,214.00	1.20	247.90	11,152.71	-130.07	138.41	954.87	964.85	81.75	382,920.51	797,711.95
11,308.00	1.10	282.30	11,246.69	-129.90	138.23	953.08	963.05	81.75	382,920.33	797,710.16
11,402.00	1.00	277.40	11,340.68	-130.22	138.53	951.39	961.42	81.72	382,920.63	797,708.47
11,496.00	0.20	308.70	11,434.67	-130.43	138.73	950.44	960.52	81.70	382,920.83	797,707.52
11,590.00	1.10	214.70	11,528.66	-129.80	138.09	949.80	959.79	81.73	382,920.19	797,706.88
11,684.00	1.10	218.20	11,622.65	-128.36	136.64	948.73	958.52	81.80	382,918.74	797,705.81
11,779.00	0.90	228.70	11,717.63	-127.16	135.43	947.61	957.24	81.87	382,917.53	797,704.69
11,873.00	0.80	215.50	11,811.62	-126.15	134.41	946.67	956.17	81.92	382,916.51	797,703.75
11,967.00	1.10	223.50	11,905.61	-124.97	133.22	945.67	955.01	81.98	382,915.32	797,702.75
12,061.00	0.90	215.40	11,999.60	-123.72	131.97	944.62	953.79	82.05	382,914.07	797,701.70
12,155.00	1.10	222.10	12,093.58	-122.46	130.70	943.59	952.60	82.11	382,912.80	797,700.67
12,194.00	1.20	218.10	12,132.57	-121.86	130.10	943.09	952.02	82.15	382,912.20	797,700.17
12,247.00	1.80	201.50	12,185.56	-120.66	128.89	942.44	951.21	82.21	382,910.99	797,699.52
12,341.00	12.00	178.70	12,278.76	-109.49	117.71	942.12	949.44	82.88	382,899.81	797,699.20
12,435.00	23.50	174.80	12,368.14	-80.94	89.18	944.04	948.25	84.60	382,871.28	797,701.12



ProDirectional
Survey Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD83)	TVD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Site:	Fighting Okra 18-19 Fed	MD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Well:	4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys 180-22620 MD	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)
12,529.00	32.40	171.40	12,451.09	-37.24	45.53	949.52	950.61	87.25	382,827.63	797,706.60
12,623.00	41.10	175.90	12,526.35	18.65	-10.31	955.51	955.56	90.62	382,771.79	797,712.59
12,717.00	50.80	177.00	12,591.63	86.03	-77.66	959.63	962.77	94.63	382,704.44	797,716.71
12,811.00	61.80	175.50	12,643.71	163.98	-155.57	964.80	977.27	99.16	382,626.53	797,721.88
12,905.00	69.90	176.10	12,682.14	249.51	-241.04	971.07	1,000.54	103.94	382,541.06	797,728.15
12,999.00	77.10	177.90	12,708.82	339.49	-330.98	975.75	1,030.36	108.74	382,451.12	797,732.83
13,045.00	83.60	180.70	12,716.53	384.81	-376.30	976.30	1,046.31	111.08	382,405.80	797,733.38
13,111.00	86.10	178.20	12,722.45	450.53	-442.02	976.93	1,072.28	114.34	382,340.08	797,734.01
13,206.00	91.30	180.30	12,724.61	545.47	-536.95	978.17	1,115.86	118.76	382,245.15	797,735.25
13,300.00	91.10	181.40	12,722.64	639.42	-630.92	976.78	1,162.82	122.86	382,151.18	797,733.86
13,395.00	87.40	178.40	12,723.88	734.38	-725.88	976.94	1,217.10	126.61	382,056.22	797,734.02
13,489.00	91.00	180.10	12,725.19	828.35	-819.85	978.17	1,276.31	129.97	381,962.25	797,735.25
13,583.00	90.00	178.80	12,724.37	922.34	-913.84	979.07	1,339.28	133.03	381,868.26	797,736.15
13,678.00	89.40	178.30	12,724.87	1,017.33	-1,008.80	981.48	1,407.47	135.79	381,773.30	797,738.56
13,772.00	89.60	178.00	12,725.69	1,111.30	-1,102.75	984.51	1,478.28	138.24	381,679.35	797,741.59
13,866.00	90.20	178.80	12,725.86	1,205.28	-1,196.71	987.14	1,551.31	140.48	381,585.39	797,744.22
13,961.00	88.80	178.70	12,726.68	1,300.27	-1,291.68	989.21	1,626.95	142.55	381,490.42	797,746.29
14,055.00	93.10	181.20	12,725.13	1,394.22	-1,385.64	989.29	1,702.56	144.47	381,396.46	797,746.37
14,150.00	90.50	180.90	12,722.14	1,489.13	-1,480.57	987.55	1,779.70	146.30	381,301.53	797,744.63
14,244.00	89.90	180.80	12,721.81	1,583.10	-1,574.56	986.16	1,857.89	147.94	381,207.54	797,743.24
14,338.00	90.20	180.70	12,721.73	1,677.08	-1,668.55	984.93	1,937.56	149.45	381,113.55	797,742.01
14,434.00	89.80	181.80	12,721.73	1,773.04	-1,764.53	982.83	2,019.78	150.88	381,017.57	797,739.91
14,528.00	90.30	183.80	12,721.65	1,866.87	-1,858.41	978.24	2,100.15	152.24	380,923.69	797,735.32
14,623.00	90.80	183.50	12,720.74	1,961.62	-1,953.21	972.19	2,181.79	153.54	380,828.89	797,729.27
14,717.00	86.90	178.50	12,722.63	2,055.52	-2,047.13	970.55	2,265.55	154.63	380,734.97	797,727.63
14,811.00	87.30	177.70	12,727.38	2,149.37	-2,140.96	973.67	2,351.96	155.54	380,641.14	797,730.75
14,906.00	90.10	179.40	12,729.54	2,244.32	-2,235.89	976.07	2,439.65	156.42	380,546.21	797,733.15



ProDirectional
Survey Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD83)	TVD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Site:	Fighting Okra 18-19 Fed	MD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Well:	4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys 180-22620 MD	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)
15,001.00	91.10	179.80	12,728.54	2,339.31	-2,330.88	976.73	2,527.25	157.26	380,451.22	797,733.81
15,096.00	89.60	180.10	12,727.96	2,434.31	-2,425.88	976.81	2,615.16	158.07	380,356.22	797,733.89
15,190.00	90.30	180.50	12,728.04	2,528.30	-2,519.87	976.32	2,702.40	158.82	380,262.23	797,733.40
15,285.00	91.50	180.80	12,726.55	2,623.26	-2,614.85	975.24	2,790.80	159.55	380,167.25	797,732.32
15,380.00	88.40	179.00	12,726.63	2,718.25	-2,709.84	975.41	2,880.04	160.20	380,072.26	797,732.49
15,475.00	88.80	180.00	12,728.96	2,813.22	-2,804.80	976.24	2,969.84	160.81	379,977.30	797,733.32
15,569.00	91.80	181.00	12,728.46	2,907.19	-2,898.79	975.42	3,058.50	161.40	379,883.31	797,732.50
15,664.00	88.30	179.60	12,728.38	3,002.16	-2,993.77	974.92	3,148.51	161.96	379,788.33	797,732.00
15,758.00	91.30	181.60	12,728.71	3,096.13	-3,087.75	973.94	3,237.71	162.49	379,694.35	797,731.02
15,852.00	89.30	180.90	12,728.22	3,190.08	-3,181.72	971.89	3,326.85	163.01	379,600.38	797,728.97
15,948.00	89.20	180.50	12,729.47	3,286.05	-3,277.70	970.71	3,418.42	163.50	379,504.40	797,727.79
16,043.00	91.70	181.20	12,728.73	3,381.01	-3,372.68	969.30	3,509.21	163.97	379,409.42	797,726.38
16,139.00	87.50	177.60	12,729.40	3,476.97	-3,468.64	970.31	3,601.80	164.37	379,313.46	797,727.39
16,234.00	87.20	177.60	12,733.79	3,571.82	-3,563.45	974.28	3,694.24	164.71	379,218.65	797,731.36
16,328.00	92.10	178.10	12,734.36	3,665.75	-3,657.36	977.81	3,785.81	165.03	379,124.74	797,734.89
16,423.00	89.40	177.70	12,733.12	3,760.69	-3,752.27	981.29	3,878.47	165.34	379,029.83	797,738.37
16,517.00	90.90	179.20	12,732.87	3,854.67	-3,846.23	983.83	3,970.07	165.65	378,935.87	797,740.91
16,611.00	89.80	178.90	12,732.30	3,948.67	-3,940.22	985.39	4,061.57	165.96	378,841.88	797,742.47
16,705.00	91.90	181.10	12,730.91	4,042.64	-4,034.20	985.39	4,152.80	166.27	378,747.90	797,742.47
16,800.00	88.90	180.00	12,730.24	4,137.61	-4,129.18	984.48	4,244.92	166.59	378,652.92	797,741.56
16,894.00	90.70	179.40	12,730.57	4,231.61	-4,223.17	984.97	4,336.51	166.87	378,558.93	797,742.05
16,990.00	90.90	178.70	12,729.23	4,327.59	-4,319.15	986.56	4,430.39	167.13	378,462.95	797,743.64
17,085.00	89.60	178.20	12,728.82	4,422.57	-4,414.11	989.13	4,523.58	167.37	378,367.99	797,746.21
17,180.00	92.80	179.90	12,726.83	4,517.53	-4,509.06	990.71	4,616.61	167.61	378,273.04	797,747.79
17,274.00	89.20	178.50	12,725.19	4,611.50	-4,603.02	992.02	4,708.70	167.84	378,179.08	797,749.10
17,368.00	91.30	178.80	12,724.78	4,705.48	-4,696.99	994.23	4,801.06	168.05	378,085.11	797,751.31
17,462.00	90.90	178.90	12,722.97	4,799.46	-4,790.95	996.12	4,893.41	168.25	377,991.15	797,753.20



ProDirectional
Survey Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD83)	TVD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Site:	Fighting Okra 18-19 Fed	MD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Well:	4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys 180-22620 MD	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)	
17,557.00	89.00	179.10	12,723.05	4,894.45	-4,885.93	997.78	4,986.77	168.46	377,896.17	797,754.86	
17,652.00	90.30	180.80	12,723.63	4,989.44	-4,980.92	997.86	5,079.90	168.67	377,801.18	797,754.94	
17,746.00	92.30	181.90	12,721.50	5,083.36	-5,074.87	995.65	5,171.61	168.90	377,707.23	797,752.73	
17,841.00	89.80	180.70	12,719.76	5,178.29	-5,169.82	993.49	5,264.41	169.12	377,612.28	797,750.57	
17,936.00	89.50	181.10	12,720.34	5,273.26	-5,264.80	992.00	5,357.45	169.33	377,517.30	797,749.08	
18,031.00	87.30	181.10	12,722.99	5,368.18	-5,359.74	990.18	5,450.44	169.53	377,422.36	797,747.26	
18,125.00	87.30	180.30	12,727.42	5,462.06	-5,453.63	989.03	5,542.59	169.72	377,328.47	797,746.11	
18,220.00	89.80	181.40	12,729.83	5,556.99	-5,548.58	987.62	5,635.79	169.91	377,233.52	797,744.70	
18,314.00	92.50	182.20	12,727.94	5,650.89	-5,642.51	984.67	5,727.78	170.10	377,139.59	797,741.75	
18,409.00	89.80	181.10	12,726.03	5,745.79	-5,737.44	981.94	5,820.86	170.29	377,044.66	797,739.02	
18,503.00	88.40	180.10	12,727.51	5,839.76	-5,831.42	980.95	5,913.35	170.45	376,950.68	797,738.03	
18,598.00	90.60	181.40	12,728.34	5,934.72	-5,926.40	979.71	6,006.83	170.61	376,855.70	797,736.79	
18,692.00	90.50	181.40	12,727.44	6,028.67	-6,020.37	977.41	6,099.19	170.78	376,761.73	797,734.49	
18,787.00	90.20	180.80	12,726.86	6,123.63	-6,115.35	975.59	6,192.68	170.94	376,666.75	797,732.67	
18,882.00	90.20	180.60	12,726.52	6,218.61	-6,210.34	974.43	6,286.32	171.08	376,571.76	797,731.51	
18,976.00	88.60	178.10	12,727.51	6,312.59	-6,304.32	975.49	6,379.34	171.20	376,477.78	797,732.57	
19,071.00	90.20	177.50	12,728.50	6,407.54	-6,399.24	979.14	6,473.71	171.30	376,382.86	797,736.22	
19,165.00	90.70	178.60	12,727.76	6,501.50	-6,493.18	982.34	6,567.07	171.40	376,288.92	797,739.42	
19,259.00	88.90	179.00	12,728.09	6,595.49	-6,587.15	984.31	6,660.29	171.50	376,194.95	797,741.39	
19,354.00	91.20	179.30	12,728.01	6,690.48	-6,682.14	985.72	6,754.45	171.61	376,099.96	797,742.80	
19,448.00	92.00	178.80	12,725.39	6,784.44	-6,776.09	987.27	6,847.63	171.71	376,006.01	797,744.35	
19,544.00	89.40	176.70	12,724.21	6,880.38	-6,871.99	991.04	6,943.09	171.79	375,910.11	797,748.12	
19,638.00	91.10	177.30	12,723.80	6,974.28	-6,965.86	995.96	7,036.70	171.86	375,816.24	797,753.04	
19,733.00	90.10	178.10	12,722.81	7,069.23	-7,060.77	999.77	7,131.20	171.94	375,721.33	797,756.85	
19,827.00	91.30	177.80	12,721.66	7,163.19	-7,154.71	1,003.14	7,224.69	172.02	375,627.39	797,760.22	
19,922.00	88.90	177.60	12,721.49	7,258.13	-7,249.62	1,006.95	7,319.22	172.09	375,532.48	797,764.03	
20,017.00	89.60	177.80	12,722.74	7,353.08	-7,344.54	1,010.76	7,413.76	172.16	375,437.56	797,767.84	



ProDirectional
Survey Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD83)	TVD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Site:	Fighting Okra 18-19 Fed	MD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Well:	4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys 180-22620 MD	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)	
20,112.00	89.10	177.40	12,723.81	7,448.02	-7,439.45	1,014.74	7,508.33	172.23	375,342.65	797,771.82	
20,207.00	86.70	176.30	12,727.30	7,542.84	-7,534.23	1,019.95	7,602.96	172.29	375,247.87	797,777.03	
20,302.00	86.80	176.70	12,732.68	7,637.56	-7,628.90	1,025.74	7,697.55	172.34	375,153.20	797,782.82	
20,396.00	87.50	176.80	12,737.36	7,731.34	-7,722.63	1,031.07	7,791.16	172.40	375,059.47	797,788.15	
20,491.00	92.10	181.90	12,737.69	7,826.28	-7,817.57	1,032.14	7,885.41	172.48	374,964.53	797,789.22	
20,586.00	87.20	179.90	12,738.27	7,921.22	-7,912.52	1,030.65	7,979.36	172.58	374,869.58	797,787.73	
20,681.00	91.70	182.70	12,739.18	8,016.13	-8,007.46	1,028.50	8,073.24	172.68	374,774.64	797,785.58	
20,776.00	92.00	181.30	12,736.11	8,110.99	-8,102.35	1,025.18	8,166.95	172.79	374,679.75	797,782.26	
20,871.00	96.80	181.10	12,728.83	8,205.64	-8,197.02	1,023.20	8,260.64	172.88	374,585.08	797,780.28	
20,965.00	95.10	181.50	12,719.08	8,299.08	-8,290.49	1,021.08	8,353.13	172.98	374,491.61	797,778.16	
21,061.00	89.40	180.50	12,715.31	8,394.93	-8,386.36	1,019.41	8,448.09	173.07	374,395.74	797,776.49	
21,155.00	92.40	179.80	12,713.84	8,488.91	-8,480.33	1,019.16	8,541.36	173.15	374,301.77	797,776.24	
21,250.00	88.10	177.60	12,713.42	8,583.87	-8,575.28	1,021.31	8,635.89	173.21	374,206.82	797,778.39	
21,344.00	89.20	178.10	12,715.64	8,677.80	-8,669.19	1,024.84	8,729.55	173.26	374,112.91	797,781.92	
21,439.00	91.40	178.00	12,715.14	8,772.76	-8,764.12	1,028.07	8,824.22	173.31	374,017.98	797,785.15	
21,534.00	87.70	177.70	12,715.89	8,867.70	-8,859.04	1,031.63	8,918.90	173.36	373,923.06	797,788.71	
21,629.00	91.40	178.90	12,716.63	8,962.66	-8,953.98	1,034.45	9,013.53	173.41	373,828.12	797,791.53	
21,724.00	85.80	177.80	12,718.95	9,057.58	-9,048.87	1,037.18	9,108.12	173.46	373,733.23	797,794.26	
21,819.00	88.50	179.70	12,723.68	9,152.44	-9,143.72	1,039.25	9,202.59	173.52	373,638.38	797,796.33	
21,914.00	89.00	180.40	12,725.75	9,247.41	-9,238.69	1,039.17	9,296.95	173.58	373,543.41	797,796.25	
22,009.00	90.70	180.20	12,726.00	9,342.40	-9,333.69	1,038.67	9,391.30	173.65	373,448.41	797,795.75	
22,104.00	92.40	180.20	12,723.43	9,437.35	-9,428.65	1,038.34	9,485.65	173.72	373,353.45	797,795.42	
22,198.00	94.30	179.90	12,717.94	9,531.18	-9,522.48	1,038.26	9,578.92	173.78	373,259.62	797,795.34	
22,292.00	93.70	179.40	12,711.38	9,624.95	-9,616.25	1,038.83	9,672.20	173.83	373,165.85	797,795.91	
22,387.00	91.60	181.60	12,706.99	9,719.82	-9,711.14	1,038.00	9,766.45	173.90	373,070.96	797,795.08	
22,482.00	90.00	181.30	12,705.66	9,814.76	-9,806.09	1,035.60	9,860.62	173.97	372,976.01	797,792.68	



ProDirectional
Survey Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 4H
Project:	Lea County, NM (NAD83)	TVD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Site:	Fighting Okra 18-19 Fed	MD Reference:	GL 3365'+KB 25.5' @ 3390.50usft (Cactus 126)
Well:	4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys 180-22620 MD	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)
22,563.00	89.20	182.90	12,706.22	9,895.67	-9,887.03	1,032.63	9,940.81	174.04	372,895.07	797,789.71
Final Survey: 22563' MD										
22,620.00	89.20	182.90	12,707.02	9,952.56	-9,943.95	1,029.75	9,997.13	174.09	372,838.15	797,786.83
Final TD: 22620' MD										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
180.00	180.00	0.02	0.79	Pro MWD First Survey: 180' MD
22,563.00	12,706.22	-9,887.03	1,032.63	Final Survey: 22563' MD
22,620.00	12,707.02	-9,943.95	1,029.75	Final TD: 22620' MD