

30-02543914



HOBBS OCD
MAY 17 2018
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Cotton Draw Unit No. 507H

Lea County, NM

November 07, 2017

Job No. LNM5152817

Survey Completion Report



Survey Certification Letter

November 07, 2017



Operator Name: Devon Energy Corp.
Well Name: Cotton Draw Unit No. 507H
County/Parish: Lea County,
State: NM
Rig Name: Cactus 126
Job Number: LNM5152817

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	833' MD – 20,311' MD	20,370' MD	10/02/17 – 10/16/17	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
Cotton Draw Unit
No. 507H
OH**

Survey: ProDirectional

Survey Report

07 November, 2017





ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 507H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 507H
TVD Reference: GL 3407+KB 25' @ 3432.00usft (Cactus 126)
MD Reference: GL 3407+KB 25' @ 3432.00usft (Cactus 126)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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	Cotton Draw Unit		
Site Position:		Northing:	409,601.90 usft
From:	Map	Easting:	732,306.70 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.1245718
		Longitude:	-103.7164496
		Grid Convergence:	0.33 °

Well	507H					
Well Position	+N/-S	0.00 usft	Northing:	409,601.90 usft	Latitude:	32.1245718
	+E/-W	0.00 usft	Easting:	732,306.70 usft	Longitude:	-103.7164496
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	3,407.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/2/2017	6.83	59.85	47,998.10

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	0.00



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Survey Program		Date	11/7/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
145.00	797.00	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM	
833.00	20,370.00	Survey #2 (OH)	MWD+HDGM	OWSG MWD + HDGM	

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	409,601.90	732,306.70
145.00	0.60	300.73	145.00	0.39	0.39	-0.65	0.76	300.73	409,602.29	732,306.05
239.00	0.60	278.73	238.99	0.71	0.71	-1.56	1.72	294.57	409,602.61	732,305.14
334.00	0.40	301.73	333.99	0.96	0.96	-2.34	2.53	292.43	409,602.86	732,304.36
428.00	0.50	310.73	427.99	1.40	1.40	-2.93	3.25	295.64	409,603.30	732,303.77
522.00	0.10	319.73	521.98	1.73	1.73	-3.29	3.72	297.80	409,603.63	732,303.41
617.00	0.40	330.73	616.98	2.09	2.09	-3.51	4.08	300.77	409,603.99	732,303.19
711.00	0.30	269.73	710.98	2.37	2.37	-3.91	4.57	301.23	409,604.27	732,302.79
797.00	0.80	274.73	796.98	2.42	2.42	-4.74	5.32	297.07	409,604.32	732,301.96
833.00	0.80	272.00	832.97	2.45	2.45	-5.24	5.78	295.07	409,604.35	732,301.46
First Pro Survey: 833' MD										
918.00	0.50	270.50	917.97	2.47	2.47	-6.20	6.68	291.75	409,604.37	732,300.50
1,009.00	0.50	247.10	1,008.97	2.32	2.32	-6.96	7.34	288.45	409,604.22	732,299.74
1,101.00	0.60	254.90	1,100.96	2.04	2.04	-7.80	8.06	284.67	409,603.94	732,298.90
1,287.00	0.40	237.00	1,286.95	1.43	1.43	-9.28	9.39	278.78	409,603.33	732,297.42
1,472.00	0.40	228.30	1,471.95	0.65	0.65	-10.31	10.33	273.62	409,602.55	732,296.39
1,564.00	0.30	213.20	1,563.95	0.24	0.24	-10.68	10.68	271.27	409,602.14	732,296.02
1,718.00	0.30	212.40	1,717.95	-0.44	-0.44	-11.12	11.12	267.73	409,601.46	732,295.58
1,812.00	0.40	208.90	1,811.94	-0.94	-0.94	-11.41	11.44	265.31	409,600.96	732,295.29
1,906.00	0.50	205.20	1,905.94	-1.59	-1.59	-11.74	11.85	262.27	409,600.31	732,294.96
2,000.00	0.50	220.20	1,999.94	-2.28	-2.28	-12.18	12.39	259.40	409,599.62	732,294.52



ProDirectional
Survey Report



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Wellbore: OH
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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)
2,095.00	0.30	225.30	2,094.94	-2.77	-2.77	-12.62	12.92	257.62	409,599.13	732,294.08
2,189.00	0.30	230.60	2,188.93	-3.10	-3.10	-12.99	13.35	256.58	409,598.80	732,293.71
2,283.00	0.20	206.90	2,282.93	-3.40	-3.40	-13.25	13.68	255.60	409,598.50	732,293.45
2,471.00	0.20	172.20	2,470.93	-4.02	-4.02	-13.36	13.95	253.25	409,597.88	732,293.34
2,659.00	0.30	165.80	2,658.93	-4.82	-4.82	-13.19	14.04	249.92	409,597.08	732,293.51
2,754.00	0.50	140.50	2,753.93	-5.38	-5.38	-12.87	13.95	247.30	409,596.52	732,293.83
2,848.00	0.80	125.30	2,847.92	-6.08	-6.08	-12.07	13.51	243.27	409,595.82	732,294.63
2,942.00	0.80	110.40	2,941.91	-6.69	-6.69	-10.92	12.80	238.52	409,595.21	732,295.78
3,036.00	0.80	113.50	3,035.90	-7.18	-7.18	-9.70	12.07	233.51	409,594.72	732,297.00
3,130.00	1.20	111.90	3,129.89	-7.81	-7.81	-8.19	11.31	226.37	409,594.09	732,298.51
3,224.00	1.20	129.00	3,223.87	-8.79	-8.79	-6.51	10.94	216.51	409,593.11	732,300.19
3,318.00	1.50	129.00	3,317.84	-10.19	-10.19	-4.79	11.25	205.18	409,591.71	732,301.91
3,412.00	1.70	131.50	3,411.81	-11.88	-11.88	-2.79	12.21	193.20	409,590.02	732,303.91
3,506.00	1.60	133.60	3,505.77	-13.71	-13.71	-0.79	13.74	183.31	409,588.19	732,305.91
3,600.00	1.50	137.40	3,599.73	-15.52	-15.52	0.99	15.55	176.35	409,586.38	732,307.69
3,694.00	1.60	135.90	3,693.70	-17.37	-17.37	2.74	17.59	171.05	409,584.53	732,309.44
3,788.00	1.90	140.70	3,787.65	-19.52	-19.52	4.64	20.06	166.64	409,582.38	732,311.34
3,882.00	2.70	143.40	3,881.58	-22.50	-22.50	6.94	23.55	162.85	409,579.40	732,313.64
3,976.00	2.70	152.10	3,975.47	-26.24	-26.24	9.30	27.84	160.48	409,575.66	732,316.00
4,070.00	3.10	157.80	4,069.35	-30.55	-30.55	11.30	32.57	159.71	409,571.35	732,318.00
4,164.00	3.60	163.00	4,163.19	-35.72	-35.72	13.12	38.06	159.83	409,566.18	732,319.82
4,258.00	3.70	168.30	4,257.00	-41.51	-41.51	14.60	44.01	160.63	409,560.39	732,321.30
4,327.00	3.30	167.60	4,325.87	-45.63	-45.63	15.48	48.19	161.27	409,556.27	732,322.18
4,442.00	2.70	170.70	4,440.72	-51.54	-51.54	16.62	54.15	162.12	409,550.36	732,323.32
4,536.00	2.50	167.60	4,534.62	-55.73	-55.73	17.42	58.39	162.64	409,546.17	732,324.12
4,630.00	2.60	167.70	4,628.53	-59.81	-59.81	18.32	62.55	162.97	409,542.09	732,325.02
4,724.00	2.80	165.60	4,722.42	-64.12	-64.12	19.34	66.97	163.21	409,537.78	732,326.04



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4,818.00	3.00	167.70	4,816.30	-68.75	-68.75	20.44	71.72	163.44	409,533.15	732,327.14
4,912.00	2.80	185.10	4,910.18	-73.44	-73.44	20.76	76.31	164.22	409,528.46	732,327.46
5,006.00	2.70	195.10	5,004.07	-77.86	-77.86	19.98	80.38	165.61	409,524.04	732,326.68
5,100.00	2.80	189.40	5,097.97	-82.26	-82.26	19.02	84.44	166.98	409,519.64	732,325.72
5,194.00	2.90	190.00	5,191.85	-86.87	-86.87	18.24	88.76	168.14	409,515.03	732,324.94
5,288.00	2.90	184.80	5,285.73	-91.58	-91.58	17.62	93.26	169.11	409,510.32	732,324.32
5,382.00	2.80	184.40	5,379.61	-96.24	-96.24	17.25	97.77	169.84	409,505.66	732,323.95
5,476.00	2.90	183.20	5,473.50	-100.90	-100.90	16.94	102.32	170.47	409,501.00	732,323.64
5,571.00	3.00	181.80	5,568.37	-105.79	-105.79	16.73	107.10	171.01	409,496.11	732,323.43
5,665.00	3.00	181.10	5,662.24	-110.71	-110.71	16.60	111.94	171.47	409,491.19	732,323.30
5,759.00	3.20	186.00	5,756.10	-115.78	-115.78	16.28	116.91	171.99	409,486.12	732,322.98
5,853.00	3.20	192.20	5,849.96	-120.95	-120.95	15.45	121.93	172.72	409,480.95	732,322.15
5,947.00	3.50	192.70	5,943.80	-126.31	-126.31	14.27	127.12	173.56	409,475.59	732,320.97
6,041.00	3.60	193.20	6,037.62	-131.98	-131.98	12.96	132.62	174.39	409,469.92	732,319.66
6,136.00	3.60	187.90	6,132.43	-137.84	-137.84	11.87	138.35	175.08	409,464.06	732,318.57
6,230.00	4.10	159.10	6,226.23	-143.91	-143.91	12.67	144.46	174.97	409,457.99	732,319.37
6,324.00	4.40	160.20	6,319.97	-150.44	-150.44	15.09	151.19	174.27	409,451.46	732,321.79
6,418.00	5.50	156.40	6,413.62	-157.96	-157.96	18.11	158.99	173.46	409,443.94	732,324.81
6,512.00	6.30	140.20	6,507.12	-166.05	-166.05	23.22	167.66	172.04	409,435.85	732,329.92
6,606.00	6.70	129.40	6,600.52	-173.49	-173.49	30.75	176.20	169.95	409,428.41	732,337.45
6,700.00	7.00	125.30	6,693.85	-180.28	-180.28	39.67	184.60	167.59	409,421.62	732,346.37
6,794.00	7.30	120.90	6,787.12	-186.66	-186.66	49.47	193.10	165.16	409,415.24	732,356.17
6,888.00	6.80	121.70	6,880.41	-192.65	-192.65	59.33	201.58	162.88	409,409.25	732,366.03
6,981.00	6.50	120.90	6,972.79	-198.25	-198.25	68.53	209.76	160.93	409,403.65	732,375.23
7,075.00	6.20	120.80	7,066.21	-203.58	-203.58	77.45	217.81	159.17	409,398.32	732,384.15
7,170.00	6.00	117.90	7,160.67	-208.53	-208.53	86.25	225.66	157.53	409,393.37	732,392.95
7,264.00	5.90	117.30	7,254.16	-213.04	-213.04	94.88	233.22	155.99	409,388.86	732,401.58



ProDirectional
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7,358.00	5.90	118.60	7,347.67	-217.57	-217.57	103.42	240.90	154.58	409,384.33	732,410.12
7,452.00	5.50	117.00	7,441.20	-221.93	-221.93	111.67	248.44	153.29	409,379.97	732,418.37
7,546.00	5.40	116.00	7,534.78	-225.91	-225.91	119.66	255.65	152.09	409,375.99	732,426.36
7,640.00	5.50	117.20	7,628.35	-229.91	-229.91	127.64	262.97	150.96	409,371.99	732,434.34
7,734.00	5.70	118.80	7,721.90	-234.22	-234.22	135.74	270.71	149.91	409,367.68	732,442.44
7,828.00	5.50	117.80	7,815.45	-238.57	-238.57	143.82	278.57	148.92	409,363.33	732,450.52
7,922.00	5.30	116.80	7,909.04	-242.63	-242.63	151.68	286.14	147.99	409,359.27	732,458.38
8,016.00	5.00	117.30	8,002.66	-246.46	-246.46	159.19	293.41	147.14	409,355.44	732,465.89
8,110.00	4.80	116.70	8,096.31	-250.11	-250.11	166.34	300.38	146.37	409,351.79	732,473.04
8,204.00	4.60	116.30	8,190.00	-253.55	-253.55	173.24	307.08	145.66	409,348.35	732,479.94
8,298.00	4.40	118.00	8,283.71	-256.91	-256.91	179.80	313.58	145.01	409,344.99	732,486.50
8,392.00	4.20	115.80	8,377.44	-260.10	-260.10	186.08	319.81	144.42	409,341.80	732,492.78
8,486.00	3.70	110.50	8,471.22	-262.66	-262.66	192.02	325.37	143.83	409,339.24	732,498.72
8,580.00	2.80	102.50	8,565.07	-264.22	-264.22	197.11	329.64	143.28	409,337.68	732,503.81
8,674.00	2.00	109.60	8,658.99	-265.27	-265.27	200.89	332.75	142.86	409,336.63	732,507.59
8,768.00	1.70	114.80	8,752.94	-266.40	-266.40	203.70	335.36	142.60	409,335.50	732,510.40
8,862.00	1.60	120.50	8,846.90	-267.65	-267.65	206.10	337.81	142.40	409,334.25	732,512.80
8,956.00	1.60	113.30	8,940.86	-268.84	-268.84	208.44	340.18	142.21	409,333.06	732,515.14
9,050.00	1.50	129.20	9,034.83	-270.14	-270.14	210.59	342.53	142.06	409,331.76	732,517.29
9,144.00	1.70	157.10	9,128.79	-272.20	-272.20	212.09	345.07	142.08	409,329.70	732,518.79
9,238.00	2.20	163.60	9,222.74	-275.21	-275.21	213.14	348.10	142.24	409,326.69	732,519.84
9,332.00	2.20	160.30	9,316.67	-278.64	-278.64	214.26	351.50	142.44	409,323.26	732,520.96
9,426.00	2.40	152.40	9,410.59	-282.09	-282.09	215.78	355.15	142.59	409,319.81	732,522.48
9,520.00	2.30	149.60	9,504.51	-285.46	-285.46	217.65	358.96	142.68	409,316.44	732,524.35
9,615.00	2.50	142.70	9,599.43	-288.75	-288.75	219.87	362.93	142.71	409,313.15	732,526.57
9,709.00	1.90	135.70	9,693.36	-291.50	-291.50	222.20	366.53	142.68	409,310.40	732,528.90
9,803.00	0.70	82.40	9,787.34	-292.53	-292.53	223.85	368.36	142.58	409,309.37	732,530.55



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9,897.00	0.60	12.50	9,881.33	-291.98	-291.98	224.53	368.33	142.44	409,309.92	732,531.23
9,941.00	0.70	8.00	9,925.33	-291.49	-291.49	224.62	367.99	142.38	409,310.41	732,531.32
9,991.00	1.00	5.50	9,975.32	-290.75	-290.75	224.70	367.46	142.30	409,311.15	732,531.40
10,086.00	11.30	350.90	10,069.65	-280.71	-280.71	223.31	358.70	141.50	409,321.19	732,530.01
10,180.00	23.90	357.00	10,159.08	-252.48	-252.48	220.84	335.44	138.82	409,349.42	732,527.54
10,254.00	35.23	359.21	10,223.34	-216.05	-216.05	219.76	308.17	134.51	409,385.85	732,526.46
FTP Crossing: 10254' MD										
10,274.00	38.30	359.60	10,239.36	-204.08	-204.08	219.64	299.82	132.90	409,397.82	732,526.34
10,368.00	46.20	0.10	10,308.89	-140.93	-140.93	219.49	260.84	122.70	409,460.97	732,526.19
10,462.00	52.00	356.70	10,370.41	-69.96	-69.96	217.42	228.40	107.84	409,531.94	732,524.12
10,558.00	63.40	359.00	10,421.63	10.99	10.99	214.48	214.76	87.07	409,612.89	732,521.18
10,650.00	75.60	359.90	10,453.79	97.00	97.00	213.68	234.67	65.59	409,698.90	732,520.38
10,735.00	85.00	359.00	10,468.10	180.68	180.68	212.87	279.21	49.68	409,782.58	732,519.57
10,787.00	88.20	0.40	10,471.18	232.58	232.58	212.60	315.11	42.43	409,834.48	732,519.30
10,878.00	89.10	0.70	10,473.33	323.55	323.55	213.47	387.63	33.42	409,925.45	732,520.17
10,970.00	89.80	1.10	10,474.21	415.54	415.54	214.92	467.82	27.35	410,017.44	732,521.62
11,063.00	90.00	1.30	10,474.37	508.52	508.52	216.86	552.83	23.10	410,110.42	732,523.56
11,154.00	90.20	1.80	10,474.21	599.48	599.48	219.33	638.34	20.10	410,201.38	732,526.03
11,246.00	94.20	1.90	10,470.68	691.35	691.35	222.29	726.21	17.82	410,293.25	732,528.99
11,339.00	93.80	1.90	10,464.19	784.07	784.07	225.37	815.82	16.04	410,385.97	732,532.07
11,432.00	91.50	1.40	10,459.89	876.92	876.92	228.04	906.09	14.58	410,478.82	732,534.74
11,524.00	89.20	0.60	10,459.33	968.90	968.90	229.65	995.75	13.33	410,570.80	732,536.35
11,616.00	90.20	0.20	10,459.81	1,060.90	1,060.90	230.29	1,085.60	12.25	410,662.80	732,536.99
11,709.00	90.90	0.20	10,458.92	1,153.89	1,153.89	230.62	1,176.71	11.30	410,755.79	732,537.32
11,802.00	90.50	359.20	10,457.78	1,246.88	1,246.88	230.13	1,267.94	10.46	410,848.78	732,536.83
11,894.00	91.30	359.40	10,456.34	1,338.86	1,338.86	229.00	1,358.31	9.71	410,940.76	732,535.70
11,988.00	91.30	359.00	10,454.21	1,432.83	1,432.83	227.69	1,450.81	9.03	411,034.73	732,534.39



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 507H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 507H
TVD Reference: GL 3407+KB 25' @ 3432.00usft (Cactus 126)
MD Reference: GL 3407+KB 25' @ 3432.00usft (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)
12,082.00	91.10	359.00	10,452.24	1,526.79	1,526.79	226.05	1,543.44	8.42	411,128.69	732,532.75
12,176.00	89.70	358.30	10,451.58	1,620.76	1,620.76	223.84	1,636.15	7.86	411,222.66	732,530.54
12,270.00	90.20	359.30	10,451.66	1,714.74	1,714.74	221.87	1,729.04	7.37	411,316.64	732,528.57
12,364.00	92.70	0.50	10,449.29	1,808.70	1,808.70	221.71	1,822.24	6.99	411,410.60	732,528.41
12,458.00	92.30	0.30	10,445.19	1,902.61	1,902.61	222.36	1,915.56	6.67	411,504.51	732,529.06
12,552.00	92.50	0.50	10,441.25	1,996.53	1,996.53	223.02	2,008.94	6.37	411,598.43	732,529.72
12,646.00	93.10	0.40	10,436.66	2,090.41	2,090.41	223.75	2,102.35	6.11	411,692.31	732,530.45
12,741.00	93.80	0.90	10,430.94	2,185.23	2,185.23	224.83	2,196.77	5.87	411,787.13	732,531.53
12,834.00	93.20	1.30	10,425.26	2,278.04	2,278.04	226.61	2,289.28	5.68	411,879.94	732,533.31
12,928.00	94.90	1.70	10,418.62	2,371.77	2,371.77	229.07	2,382.80	5.52	411,973.67	732,535.77
13,022.00	95.10	2.50	10,410.43	2,465.35	2,465.35	232.50	2,476.29	5.39	412,067.25	732,539.20
13,053.00	93.70	2.00	10,408.05	2,496.23	2,496.23	233.71	2,507.15	5.35	412,098.13	732,540.41
13,085.00	93.20	2.00	10,406.13	2,528.15	2,528.15	234.82	2,539.04	5.31	412,130.05	732,541.52
13,116.00	91.40	1.60	10,404.88	2,559.11	2,559.11	235.80	2,569.95	5.26	412,161.01	732,542.50
13,147.00	90.20	1.20	10,404.45	2,590.10	2,590.10	236.55	2,600.88	5.22	412,192.00	732,543.25
13,179.00	90.60	1.80	10,404.23	2,622.09	2,622.09	237.39	2,632.81	5.17	412,223.99	732,544.09
13,210.00	91.00	1.90	10,403.79	2,653.07	2,653.07	238.39	2,663.76	5.13	412,254.97	732,545.09
13,241.00	90.40	1.80	10,403.42	2,684.05	2,684.05	239.39	2,694.70	5.10	412,285.95	732,546.09
13,273.00	88.80	1.70	10,403.64	2,716.03	2,716.03	240.37	2,726.65	5.06	412,317.93	732,547.07
13,304.00	88.10	1.90	10,404.48	2,747.01	2,747.01	241.34	2,757.59	5.02	412,348.91	732,548.04
13,335.00	88.70	1.50	10,405.34	2,777.98	2,777.98	242.26	2,788.52	4.98	412,379.88	732,548.96
13,367.00	89.60	0.10	10,405.82	2,809.97	2,809.97	242.71	2,820.43	4.94	412,411.87	732,549.41
13,398.00	90.00	359.60	10,405.93	2,840.97	2,840.97	242.63	2,851.31	4.88	412,442.87	732,549.33
13,429.00	90.30	359.50	10,405.85	2,871.97	2,871.97	242.39	2,882.18	4.82	412,473.87	732,549.09
13,492.00	90.80	359.60	10,405.24	2,934.97	2,934.97	241.89	2,944.92	4.71	412,536.87	732,548.59
13,586.00	91.20	0.00	10,403.60	3,028.95	3,028.95	241.56	3,038.57	4.56	412,630.85	732,548.26
13,680.00	89.10	359.80	10,403.35	3,122.94	3,122.94	241.40	3,132.26	4.42	412,724.84	732,548.10



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 507H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 507H
TVD Reference: GL 3407+KB 25' @ 3432.00usft (Cactus 126)
MD Reference: GL 3407+KB 25' @ 3432.00usft (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)	
13,774.00	90.20	0.40	10,403.93	3,216.94	3,216.94	241.56	3,226.00	4.29	412,818.84	732,548.26	
13,868.00	91.30	0.50	10,402.70	3,310.93	3,310.93	242.30	3,319.78	4.19	412,912.83	732,549.00	
13,962.00	90.00	0.40	10,401.63	3,404.92	3,404.92	243.04	3,413.58	4.08	413,006.82	732,549.74	
14,056.00	89.90	1.00	10,401.71	3,498.91	3,498.91	244.19	3,507.42	3.99	413,100.81	732,550.89	
14,150.00	90.70	1.90	10,401.22	3,592.88	3,592.88	246.57	3,601.33	3.93	413,194.78	732,553.27	
14,244.00	89.00	0.80	10,401.47	3,686.85	3,686.85	248.78	3,695.23	3.86	413,288.75	732,555.48	
14,338.00	88.40	359.50	10,403.60	3,780.82	3,780.82	249.03	3,789.01	3.77	413,382.72	732,555.73	
14,432.00	89.30	0.00	10,405.49	3,874.80	3,874.80	248.62	3,882.77	3.67	413,476.70	732,555.32	
14,525.00	90.60	1.30	10,405.57	3,967.79	3,967.79	249.67	3,975.63	3.60	413,569.69	732,556.37	
14,620.00	88.20	359.70	10,406.56	4,062.77	4,062.77	250.50	4,070.48	3.53	413,664.67	732,557.20	
14,714.00	88.60	359.60	10,409.19	4,156.73	4,156.73	249.93	4,164.24	3.44	413,758.63	732,556.63	
14,807.00	89.10	359.60	10,411.05	4,249.71	4,249.71	249.28	4,257.01	3.36	413,851.61	732,555.98	
14,902.00	90.20	359.20	10,411.63	4,344.70	4,344.70	248.28	4,351.79	3.27	413,946.60	732,554.98	
14,995.00	91.20	359.40	10,410.50	4,437.68	4,437.68	247.15	4,444.56	3.19	414,039.58	732,553.85	
15,090.00	90.40	359.50	10,409.17	4,532.67	4,532.67	246.24	4,539.35	3.11	414,134.57	732,552.94	
15,184.00	90.80	359.40	10,408.19	4,626.66	4,626.66	245.33	4,633.16	3.04	414,228.56	732,552.03	
15,278.00	90.70	358.70	10,406.96	4,720.64	4,720.64	243.77	4,726.93	2.96	414,322.54	732,550.47	
15,372.00	91.10	358.80	10,405.48	4,814.60	4,814.60	241.72	4,820.67	2.87	414,416.50	732,548.42	
15,466.00	90.50	359.00	10,404.17	4,908.58	4,908.58	239.92	4,914.44	2.80	414,510.48	732,546.62	
15,560.00	91.00	359.30	10,402.94	5,002.56	5,002.56	238.53	5,008.24	2.73	414,604.46	732,545.23	
15,654.00	90.10	359.10	10,402.03	5,096.54	5,096.54	237.21	5,102.06	2.66	414,698.44	732,543.91	
15,748.00	90.40	358.90	10,401.62	5,190.53	5,190.53	235.57	5,195.87	2.60	414,792.43	732,542.27	
15,842.00	90.70	359.00	10,400.72	5,284.51	5,284.51	233.85	5,289.68	2.53	414,886.41	732,540.55	
15,936.00	91.30	359.00	10,399.08	5,378.48	5,378.48	232.21	5,383.49	2.47	414,980.38	732,538.91	
16,030.00	90.40	359.10	10,397.69	5,472.46	5,472.46	230.65	5,477.31	2.41	415,074.36	732,537.35	
16,124.00	91.00	0.10	10,396.54	5,566.44	5,566.44	230.00	5,571.19	2.37	415,168.34	732,536.70	
16,218.00	89.10	359.60	10,396.46	5,660.44	5,660.44	229.75	5,665.10	2.32	415,262.34	732,536.45	



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 507H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 507H
TVD Reference: GL 3407+KB 25' @ 3432.00usft (Cactus 126)
MD Reference: GL 3407+KB 25' @ 3432.00usft (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)
16,313.00	91.00	0.60	10,396.37	5,755.43	5,755.43	229.92	5,760.02	2.29	415,357.33	732,536.62
16,407.00	90.60	1.30	10,395.06	5,849.41	5,849.41	231.47	5,853.99	2.27	415,451.31	732,538.17
16,501.00	88.90	0.50	10,395.47	5,943.39	5,943.39	232.95	5,947.96	2.24	415,545.29	732,539.65
16,595.00	90.70	1.90	10,395.80	6,037.37	6,037.37	234.92	6,041.94	2.23	415,639.27	732,541.62
16,689.00	90.90	1.50	10,394.49	6,131.32	6,131.32	237.71	6,135.92	2.22	415,733.22	732,544.41
16,783.00	89.10	0.50	10,394.49	6,225.30	6,225.30	239.35	6,229.90	2.20	415,827.20	732,546.05
16,877.00	87.30	358.40	10,397.44	6,319.24	6,319.24	238.45	6,323.73	2.16	415,921.14	732,545.15
16,971.00	88.40	357.70	10,400.97	6,413.11	6,413.11	235.25	6,417.43	2.10	416,015.01	732,541.95
17,065.00	88.90	356.40	10,403.18	6,506.96	6,506.96	230.41	6,511.04	2.03	416,108.86	732,537.11
17,159.00	89.30	358.20	10,404.66	6,600.84	6,600.84	225.99	6,604.71	1.96	416,202.74	732,532.69
17,253.00	89.20	359.70	10,405.89	6,694.82	6,694.82	224.26	6,698.57	1.92	416,296.72	732,530.96
17,348.00	88.90	0.90	10,407.46	6,789.80	6,789.80	224.76	6,793.52	1.90	416,391.70	732,531.46
17,442.00	89.40	0.60	10,408.86	6,883.78	6,883.78	225.99	6,887.49	1.88	416,485.68	732,532.69
17,536.00	90.00	0.40	10,409.35	6,977.77	6,977.77	226.81	6,981.46	1.86	416,579.67	732,533.51
17,630.00	89.30	1.30	10,409.92	7,071.76	7,071.76	228.21	7,075.44	1.85	416,673.66	732,534.91
17,724.00	89.90	0.90	10,410.58	7,165.74	7,165.74	230.01	7,169.43	1.84	416,767.64	732,536.71
17,818.00	90.50	0.30	10,410.25	7,259.73	7,259.73	231.00	7,263.41	1.82	416,861.63	732,537.70
17,912.00	90.20	0.90	10,409.68	7,353.73	7,353.73	231.98	7,357.39	1.81	416,955.63	732,538.68
18,006.00	90.60	1.10	10,409.02	7,447.71	7,447.71	233.62	7,451.37	1.80	417,049.61	732,540.32
18,100.00	89.20	1.00	10,409.19	7,541.69	7,541.69	235.34	7,545.36	1.79	417,143.59	732,542.04
18,194.00	89.50	1.20	10,410.25	7,635.67	7,635.67	237.15	7,639.35	1.78	417,237.57	732,543.85
18,288.00	90.50	1.20	10,410.25	7,729.65	7,729.65	239.12	7,733.34	1.77	417,331.55	732,545.82
18,382.00	89.70	359.90	10,410.09	7,823.64	7,823.64	240.02	7,827.32	1.76	417,425.54	732,546.72
18,476.00	91.00	359.80	10,409.51	7,917.64	7,917.64	239.77	7,921.26	1.73	417,519.54	732,546.47
18,571.00	87.90	1.10	10,410.43	8,012.61	8,012.61	240.52	8,016.22	1.72	417,614.51	732,547.22
18,665.00	88.60	0.70	10,413.30	8,106.56	8,106.56	241.99	8,110.17	1.71	417,708.46	732,548.69
18,759.00	89.30	1.10	10,415.02	8,200.53	8,200.53	243.47	8,204.14	1.70	417,802.43	732,550.17



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 507H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 507H
TVD Reference: GL 3407+KB 25' @ 3432.00usft (Cactus 126)
MD Reference: GL 3407+KB 25' @ 3432.00usft (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)	
18,853.00	88.50	1.10	10,416.82	8,294.49	8,294.49	245.27	8,298.12	1.69	417,896.39	732,551.97	
18,947.00	88.30	1.30	10,419.45	8,388.44	8,388.44	247.24	8,392.08	1.69	417,990.34	732,553.94	
19,041.00	87.50	359.70	10,422.89	8,482.37	8,482.37	248.06	8,485.99	1.68	418,084.27	732,554.76	
19,135.00	87.80	0.00	10,426.75	8,576.29	8,576.29	247.82	8,579.87	1.66	418,178.19	732,554.52	
19,230.00	87.70	0.60	10,430.48	8,671.21	8,671.21	248.31	8,674.77	1.64	418,273.11	732,555.01	
19,324.00	88.40	359.20	10,433.68	8,765.15	8,765.15	248.15	8,768.67	1.62	418,367.05	732,554.85	
19,418.00	89.80	359.30	10,435.15	8,859.13	8,859.13	246.92	8,862.57	1.60	418,461.03	732,553.62	
19,512.00	90.70	359.90	10,434.74	8,953.13	8,953.13	246.26	8,956.51	1.58	418,555.03	732,552.96	
19,606.00	89.90	359.50	10,434.25	9,047.12	9,047.12	245.77	9,050.46	1.56	418,649.02	732,552.47	
19,700.00	89.80	359.40	10,434.50	9,141.12	9,141.12	244.87	9,144.40	1.53	418,743.02	732,551.57	
19,794.00	90.70	0.10	10,434.09	9,235.12	9,235.12	244.46	9,238.35	1.52	418,837.02	732,551.16	
19,888.00	89.90	359.00	10,433.59	9,329.11	9,329.11	243.72	9,332.29	1.50	418,931.01	732,550.42	
19,982.00	89.70	358.80	10,433.92	9,423.09	9,423.09	241.91	9,426.20	1.47	419,024.99	732,548.61	
20,076.00	90.50	359.30	10,433.76	9,517.08	9,517.08	240.36	9,520.11	1.45	419,118.98	732,547.06	
20,170.00	90.90	359.60	10,432.61	9,611.07	9,611.07	239.45	9,614.05	1.43	419,212.97	732,546.15	
20,239.00	91.19	0.04	10,431.35	9,680.05	9,680.05	239.24	9,683.01	1.42	419,281.95	732,545.94	
LTP Crossing: 20239' MD											
20,264.00	91.30	0.20	10,430.80	9,705.05	9,705.05	239.29	9,708.00	1.41	419,306.95	732,545.99	
20,311.00	91.60	0.50	10,429.62	9,752.03	9,752.03	239.58	9,754.97	1.41	419,353.93	732,546.28	
Final Survey: 20311' MD											
20,370.00	91.60	0.50	10,427.97	9,811.01	9,811.01	240.09	9,813.94	1.40	419,412.91	732,546.79	
Final TD: 20370' MD											



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 507H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 507H
TVD Reference: GL 3407'+KB 25' @ 3432.00usft (Cactus 126)
MD Reference: GL 3407'+KB 25' @ 3432.00usft (Cactus 126)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
833.00	832.97	2.45	-5.24	First Pro Survey: 833' MD
10,254.00	10,223.34	-216.05	219.76	FTP Crossing: 10254' MD
20,239.00	10,431.35	9,680.05	239.24	LTP Crossing: 20239' MD
20,311.00	10,429.62	9,752.03	239.58	Final Survey: 20311' MD
20,370.00	10,427.97	9,811.01	240.09	Final TD: 20370' MD