devon

Devon Energy

Lea County, NM (NAD 83 NME)
(Fighting Okra)SEC 18_T26S_R34E_NMPM
Fighting Okra 18-19 Fed #2H

ST01

Design: ST01 AWB

Standard Survey Report

02 May, 2018

INTREPID

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Fighting Okra 18-19 Fed #2H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3399.0usft
Site:	(Fighting Okra)SEC 18_T26S_R34E_NMPM	**MD Reference:**	KB @ 3399.0usft
Well:	Fighting Okra 18-19 Fed #2H	**North Reference:**	Grid
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01 AWB	**Database:**	EDM 5000.15 Single User Db

Project Lea County, NM (NAD 83 NME)

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)SEC 18_T26S_R34E_NMPM

Site Position:		**Northing:**	382,819.48 usft	**Latitude:**	32° 2' 59.241 N
From:	Map	**Easting:**	795,846.93 usft	**Longitude:**	103° 30' 42.738 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.44 °

Well Fighting Okra 18-19 Fed #2H

Well Position	**+N/-S**	0.0 usft	**Northing:**	382,818.73 usfl	**Latitude:**	32° 2' 59.240 N
	+E/-W	0.0 usft	**Easting:**	795,756.95 usfl	**Longitude:**	103° 30' 43.784 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usfl	**Ground Level:**	3,372.0 usfl

Wellbore ST01

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	04/16/18	6.82	59.90	47,755.90238109

Design ST01 AWB

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	13,049.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.58

Survey Program **Date** 05/02/18

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
195.0	12,975.0	Pro Directional MWD (OWB)	MWD	OWSG MWD - Standard
12,975.0	13,049.0	Intrepid MWD (OWB)	MWD	OWSG MWD - Standard
13,114.0	22,728.0	ST01 INTREPID MWD (ST01)	MWD	OWSG MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
195.0	0.60	57.00	195.0	0.6	0.9	-0.5	0.31	0.31	0.00
277.0	0.80	52.40	277.0	1.1	1.7	-1.1	0.25	0.24	-5.61
375.0	1.00	50.70	375.0	2.1	2.9	-2.1	0.21	0.20	-1.73
462.0	1.00	42.80	462.0	3.1	4.0	-3.1	0.16	0.00	-9.08
552.0	1.20	42.70	551.9	4.4	5.1	-4.4	0.22	0.22	-0.11
644.0	1.20	43.80	643.9	5.8	6.5	-5.8	0.03	0.00	1.20
736.0	1.20	44.30	735.9	7.2	7.8	-7.1	0.01	0.00	0.54
768.1	1.24	47.04	768.0	7.7	8.3	-7.6	0.22	0.13	8.53

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Survey

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Rustler									
874.0	1.40	54.80	873.9	9.2	10.2	-9.1	0.22	0.15	7.33
965.0	1.60	44.80	964.8	10.7	12.0	-10.7	0.36	0.22	-10.99
1,041.2	1.83	25.68	1,041.0	12.6	13.3	-12.5	0.81	0.30	-25.09
Salado									
1,057.0	1.90	22.40	1,056.8	13.1	13.5	-13.0	0.81	0.44	-20.75
1,148.0	2.00	22.40	1,147.7	15.9	14.7	-15.8	0.11	0.11	0.00
1,239.0	1.80	357.40	1,238.7	18.8	15.2	-18.7	0.93	-0.22	-27.47
1,330.0	2.30	314.10	1,329.6	21.5	13.8	-21.4	1.74	0.55	-47.58
1,421.0	2.60	303.90	1,420.6	23.9	10.8	-23.9	0.58	0.33	-11.21
1,512.0	2.30	301.90	1,511.5	26.1	7.5	-26.0	0.34	-0.33	-2.20
1,604.0	2.20	296.60	1,603.4	27.8	4.4	-27.8	0.25	-0.11	-5.76
1,696.0	2.20	294.10	1,695.3	29.3	1.2	-29.3	0.10	0.00	-2.72
1,790.0	2.10	287.40	1,789.3	30.6	-2.1	-30.6	0.29	-0.11	-7.13
1,885.0	2.40	298.30	1,884.2	32.1	-5.5	-32.1	0.55	0.32	11.47
1,980.0	2.50	303.30	1,979.1	34.1	-9.0	-34.2	0.25	0.11	5.26
2,074.0	2.40	298.70	2,073.0	36.2	-12.4	-36.3	0.23	-0.11	-4.89
2,169.0	2.10	294.90	2,168.0	37.9	-15.7	-38.0	0.35	-0.32	-4.00
2,263.0	2.80	298.80	2,261.9	39.7	-19.3	-39.9	0.77	0.74	4.15
2,358.0	3.10	301.60	2,356.7	42.2	-23.5	-42.4	0.35	0.32	2.95
2,453.0	3.10	302.00	2,451.6	44.9	-27.9	-45.1	0.02	0.00	0.42
2,548.0	3.50	304.80	2,546.4	47.9	-32.5	-48.1	0.45	0.42	2.95
2,643.0	4.20	307.10	2,641.2	51.7	-37.6	-51.9	0.75	0.74	2.42
2,737.0	4.20	307.50	2,735.0	55.8	-43.1	-56.1	0.03	0.00	0.43
2,832.0	4.20	304.30	2,829.7	59.9	-48.7	-60.3	0.25	0.00	-3.37
2,927.0	4.80	307.30	2,924.4	64.3	-54.8	-64.7	0.68	0.63	3.16
3,021.0	5.00	309.00	3,018.1	69.2	-61.1	-69.7	0.26	0.21	1.81
3,116.0	5.90	307.20	3,112.7	74.8	-68.2	-75.3	0.96	0.95	-1.89
3,211.0	6.00	309.50	3,207.1	80.9	-75.9	-81.5	0.27	0.11	2.42
3,305.0	6.30	300.50	3,300.6	86.7	-84.1	-87.3	1.07	0.32	-9.57
3,400.0	7.10	296.20	3,395.0	91.9	-93.9	-92.6	0.99	0.84	-4.53
3,495.0	6.50	298.10	3,489.3	97.0	-103.9	-97.8	0.67	-0.63	2.00
3,590.0	6.10	300.70	3,583.7	102.1	-113.0	-103.0	0.52	-0.42	2.74
3,685.0	6.10	298.90	3,678.2	107.1	-121.8	-108.0	0.20	0.00	-1.89
3,780.0	5.80	302.50	3,772.7	112.2	-130.2	-113.1	0.50	-0.32	3.79
3,875.0	5.40	308.70	3,867.2	117.5	-137.8	-118.5	0.76	-0.42	6.53
3,970.0	4.80	316.30	3,961.8	123.2	-144.0	-124.3	0.95	-0.63	8.00
4,065.0	4.20	321.50	4,056.5	128.8	-148.9	-129.9	0.76	-0.63	5.47
4,160.0	4.70	324.00	4,151.3	134.7	-153.4	-135.8	0.56	0.53	2.63
4,255.0	6.20	323.50	4,245.8	141.9	-158.7	-143.1	1.58	1.58	-0.53
4,350.0	7.00	324.80	4,340.2	150.8	-165.1	-152.0	0.86	0.84	1.37
4,445.0	7.30	328.90	4,434.5	160.7	-171.5	-161.9	0.62	0.32	4.32
4,539.0	6.70	321.40	4,527.8	170.1	-178.0	-171.4	1.16	-0.64	-7.98

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Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01 AWB	**Database:**	EDM 5000.15 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,634.0	6.00	317.10	4,622.2	178.1	-184.9	-179.4	0.89	-0.74	-4.53
4,730.0	5.70	308.60	4,717.7	184.7	-192.0	-186.1	0.95	-0.31	-8.85
4,824.0	5.10	306.20	4,811.3	190.1	-199.0	-191.5	0.68	-0.64	-2.55
4,919.0	4.00	307.10	4,906.0	194.6	-205.1	-196.1	1.16	-1.16	0.95
5,014.0	3.20	306.70	5,000.8	198.2	-209.9	-199.7	0.84	-0.84	-0.42
5,108.0	3.40	301.50	5,094.6	201.2	-214.3	-202.8	0.38	0.21	-5.53
5,123.4	3.43	301.24	5,110.0	201.7	-215.1	-203.2	0.23	0.21	-1.66
Base of Salt									
5,203.0	3.60	300.00	5,189.4	204.2	-219.3	-205.8	0.23	0.21	-1.56
5,273.7	3.23	298.14	5,260.0	206.2	-223.0	-207.8	0.55	-0.53	-2.63
Delaware									
5,298.0	3.10	297.40	5,284.3	206.8	-224.2	-208.5	0.55	-0.52	-3.05
5,393.0	2.90	295.30	5,379.1	209.0	-228.6	-210.7	0.24	-0.21	-2.21
5,488.0	2.90	294.70	5,474.0	211.1	-233.0	-212.8	0.03	0.00	-0.63
5,583.0	2.70	301.40	5,568.9	213.2	-237.1	-215.0	0.40	-0.21	7.05
5,678.0	3.00	305.40	5,663.8	215.8	-241.0	-217.6	0.38	0.32	4.21
5,772.0	3.80	314.10	5,757.6	219.4	-245.3	-221.2	1.01	0.85	9.26
5,867.0	4.10	308.20	5,852.4	223.7	-250.2	-225.6	0.53	0.32	-6.21
5,962.0	5.20	297.90	5,947.1	227.8	-256.7	-229.7	1.45	1.16	-10.84
6,056.0	5.20	298.90	6,040.7	231.9	-264.2	-233.8	0.10	0.00	1.06
6,151.0	5.60	290.70	6,135.3	235.6	-272.3	-237.6	0.91	0.42	-8.63
6,245.0	5.70	285.90	6,228.8	238.5	-281.1	-240.6	0.51	0.11	-5.11
6,340.0	5.80	285.30	6,323.3	241.1	-290.2	-243.2	0.12	0.11	-0.63
6,435.0	5.60	286.20	6,417.9	243.6	-299.3	-245.8	0.23	-0.21	0.95
6,529.0	5.40	283.80	6,511.4	246.0	-308.0	-248.2	0.32	-0.21	-2.55
6,624.0	5.20	283.70	6,606.0	248.1	-316.5	-250.4	0.21	-0.21	-0.11
6,719.0	4.90	282.70	6,700.7	250.0	-324.7	-252.3	0.33	-0.32	-1.05
6,814.0	4.90	284.10	6,795.3	251.8	-332.6	-254.3	0.13	0.00	1.47
6,908.0	4.70	281.90	6,889.0	253.6	-340.2	-256.1	0.29	-0.21	-2.34
7,003.0	4.60	281.60	6,983.7	255.2	-347.8	-257.7	0.11	-0.11	-0.32
7,098.0	4.60	279.40	7,078.4	256.6	-355.3	-259.2	0.19	0.00	-2.32
7,193.0	4.40	278.80	7,173.1	257.8	-362.6	-260.4	0.22	-0.21	-0.63
7,288.0	4.10	277.70	7,267.8	258.8	-369.6	-261.5	0.33	-0.32	-1.16
7,382.0	3.90	275.60	7,361.6	259.5	-376.1	-262.3	0.26	-0.21	-2.23
7,477.0	3.80	277.10	7,456.4	260.2	-382.4	-263.0	0.15	-0.11	1.58
7,572.0	3.30	275.60	7,551.2	260.9	-388.3	-263.7	0.54	-0.53	-1.58
7,667.0	3.10	276.30	7,646.0	261.4	-393.6	-264.3	0.21	-0.21	0.74
7,761.0	2.90	272.30	7,739.9	261.8	-398.5	-264.7	0.31	-0.21	-4.26
7,856.0	2.40	270.20	7,834.8	261.9	-402.8	-264.9	0.54	-0.53	-2.21
7,951.0	2.40	267.10	7,929.7	261.8	-406.8	-264.8	0.14	0.00	-3.26
8,046.0	2.20	263.50	8,024.7	261.5	-410.6	-264.5	0.26	-0.21	-3.79
8,141.0	2.10	258.30	8,119.6	261.0	-414.1	-264.0	0.23	-0.11	-5.47
8,236.0	1.90	252.30	8,214.5	260.1	-417.3	-263.2	0.30	-0.21	-6.32
8,331.0	1.60	251.80	8,309.5	259.2	-420.1	-262.3	0.32	-0.32	-0.53

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8,426.0	1.70	253.10	8,404.4	258.4	-422.7	-261.5	0.11	0.11	1.37
8,521.0	1.60	252.80	8,499.4	257.6	-425.3	-260.7	0.11	-0.11	-0.32
8,616.0	1.50	250.60	8,594.4	256.8	-427.8	-259.9	0.12	-0.11	-2.32
8,711.0	0.90	234.00	8,689.4	256.0	-429.5	-259.1	0.72	-0.63	-17.47
8,805.0	0.70	234.70	8,783.3	255.2	-430.6	-258.3	0.21	-0.21	0.74
8,900.0	0.70	238.60	8,878.3	254.5	-431.6	-257.7	0.05	0.00	4.11
8,994.0	0.60	223.90	8,972.3	253.9	-432.4	-257.1	0.21	-0.11	-15.64
9,089.0	0.80	221.90	9,067.3	253.0	-433.2	-256.2	0.21	0.21	-2.11
9,184.0	0.80	220.60	9,162.3	252.0	-434.1	-255.2	0.02	0.00	-1.37
9,279.0	0.30	191.90	9,257.3	251.3	-434.5	-254.5	0.59	-0.53	-30.21
9,353.7	0.30	185.22	9,332.0	250.9	-434.6	-254.1	0.05	0.00	-8.94
Lwr Brushy									
9,374.0	0.30	183.40	9,352.3	250.8	-434.6	-254.0	0.05	0.00	-8.97
9,468.0	0.80	49.90	9,446.3	251.0	-434.1	-254.2	1.10	0.53	-142.02
9,553.7	0.80	36.45	9,532.0	251.8	-433.3	-255.0	0.22	0.00	-15.70
1BSLM									
9,563.0	0.80	35.00	9,541.3	252.0	-433.2	-255.1	0.22	0.03	-15.56
9,657.0	0.50	28.60	9,635.3	252.9	-432.7	-256.0	0.33	-0.32	-6.81
9,752.0	0.50	18.20	9,730.3	253.6	-432.3	-256.8	0.10	0.00	-10.95
9,847.0	0.60	20.90	9,825.3	254.5	-432.0	-257.6	0.11	0.11	2.84
9,942.0	0.70	37.00	9,920.3	255.4	-431.5	-258.6	0.22	0.11	16.95
10,042.0	0.30	24.00	10,020.3	256.1	-431.0	-259.3	0.41	-0.40	-13.00
10,132.0	0.10	53.30	10,110.3	256.4	-430.9	-259.5	0.24	-0.22	32.56
10,227.0	0.50	114.30	10,205.3	256.3	-430.4	-259.4	0.48	0.42	64.21
10,321.0	0.90	128.30	10,299.3	255.6	-429.5	-258.8	0.46	0.43	14.89
10,416.0	1.10	144.40	10,394.2	254.4	-428.4	-257.6	0.36	0.21	16.95
10,494.8	0.93	154.47	10,473.0	253.2	-427.6	-256.4	0.31	-0.22	12.79
1BSSS									
10,511.0	0.90	157.00	10,489.2	253.0	-427.5	-256.1	0.31	-0.19	15.56
10,606.0	1.00	179.20	10,584.2	251.5	-427.2	-254.6	0.40	0.11	23.37
10,683.8	0.99	195.53	10,662.0	250.2	-427.4	-253.3	0.36	-0.01	21.00
2BSLM									
10,701.0	1.00	199.10	10,679.2	249.9	-427.5	-253.0	0.36	0.05	20.73
10,796.0	1.00	226.40	10,774.2	248.5	-428.4	-251.7	0.50	0.00	28.74
10,890.0	1.80	248.50	10,868.2	247.4	-430.3	-250.6	1.01	0.85	23.51
10,985.0	1.90	256.20	10,963.1	246.5	-433.2	-249.7	0.28	0.11	8.11
11,040.9	2.31	254.21	11,019.0	246.0	-435.2	-249.1	0.75	0.74	-3.55
2BSSS									
11,080.0	2.60	253.20	11,058.0	245.5	-436.8	-248.7	0.75	0.74	-2.60
11,175.0	1.70	256.80	11,153.0	244.5	-440.3	-247.8	0.96	-0.95	3.79
11,270.0	1.60	274.00	11,247.9	244.3	-443.0	-247.6	0.53	-0.11	18.11
11,365.0	1.30	259.50	11,342.9	244.2	-445.4	-247.5	0.50	-0.32	-15.26
11,460.0	1.30	239.30	11,437.9	243.5	-447.3	-246.7	0.48	0.00	-21.26
11,508.1	1.10	239.22	11,486.0	243.0	-448.2	-246.2	0.43	-0.43	-0.17

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Site:	(Fighting Okra)SEC 18_T26S_R34E_NMPM	**MD Reference:**	KB @ 3399.0usft
Well:	Fighting Okra 18-19 Fed #2H	**North Reference:**	Grid
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01 AWB	**Database:**	EDM 5000.15 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3BSLM									
11,554.0	0.90	239.10	11,531.9	242.5	-448.9	-245.8	0.43	-0.43	-0.25
11,649.0	0.50	242.80	11,626.9	242.0	-449.9	-245.3	0.42	-0.42	3.89
11,744.0	0.50	266.90	11,721.9	241.8	-450.7	-245.1	0.22	0.00	25.37
11,838.0	0.30	273.40	11,815.9	241.8	-451.3	-245.1	0.22	-0.21	6.91
11,933.0	0.40	259.00	11,910.8	241.7	-451.9	-245.0	0.14	0.11	-15.16
12,039.0	2.10	166.80	12,016.8	239.7	-451.8	-243.0	2.03	1.60	-86.98
12,121.9	11.99	178.57	12,099.0	229.6	-451.3	-232.9	11.99	11.93	14.20
3BSSS									
12,132.0	13.20	178.80	12,108.9	227.4	-451.2	-230.7	11.99	11.98	2.27
12,228.0	23.60	178.30	12,199.8	197.2	-450.4	-200.5	10.83	10.83	-0.52
12,323.0	31.10	174.30	12,284.1	153.7	-447.4	-157.0	8.12	7.89	-4.21
12,417.0	38.40	171.40	12,361.3	100.6	-440.6	-103.8	7.96	7.77	-3.09
12,512.0	49.30	169.70	12,429.7	35.8	-429.7	-38.9	11.54	11.47	-1.79
12,606.0	59.90	174.40	12,484.1	-40.0	-419.4	36.9	11.99	11.28	5.00
12,701.0	67.90	176.40	12,525.9	-124.9	-412.6	121.9	8.63	8.42	2.11
12,714.9	69.05	176.77	12,531.0	-137.8	-411.8	134.8	8.64	8.28	2.66
WFMP									
12,795.0	75.70	178.80	12,555.2	-214.1	-408.9	211.1	8.64	8.30	2.54
12,806.5	76.56	179.20	12,558.0	-225.2	-408.7	222.2	8.22	7.49	3.49
WFMP X									
12,859.0	80.50	181.00	12,568.4	-276.7	-408.8	273.7	8.22	7.50	3.43
12,890.0	81.30	181.70	12,573.3	-307.3	-409.5	304.3	3.41	2.58	2.26
12,936.0	84.70	181.90	12,578.9	-352.9	-410.9	349.9	7.40	7.39	0.43
12,975.0	85.80	182.00	12,582.2	-391.8	-412.3	388.7	2.83	2.82	0.26
13,049.0	85.80	181.69	12,587.6	-465.5	-414.6	462.5	0.42	0.00	-0.42
TIE TO OWB									
13,114.0	86.10	181.90	12,592.2	-530.3	-416.7	527.3	0.56	0.46	0.32
13,209.0	79.00	176.60	12,604.5	-624.4	-415.5	621.4	9.30	-7.47	-5.58
13,216.8	78.89	176.25	12,606.0	-632.1	-415.0	629.0	4.59	-1.41	-4.45
WFMP X Base									
13,303.0	77.70	172.40	12,623.5	-716.0	-406.7	713.0	4.59	-1.38	-4.47
13,398.0	78.50	169.60	12,643.1	-807.8	-392.1	804.9	3.00	0.84	-2.95
13,466.9	78.21	167.91	12,657.0	-874.0	-379.0	871.2	2.43	-0.43	-2.45
WFMP Y									
13,492.0	78.10	167.30	12,662.2	-898.0	-373.7	895.3	2.43	-0.42	-2.45
13,586.0	80.80	163.50	12,679.4	-987.4	-350.4	984.8	4.90	2.87	-4.04
13,681.0	82.30	158.40	12,693.3	-1,076.2	-319.7	1,073.8	5.54	1.58	-5.37
13,775.0	82.30	153.80	12,705.9	-1,161.3	-282.0	1,159.2	4.85	0.00	-4.89
13,870.0	81.60	148.90	12,719.3	-1,243.9	-236.9	1,242.1	5.16	-0.74	-5.16
13,964.0	80.00	148.20	12,734.3	-1,323.0	-188.5	1,321.6	1.85	-1.70	-0.74
14,059.0	79.30	150.50	12,751.3	-1,403.4	-140.9	1,402.3	2.49	-0.74	2.42
14,153.0	78.40	153.60	12,769.5	-1,484.9	-97.6	1,484.1	3.37	-0.96	3.30
14,248.0	81.10	158.60	12,786.4	-1,570.3	-59.8	1,569.8	5.91	2.84	5.26
14,343.0	80.80	162.10	12,801.4	-1,658.7	-28.3	1,658.4	3.65	-0.32	3.68

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Fighting Okra 18-19 Fed #2H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3399.0usft
Site:	(Fighting Okra)SEC 18_T26S_R34E_NMPM	**MD Reference:**	KB @ 3399.0usft
Well:	Fighting Okra 18-19 Fed #2H	**North Reference:**	Grid
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01 AWB	**Database:**	EDM 5000.15 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,437.0	81.80	165.60	12,815.6	-1,747.9	-2.4	1,747.8	3.83	1.06	3.72
14,532.0	84.20	167.40	12,827.2	-1,839.6	19.6	1,839.7	3.15	2.53	1.89
14,626.0	91.90	174.00	12,830.4	-1,932.2	34.7	1,932.4	10.78	8.19	7.02
14,721.0	92.80	173.80	12,826.5	-2,026.5	44.8	2,026.8	0.97	0.95	-0.21
14,815.0	87.10	176.70	12,826.6	-2,120.2	52.6	2,120.5	6.80	-6.06	3.09
14,910.0	94.70	178.20	12,825.1	-2,215.0	56.8	2,215.3	8.15	8.00	1.58
15,004.0	93.40	178.70	12,818.4	-2,308.7	59.4	2,309.1	1.48	-1.38	0.53
15,099.0	93.50	182.40	12,812.7	-2,403.5	58.5	2,403.9	3.89	0.11	3.89
15,193.0	95.10	183.50	12,805.7	-2,497.1	53.6	2,497.5	2.06	1.70	1.17
15,288.0	92.00	182.40	12,799.8	-2,591.8	48.8	2,592.1	3.46	-3.26	-1.16
15,382.0	90.50	182.50	12,797.7	-2,685.7	44.7	2,686.0	1.60	-1.60	0.11
15,477.0	89.50	183.10	12,797.7	-2,780.6	40.1	2,780.8	1.23	-1.05	0.63
15,572.0	91.30	183.10	12,797.1	-2,875.4	35.0	2,875.6	1.89	1.89	0.00
15,666.0	94.30	184.50	12,792.5	-2,969.1	28.7	2,969.2	3.52	3.19	1.49
15,760.0	86.90	183.30	12,791.5	-3,062.8	22.4	3,062.9	7.98	-7.87	-1.28
15,855.0	92.10	187.40	12,792.3	-3,157.3	13.5	3,157.4	6.97	5.47	4.32
15,949.0	88.10	181.80	12,792.2	-3,251.0	6.0	3,250.9	7.32	-4.26	-5.96
16,044.0	87.60	180.60	12,795.7	-3,345.9	4.0	3,345.8	1.37	-0.53	-1.26
16,138.0	91.30	182.70	12,796.6	-3,439.8	1.3	3,439.7	4.53	3.94	2.23
16,233.0	90.80	180.20	12,794.9	-3,534.8	-1.1	3,534.7	2.68	-0.53	-2.63
16,328.0	91.00	178.20	12,793.4	-3,629.8	0.2	3,629.7	2.12	0.21	-2.11
16,422.0	88.60	175.40	12,793.7	-3,723.6	5.4	3,723.5	3.92	-2.55	-2.98
16,517.0	87.00	177.90	12,797.4	-3,818.3	11.0	3,818.3	3.12	-1.68	2.63
16,611.0	87.80	178.00	12,801.6	-3,912.2	14.3	3,912.2	0.86	0.85	0.11
16,706.0	86.00	176.90	12,806.8	-4,007.0	18.6	4,007.0	2.22	-1.89	-1.16
16,800.0	90.80	180.40	12,809.4	-4,100.8	20.8	4,100.9	6.32	5.11	3.72
16,894.0	89.70	179.90	12,809.0	-4,194.8	20.5	4,194.9	1.29	-1.17	-0.53
16,988.0	91.40	181.40	12,808.1	-4,288.8	19.5	4,288.9	2.41	1.81	1.60
17,083.0	92.70	181.40	12,804.7	-4,383.7	17.1	4,383.7	1.37	1.37	0.00
17,178.0	92.70	180.20	12,800.2	-4,478.6	15.8	4,478.6	1.26	0.00	-1.26
17,273.0	89.60	178.70	12,798.3	-4,573.6	16.7	4,573.6	3.62	-3.26	-1.58
17,367.0	89.10	180.10	12,799.4	-4,667.6	17.7	4,667.6	1.58	-0.53	1.49
17,462.0	92.70	183.70	12,797.9	-4,762.5	14.6	4,762.5	5.36	3.79	3.79
17,556.0	92.40	183.00	12,793.7	-4,856.2	9.1	4,856.2	0.81	-0.32	-0.74
17,651.0	92.10	180.20	12,790.0	-4,951.1	6.4	4,951.0	2.96	-0.32	-2.95
17,659.0	91.99	180.01	12,789.7	-4,959.1	6.4	4,959.0	2.69	-1.37	-2.32
CROSS SEC LN @ 17659' MD, 1634' FWL									
17,746.0	90.80	178.00	12,787.6	-5,046.0	7.9	5,046.0	2.69	-1.37	-2.32
17,840.0	89.50	176.80	12,787.3	-5,139.9	12.2	5,139.9	1.88	-1.38	-1.28
17,935.0	87.40	176.10	12,789.9	-5,234.7	18.1	5,234.7	2.33	-2.21	-0.74
18,029.0	88.00	175.90	12,793.7	-5,328.4	24.6	5,328.5	0.67	0.64	-0.21
18,123.0	89.30	177.50	12,795.9	-5,422.2	30.0	5,422.3	2.19	1.38	1.70
18,218.0	89.50	182.70	12,796.9	-5,517.2	29.9	5,517.3	5.48	0.21	5.47

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Fighting Okra 18-19 Fed #2H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3399.0usft
Site:	(Fighting Okra)SEC 18_T26S_R34E_NMPM	**MD Reference:**	KB @ 3399.0usft
Well:	Fighting Okra 18-19 Fed #2H	**North Reference:**	Grid
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01 AWB	**Database:**	EDM 5000.15 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,313.0	91.30	184.90	12,796.2	-5,612.0	23.6	5,612.0	2.99	1.89	2.32
18,407.0	88.90	183.30	12,796.1	-5,705.7	16.8	5,705.7	3.07	-2.55	-1.70
18,502.0	91.30	183.80	12,795.9	-5,800.5	11.0	5,800.5	2.58	2.53	0.53
18,596.0	90.50	181.40	12,794.4	-5,894.4	6.7	5,894.3	2.69	-0.85	-2.55
18,691.0	90.50	182.70	12,793.6	-5,989.4	3.3	5,989.2	1.37	0.00	1.37
18,785.0	91.30	181.40	12,792.1	-6,083.3	-0.1	6,083.1	1.62	0.85	-1.38
18,880.0	88.20	172.80	12,792.5	-6,178.1	4.7	6,177.9	9.62	-3.26	-9.05
18,974.0	91.00	181.00	12,793.2	-6,271.8	9.8	6,271.7	9.22	2.98	8.72
19,069.0	89.50	178.10	12,792.8	-6,366.8	10.6	6,366.7	3.44	-1.58	-3.05
19,164.0	88.40	176.90	12,794.5	-6,461.7	14.7	6,461.6	1.71	-1.16	-1.26
19,258.0	88.90	178.00	12,796.7	-6,555.6	18.9	6,555.5	1.29	0.53	1.17
19,353.0	90.90	178.90	12,796.9	-6,650.5	21.5	6,650.5	2.31	2.11	0.95
19,447.0	92.10	178.40	12,794.4	-6,744.5	23.7	6,744.5	1.38	1.28	-0.53
19,541.0	90.20	179.30	12,792.5	-6,838.4	25.6	6,838.4	2.24	-2.02	0.96
19,636.0	88.80	179.50	12,793.4	-6,933.4	26.6	6,933.4	1.49	-1.47	0.21
19,730.0	89.20	180.10	12,795.0	-7,027.4	26.9	7,027.4	0.77	0.43	0.64
19,825.0	90.10	179.50	12,795.6	-7,122.4	27.2	7,122.4	1.14	0.95	-0.63
19,919.0	90.30	178.50	12,795.3	-7,216.4	28.9	7,216.4	1.08	0.21	-1.06
20,014.0	90.00	177.30	12,795.0	-7,311.3	32.3	7,311.4	1.30	-0.32	-1.26
20,108.0	91.30	177.50	12,793.9	-7,405.2	36.6	7,405.3	1.40	1.38	0.21
20,203.0	88.70	176.50	12,793.9	-7,500.1	41.6	7,500.2	2.93	-2.74	-1.05
20,297.0	90.00	180.70	12,795.0	-7,594.0	43.9	7,594.1	4.68	1.38	4.47
20,392.0	88.10	179.50	12,796.6	-7,689.0	43.7	7,689.1	2.37	-2.00	-1.26
20,487.0	90.30	183.50	12,797.9	-7,783.9	41.2	7,784.0	4.80	2.32	4.21
20,581.0	92.40	184.50	12,795.7	-7,877.7	34.7	7,877.7	2.47	2.23	1.06
20,676.0	90.50	180.90	12,793.3	-7,972.5	30.2	7,972.5	4.28	-2.00	-3.79
20,770.0	92.50	181.20	12,790.8	-8,066.5	28.5	8,066.5	2.15	2.13	0.32
20,865.0	90.90	180.30	12,788.0	-8,161.4	27.2	8,161.4	1.93	-1.68	-0.95
20,959.0	90.70	178.80	12,786.7	-8,255.4	28.0	8,255.4	1.61	-0.21	-1.60
21,053.0	87.80	177.00	12,787.9	-8,349.3	31.4	8,349.3	3.63	-3.09	-1.91
21,148.0	88.00	177.30	12,791.4	-8,444.1	36.1	8,444.2	0.38	0.21	0.32
21,242.0	88.70	178.10	12,794.1	-8,538.0	39.9	8,538.1	1.13	0.74	0.85
21,337.0	88.60	177.60	12,796.4	-8,632.9	43.5	8,633.0	0.54	-0.11	-0.53
21,431.0	89.60	180.40	12,797.8	-8,726.9	45.1	8,727.0	3.16	1.06	2.98
21,525.0	91.90	184.10	12,796.6	-8,820.8	41.4	8,820.8	4.63	2.45	3.94
21,620.0	89.20	181.70	12,795.7	-8,915.6	36.6	8,915.7	3.80	-2.84	-2.53
21,714.0	89.50	183.10	12,796.8	-9,009.5	32.7	9,009.5	1.52	0.32	1.49
21,809.0	88.50	181.70	12,798.4	-9,104.4	28.7	9,104.4	1.81	-1.05	-1.47
21,903.0	89.50	181.60	12,800.1	-9,198.4	26.0	9,198.3	1.07	1.06	-0.11
21,998.0	88.70	180.30	12,801.6	-9,293.4	24.4	9,293.3	1.61	-0.84	-1.37
22,092.0	89.50	181.60	12,803.0	-9,387.3	22.9	9,387.2	1.62	0.85	1.38
22,186.0	91.30	183.90	12,802.4	-9,481.2	18.3	9,481.1	3.11	1.91	2.45
22,280.0	88.70	177.30	12,802.4	-9,575.1	17.4	9,575.0	7.55	-2.77	-7.02
22,375.0	92.10	177.10	12,801.7	-9,670.0	22.0	9,669.9	3.59	3.58	-0.21

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Fighting Okra 18-19 Fed #2H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3399.0usft
Site:	(Fighting Okra)SEC 18_T26S_R34E_NMPM	**MD Reference:**	KB @ 3399.0usft
Well:	Fighting Okra 18-19 Fed #2H	**North Reference:**	Grid
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01 AWB	**Database:**	EDM 5000.15 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
22,469.0	92.40	177.00	12,798.0	-9,763.8	26.8	9,763.8	0.34	0.32	-0.11
22,564.0	91.30	176.40	12,795.0	-9,858.6	32.3	9,858.6	1.32	-1.16	-0.63
22,608.9	91.87	176.54	12,793.7	-9,903.4	35.1	9,903.4	1.32	1.28	0.32
CROSS S. HL @ 22608.9' MD, 330' FSL, 1637' FWL									
22,658.0	92.50	176.70	12,791.8	-9,952.4	38.0	9,952.4	1.32	1.28	0.32
LAST SVY									
22,728.0	92.50	176.70	12,788.8	-10,022.2	42.0	10,022.2	0.00	0.00	0.00
PTD @ 22728' MD, 211' FSL, 1633' FWL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Alt. PBHL (Fighting O	0.00	359.58	12,797.0	-9,903.2	58.1	372,915.53	795,815.03	32° 1' 21.240 N	103° 30' 43.984 W
- actual wellpath misses target center by 23.2usft at 22609.9usft MD (12793.7 TVD, -9904.4 N, 35.1 E)									
- Rectangle (sides W60.0 H9,903.3 D20.0)									
0' VS (Fighting Okra 1	0.00	0.01	12,797.0	-0.2	-14.8	382,818.55	795,742.18	32° 2' 59.239 N	103° 30' 43.955 W
- actual wellpath misses target center by 497.2usft at 12706.7usft MD (12528.0 TVD, -130.2 N, -412.3 E)									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
768.1	768.0	Rustler			
1,041.2	1,041.0	Salado			
5,123.4	5,110.0	Base of Salt			
5,273.7	5,260.0	Delaware			
9,353.7	9,332.0	Lwr Brushy			
9,553.7	9,532.0	1BSLM			
10,494.8	10,473.0	1BSSS			
10,683.8	10,662.0	2BSLM			
11,040.9	11,019.0	2BSSS			
11,508.1	11,486.0	3BSLM			
12,121.9	12,099.0	3BSSS			
12,714.9	12,531.0	WFMP			
12,806.5	12,558.0	WFMP X			
13,216.8	12,606.0	WFMP X Base			
13,466.9	12,657.0	WFMP Y			

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Fighting Okra 18-19 Fed #2H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB @ 3399.0usft
Site:	(Fighting Okra)SEC 18_T26S_R34E_NMPM	**MD Reference:**	KB @ 3399.0usft
Well:	Fighting Okra 18-19 Fed #2H	**North Reference:**	Grid
Wellbore:	ST01	**Survey Calculation Method:**	Minimum Curvature
Design:	ST01 AWB	**Database:**	EDM 5000.15 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
13,049.0	12,587.6	-465.5	-414.6	TIE TO OWB
17,659.0	12,789.7	-4,959.1	6.4	CROSS SEC LN @ 17659' MD, 1634' FWL
22,608.9	12,793.7	-9,903.4	35.1	CROSS S. HL @ 22608.9' MD, 330' FSL, 1637' FWL
22,658.0	12,791.8	-9,952.4	38.0	LAST SVY
22,728.0	12,788.8	-10,022.2	42.0	PTD @ 22728' MD, 211' FSL, 1633' FWL

Checked By: _____ Approved By: _____ Date: _____