

30-025-43938



HOBBS OCD

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devon

Cotton Draw Unit No. 506H

Lea County, NM

December 05, 2017

Job No. LNM5154917

Survey Completion Report



Survey Certification Letter

December 05, 2017



Operator Name: Devon Energy Corp.
Well Name: Cotton Draw Unit No. 506H
County/Parish: Lea County,
State: NM
Rig Name: Cactus 126
Job Number: LNM5154917

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:

Surveyor	Surveyed Depths	Projection to Bit	Dates Performed	Type of Survey
ProDirectional	185' MD – 20,390' MD	20,452' MD	10/23/17 – 11/08/17	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. 506H
OH**

Survey: ProDirectional

Survey Report

05 December, 2017





ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 506H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 506H
TVD Reference: GL 3404'+KB 25' @ 3429.00usft (Cactus 126)
MD Reference: GL 3404'+KB 25' @ 3429.00usft (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° 7' 28.4584 N
		Longitude:	103° 42' 59.2187 W
		Grid Convergence:	0.33 °

Well	506H					
Well Position	+N/-S	0.00 usft	Northing:	409,593.15 usft	Latitude:	32° 7' 28.4327 N
	+E/-W	0.00 usft	Easting:	731,229.18 usft	Longitude:	103° 43' 11.7492 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	3,404.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/6/2017	6.82	59.85	48,025.90

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	359.77	

Survey Program	Date	12/5/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
185.00	20,452.00	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM



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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	409,593.15	731,229.18
185.00	0.50	46.40	185.00	0.55	0.56	0.58	0.81	46.40	409,593.71	731,229.76
Pro MWD First Survey: 185' MD										
277.00	0.60	62.70	276.99	1.05	1.05	1.30	1.68	51.03	409,594.20	731,230.48
368.00	0.70	67.90	367.99	1.47	1.48	2.24	2.69	56.53	409,594.63	731,231.42
460.00	0.80	77.90	459.98	1.81	1.83	3.39	3.85	61.67	409,594.98	731,232.57
553.00	0.80	73.30	552.97	2.13	2.15	4.65	5.12	65.16	409,595.30	731,233.83
645.00	1.00	81.30	644.96	2.43	2.46	6.06	6.54	67.92	409,595.61	731,235.24
732.00	1.00	74.90	731.95	2.74	2.77	7.54	8.03	69.83	409,595.92	731,236.72
891.00	1.30	76.60	890.91	3.51	3.55	10.63	11.21	71.54	409,596.70	731,239.81
983.00	1.40	62.80	982.89	4.25	4.30	12.65	13.36	71.21	409,597.45	731,241.83
1,076.00	1.40	61.30	1,075.86	5.31	5.37	14.66	15.61	69.88	409,598.52	731,243.84
1,168.00	1.20	62.60	1,167.84	6.29	6.35	16.50	17.68	68.94	409,599.50	731,245.68
1,260.00	1.10	59.90	1,259.82	7.17	7.24	18.12	19.51	68.22	409,600.39	731,247.30
1,352.00	0.90	60.20	1,351.80	7.96	8.04	19.51	21.10	67.60	409,601.19	731,248.69
1,444.00	0.80	61.40	1,443.79	8.62	8.71	20.70	22.45	67.18	409,601.86	731,249.88
1,536.00	0.70	62.50	1,535.79	9.19	9.27	21.76	23.65	66.92	409,602.42	731,250.94
1,627.00	0.60	62.00	1,626.78	9.66	9.75	22.67	24.68	66.72	409,602.90	731,251.85
1,719.00	0.30	78.10	1,718.78	9.94	10.03	23.33	25.40	66.74	409,603.18	731,252.51
1,814.00	0.30	63.60	1,813.78	10.10	10.19	23.80	25.89	66.82	409,603.34	731,252.98
1,908.00	0.10	52.50	1,907.78	10.25	10.35	24.09	26.22	66.74	409,603.50	731,253.27
2,002.00	0.30	99.90	2,001.78	10.26	10.36	24.39	26.50	66.99	409,603.51	731,253.57
2,096.00	0.30	130.50	2,095.77	10.06	10.16	24.82	26.82	67.75	409,603.31	731,254.00
2,190.00	0.20	146.30	2,189.77	9.76	9.86	25.10	26.97	68.55	409,603.01	731,254.28
2,284.00	0.30	62.10	2,283.77	9.74	9.84	25.41	27.25	68.83	409,602.99	731,254.59
2,378.00	0.30	56.40	2,377.77	9.99	10.09	25.83	27.73	68.66	409,603.24	731,255.01
2,472.00	0.20	91.20	2,471.77	10.12	10.22	26.20	28.13	68.69	409,603.37	731,255.38



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 506H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 506H
TVD Reference: GL 3404'+KB 25' @ 3429.00usft (Cactus 126)
MD Reference: GL 3404'+KB 25' @ 3429.00usft (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)
2,567.00	0.10	231.10	2,566.77	10.06	10.17	26.30	28.20	68.87	409,603.32	731,255.48
2,661.00	0.10	260.60	2,660.77	10.00	10.10	26.16	28.04	68.88	409,603.25	731,255.34
2,755.00	0.10	70.30	2,754.77	10.01	10.12	26.15	28.04	68.85	409,603.27	731,255.33
2,849.00	0.20	35.00	2,848.77	10.17	10.28	26.33	28.26	68.67	409,603.43	731,255.51
2,943.00	0.30	341.80	2,942.77	10.54	10.65	26.34	28.41	67.99	409,603.80	731,255.52
3,038.00	0.30	12.80	3,037.77	11.02	11.13	26.32	28.58	67.09	409,604.28	731,255.50
3,132.00	0.50	21.50	3,131.77	11.64	11.75	26.52	29.01	66.11	409,604.90	731,255.70
3,226.00	0.60	26.80	3,225.76	12.46	12.57	26.90	29.69	64.95	409,605.72	731,256.08
3,320.00	0.80	64.70	3,319.75	13.18	13.29	27.71	30.73	64.38	409,606.44	731,256.89
3,414.00	0.80	76.40	3,413.75	13.61	13.72	28.94	32.03	64.63	409,606.87	731,258.12
3,508.00	0.80	85.00	3,507.74	13.81	13.93	30.24	33.29	65.26	409,607.08	731,259.42
3,603.00	0.90	103.70	3,602.73	13.69	13.82	31.62	34.51	66.40	409,606.97	731,260.80
3,697.00	0.90	114.30	3,696.71	13.20	13.34	33.01	35.60	68.00	409,606.49	731,262.19
3,791.00	1.50	124.00	3,790.69	12.21	12.35	34.70	36.83	70.42	409,605.50	731,263.88
3,885.00	1.50	129.50	3,884.66	10.73	10.87	36.67	38.25	73.48	409,604.02	731,265.85
3,979.00	1.60	134.20	3,978.63	9.02	9.18	38.56	39.64	76.61	409,602.33	731,267.74
4,073.00	2.10	143.20	4,072.58	6.72	6.88	40.54	41.12	80.36	409,600.03	731,269.72
4,167.00	2.20	147.20	4,166.51	3.82	3.99	42.54	42.73	84.65	409,597.14	731,271.72
4,262.00	2.00	156.80	4,261.45	0.75	0.93	44.19	44.20	88.79	409,594.08	731,273.37
4,330.00	1.80	159.90	4,329.41	-1.34	-1.16	45.02	45.03	91.48	409,591.99	731,274.20
4,443.00	1.20	150.50	4,442.37	-4.04	-3.86	46.21	46.37	94.77	409,589.29	731,275.39
4,537.00	1.70	233.90	4,536.35	-5.72	-5.54	45.57	45.91	96.93	409,587.61	731,274.75
4,631.00	2.00	241.70	4,630.30	-7.31	-7.14	43.00	43.59	99.42	409,586.01	731,272.18
4,725.00	1.80	240.10	4,724.25	-8.81	-8.65	40.28	41.19	102.12	409,584.50	731,269.46
4,819.00	1.70	222.40	4,818.21	-10.57	-10.42	38.06	39.46	105.31	409,582.73	731,267.24
4,913.00	2.90	189.60	4,912.13	-13.94	-13.79	36.72	39.22	110.58	409,579.36	731,265.90
5,007.00	4.70	177.10	5,005.92	-20.13	-19.98	36.52	41.63	118.69	409,573.17	731,265.70



ProDirectional
Survey Report



Company:	Devon Energy Corp.	Local Co-ordinate Reference:	Well 506H
Project:	Lea County, NM (NAD83)	TVD Reference:	GL 3404'+KB 25' @ 3429.00usft (Cactus 126)
Site:	Cotton Draw Unit	MD Reference:	GL 3404'+KB 25' @ 3429.00usft (Cactus 126)
Well:	506H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	WellPlanner1

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)
5,102.00	6.10	173.50	5,100.50	-29.03	-28.88	37.29	47.16	127.76	409,564.27	731,266.47
5,195.00	7.10	174.10	5,192.88	-39.66	-39.51	38.44	55.12	135.79	409,553.64	731,267.62
5,289.00	8.50	174.40	5,286.01	-52.36	-52.20	39.71	65.59	142.74	409,540.95	731,268.89
5,383.00	8.90	173.60	5,378.93	-66.51	-66.34	41.20	78.10	148.16	409,526.81	731,270.38
5,478.00	8.70	180.50	5,472.81	-81.00	-80.83	41.96	91.07	152.57	409,512.32	731,271.14
5,572.00	9.20	184.90	5,565.67	-95.59	-95.43	41.25	103.96	156.62	409,497.72	731,270.43
5,666.00	8.80	186.70	5,658.51	-110.22	-110.06	39.77	117.02	160.13	409,483.09	731,268.95
5,760.00	9.00	187.40	5,751.38	-124.64	-124.49	37.99	130.15	163.03	409,468.66	731,267.17
5,854.00	8.30	184.70	5,844.31	-138.89	-138.54	36.48	143.26	165.25	409,454.61	731,265.66
5,948.00	8.30	184.20	5,937.33	-152.21	-152.07	35.43	156.14	166.89	409,441.08	731,260.38
6,042.00	8.20	183.30	6,030.35	-165.87	-165.53	34.55	169.10	168.21	409,427.62	731,263.73
6,136.00	8.00	183.90	6,123.42	-178.88	-178.75	33.72	181.90	169.32	409,414.40	731,262.90
6,230.00	8.00	183.40	6,216.50	-191.93	-191.80	32.88	194.60	170.27	409,401.35	731,262.06
6,324.00	8.20	181.80	6,309.56	-205.16	-205.03	32.28	207.56	171.05	409,388.12	731,261.46
6,418.00	8.20	181.70	6,402.60	-218.56	-218.43	31.87	220.75	171.70	409,374.72	731,261.05
6,512.00	8.40	182.30	6,495.62	-232.12	-232.00	31.40	234.11	172.29	409,361.15	731,260.58
6,606.00	8.80	182.10	6,588.56	-246.16	-246.04	30.86	247.97	172.85	409,347.11	731,260.04
6,700.00	8.70	180.80	6,681.47	-260.46	-260.34	30.50	262.12	173.32	409,332.81	731,259.68
6,794.00	8.80	179.60	6,774.37	-274.75	-274.63	30.45	276.32	173.67	409,318.52	731,259.63
6,888.00	8.50	178.70	6,867.30	-288.89	-288.77	30.66	290.39	173.94	409,304.38	731,259.84
6,982.00	8.00	179.70	6,960.33	-302.38	-302.26	30.85	303.83	174.17	409,290.89	731,260.03
7,076.00	7.20	177.00	7,053.50	-314.80	-314.68	31.19	316.22	174.34	409,278.47	731,260.37
7,170.00	7.10	177.10	7,146.77	-326.49	-326.36	31.79	327.91	174.44	409,266.79	731,260.97
7,265.00	6.00	181.30	7,241.15	-337.32	-337.19	31.98	338.70	174.58	409,255.96	731,261.16
7,359.00	5.70	181.80	7,334.66	-346.89	-346.77	31.72	348.22	174.77	409,246.38	731,260.90
7,453.00	5.30	181.90	7,428.23	-355.90	-355.77	31.43	357.16	174.95	409,237.38	731,260.61
7,547.00	5.20	180.30	7,521.83	-364.50	-364.37	31.26	365.71	175.10	409,228.78	731,260.44



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Survey Report



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Wellbore: OH
Design: Surveys

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Database: WellPlanner1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
7,641.00	4.10	185.40	7,615.52	-372.10	-371.98	30.93	373.26	175.25	409,221.17	731,260.11
7,735.00	3.80	187.40	7,709.30	-378.53	-378.41	30.21	379.62	175.44	409,214.74	731,259.39
7,829.00	3.80	186.30	7,803.09	-384.71	-384.60	29.46	385.72	175.62	409,208.55	731,258.64
7,923.00	3.70	184.90	7,896.89	-390.83	-390.72	28.86	391.78	175.77	409,202.43	731,258.04
8,018.00	2.90	199.70	7,991.74	-396.14	-396.03	27.79	397.01	175.99	409,197.12	731,256.97
8,111.00	2.80	203.50	8,084.62	-400.43	-400.33	26.09	401.18	176.27	409,192.82	731,255.27
8,205.00	1.80	228.90	8,178.55	-403.50	-403.41	24.06	404.12	176.59	409,189.74	731,253.24
8,299.00	1.20	250.60	8,272.52	-404.79	-404.70	22.02	405.30	176.89	409,188.45	731,251.20
8,393.00	0.90	252.80	8,366.50	-405.33	-405.25	20.39	405.76	177.12	409,187.90	731,249.57
8,487.00	0.70	288.40	8,460.49	-405.36	-405.29	19.14	405.74	177.30	409,187.86	731,248.32
8,581.00	0.60	328.80	8,554.49	-404.75	-404.68	18.34	405.10	177.41	409,188.47	731,247.52
8,675.00	0.90	355.90	8,648.48	-403.60	-403.53	18.03	403.93	177.44	409,189.62	731,247.21
8,769.00	0.80	12.40	8,742.47	-402.22	-402.15	18.12	402.56	177.42	409,191.00	731,247.30
8,863.00	0.50	32.80	8,836.46	-401.23	-401.16	18.48	401.59	177.36	409,191.99	731,247.66
8,957.00	0.70	75.80	8,930.46	-400.75	-400.68	19.26	401.14	177.25	409,192.47	731,248.44
9,051.00	1.70	94.40	9,024.43	-400.73	-400.64	21.21	401.21	176.97	409,192.51	731,250.39
9,146.00	2.50	85.90	9,119.37	-400.70	-400.60	24.68	401.36	176.47	409,192.55	731,253.86
9,240.00	2.00	47.80	9,213.30	-399.46	-399.36	27.94	400.33	176.00	409,193.79	731,257.12
9,334.00	1.60	46.60	9,307.26	-397.47	-397.35	30.11	398.49	175.67	409,195.80	731,259.29
9,428.00	1.30	63.40	9,401.23	-396.10	-395.97	32.02	397.27	175.38	409,197.18	731,261.20
9,522.00	1.50	59.70	9,495.20	-395.01	-394.87	34.03	396.34	175.07	409,198.28	731,263.21
9,616.00	1.70	54.30	9,589.16	-393.58	-393.44	36.23	395.10	174.74	409,199.71	731,265.41
9,710.00	1.90	59.70	9,683.12	-391.99	-391.84	38.71	393.75	174.36	409,201.31	731,267.89
9,804.00	1.50	47.00	9,777.07	-390.38	-390.22	40.95	392.36	174.01	409,202.93	731,270.13
9,898.00	1.00	79.10	9,871.05	-389.39	-389.22	42.66	391.55	173.75	409,203.93	731,271.84
9,991.00	4.40	2.90	9,963.95	-385.68	-385.50	43.63	387.96	173.54	409,207.65	731,272.81
10,085.00	14.20	356.20	10,056.60	-370.53	-370.36	43.05	372.85	173.37	409,222.79	731,272.23



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Survey Report



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Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 506H
Wellbore: OH
Design: Surveys

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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)
10,179.00	24.10	357.10	10,145.29	-339.78	-339.61	41.31	342.12	173.06	409,253.54	731,270.49
10,273.00	38.30	357.00	10,225.49	-291.26	-291.11	38.80	293.68	172.41	409,302.04	731,267.98
10,367.00	50.40	356.70	10,292.58	-225.76	-225.62	35.18	228.35	171.14	409,367.53	731,264.36
10,462.00	60.50	356.50	10,346.39	-147.74	-147.61	30.54	150.74	168.31	409,445.54	731,259.72
10,556.00	67.00	356.90	10,387.94	-63.60	-63.49	25.70	68.50	157.97	409,529.66	731,254.88
10,650.00	74.20	358.00	10,419.15	24.93	25.02	21.77	33.17	41.03	409,618.17	731,250.95
10,744.00	81.40	358.10	10,439.00	116.71	116.79	18.65	118.27	9.07	409,709.94	731,247.83
10,800.00	86.50	358.20	10,444.90	172.36	172.43	16.85	173.25	5.58	409,765.58	731,246.03
10,881.00	89.20	0.20	10,447.94	253.29	253.35	15.72	253.84	3.55	409,846.50	731,244.90
10,973.00	88.60	359.90	10,449.70	345.27	345.33	15.80	345.69	2.62	409,938.48	731,244.98
11,066.00	89.30	0.30	10,451.41	438.25	438.32	15.97	438.61	2.09	410,031.47	731,245.15
11,158.00	90.20	1.10	10,451.81	530.23	530.31	17.09	530.58	1.85	410,123.46	731,246.27
11,251.00	90.90	0.70	10,450.92	623.21	623.29	18.55	623.57	1.70	410,216.44	731,247.73
11,343.00	90.60	359.80	10,449.71	715.20	715.28	18.95	715.53	1.52	410,308.43	731,248.13
11,434.00	92.20	0.90	10,447.49	806.16	806.25	19.51	806.48	1.39	410,399.40	731,248.69
11,527.00	91.90	0.80	10,444.16	899.09	899.18	20.89	899.42	1.33	410,492.33	731,250.07
11,619.00	91.90	0.40	10,441.11	991.03	991.12	21.85	991.36	1.26	410,584.27	731,251.03
11,711.00	92.10	0.40	10,437.90	1,082.96	1,083.06	22.49	1,083.30	1.19	410,676.21	731,251.67
11,802.00	91.60	0.80	10,434.96	1,173.91	1,174.01	23.44	1,174.24	1.14	410,767.16	731,252.62
11,894.00	90.20	0.10	10,433.52	1,265.89	1,265.99	24.17	1,266.22	1.09	410,859.14	731,253.35
11,988.00	90.40	0.40	10,433.03	1,359.88	1,359.99	24.58	1,360.21	1.04	410,953.14	731,253.76
12,083.00	90.20	0.50	10,432.53	1,454.87	1,454.99	25.32	1,455.21	1.00	411,048.14	731,254.50
12,177.00	90.90	1.00	10,431.63	1,548.85	1,548.97	26.55	1,549.20	0.98	411,142.12	731,255.73
12,270.00	90.50	0.70	10,430.49	1,641.83	1,641.96	27.93	1,642.19	0.97	411,235.11	731,257.11
12,364.00	90.20	0.40	10,429.92	1,735.82	1,735.95	28.83	1,736.19	0.95	411,329.10	731,258.01
12,459.00	90.10	0.40	10,429.67	1,830.81	1,830.95	29.50	1,831.18	0.92	411,424.10	731,258.68
12,553.00	91.00	0.10	10,428.77	1,924.81	1,924.94	29.91	1,925.17	0.89	411,518.09	731,259.09



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 506H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 506H
TVD Reference: GL 3404'+KB 25' @ 3429.00usft (Cactus 126)
MD Reference: GL 3404'+KB 25' @ 3429.00usft (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)
12,647.00	91.90	359.50	10,426.39	2,018.77	2,018.91	29.58	2,019.13	0.84	411,612.06	731,258.76
12,741.00	92.50	359.80	10,422.78	2,112.70	2,112.84	29.01	2,113.04	0.79	411,705.99	731,258.19
12,835.00	92.60	0.50	10,418.60	2,206.61	2,206.74	29.25	2,206.94	0.76	411,799.89	731,258.43
12,929.00	88.50	359.60	10,417.69	2,300.58	2,300.72	29.33	2,300.90	0.73	411,893.87	731,258.51
13,023.00	89.90	359.90	10,419.01	2,394.57	2,394.71	28.92	2,394.88	0.69	411,987.86	731,258.10
13,117.00	91.10	0.40	10,418.19	2,488.56	2,488.70	29.17	2,488.87	0.67	412,081.85	731,258.35
13,211.00	90.50	0.40	10,416.87	2,582.55	2,582.69	29.83	2,582.86	0.66	412,175.84	731,259.01
13,305.00	90.80	0.30	10,415.81	2,676.54	2,676.68	30.40	2,676.85	0.65	412,269.83	731,259.58
13,399.00	92.50	0.20	10,413.10	2,770.49	2,770.64	30.81	2,770.81	0.64	412,363.79	731,259.99
13,493.00	91.90	0.30	10,409.49	2,864.42	2,864.57	31.22	2,864.74	0.62	412,457.72	731,260.40
13,587.00	88.90	359.10	10,408.84	2,958.40	2,958.55	30.73	2,958.71	0.60	412,551.70	731,259.91
13,681.00	88.90	359.00	10,410.64	3,052.38	3,052.52	29.17	3,052.66	0.55	412,645.67	731,258.35
13,775.00	89.30	359.00	10,412.12	3,146.36	3,146.49	27.53	3,146.61	0.50	412,739.64	731,256.71
13,869.00	89.60	359.00	10,413.02	3,240.34	3,240.47	25.89	3,240.58	0.46	412,833.62	731,255.07
13,963.00	90.50	359.10	10,412.94	3,334.34	3,334.46	24.33	3,334.55	0.42	412,927.61	731,253.51
14,057.00	90.50	358.70	10,412.12	3,428.32	3,428.44	22.52	3,428.51	0.38	413,021.59	731,251.70
14,151.00	91.00	358.70	10,410.89	3,522.30	3,522.41	20.39	3,522.47	0.33	413,115.56	731,249.57
14,245.00	91.70	359.10	10,408.67	3,616.26	3,616.36	18.59	3,616.41	0.29	413,209.51	731,247.77
14,339.00	90.60	359.20	10,406.79	3,710.23	3,710.33	17.19	3,710.37	0.27	413,303.48	731,246.37
14,433.00	91.30	359.40	10,405.23	3,804.22	3,804.31	16.05	3,804.35	0.24	413,397.46	731,245.23
14,527.00	91.50	359.20	10,402.93	3,898.18	3,898.28	14.90	3,898.30	0.22	413,491.43	731,244.08
14,621.00	92.10	359.00	10,399.98	3,992.13	3,992.22	13.42	3,992.24	0.19	413,585.37	731,242.60
14,715.00	90.80	359.10	10,397.60	4,086.09	4,086.17	11.86	4,086.19	0.17	413,679.32	731,241.04
14,809.00	91.50	359.40	10,395.71	4,180.07	4,180.14	10.63	4,180.16	0.15	413,773.29	731,239.81
14,903.00	90.40	359.80	10,394.15	4,274.05	4,274.13	9.98	4,274.14	0.13	413,867.28	731,239.16
14,997.00	91.30	359.70	10,392.76	4,368.04	4,368.12	9.57	4,368.13	0.13	413,961.27	731,238.75
15,091.00	90.90	359.30	10,390.96	4,462.02	4,462.09	8.75	4,462.10	0.11	414,055.24	731,237.93



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 506H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 506H
TVD Reference: GL 3404'+KB 25' @ 3429.00usft (Cactus 126)
MD Reference: GL 3404'+KB 25' @ 3429.00usft (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)
15,185.00	91.10	359.80	10,389.32	4,556.01	4,556.08	8.01	4,556.08	0.10	414,149.23	731,237.19
15,279.00	90.30	359.80	10,388.17	4,650.00	4,650.07	7.68	4,650.08	0.09	414,243.22	731,236.86
15,373.00	90.80	359.60	10,387.26	4,744.00	4,744.06	7.19	4,744.07	0.09	414,337.21	731,236.37
15,468.00	91.40	359.60	10,385.44	4,838.98	4,839.04	6.53	4,839.05	0.08	414,432.19	731,235.71
15,562.00	90.50	359.90	10,383.88	4,932.96	4,933.03	6.12	4,933.03	0.07	414,526.18	731,235.30
15,656.00	90.90	0.30	10,382.73	5,026.95	5,027.02	6.28	5,027.02	0.07	414,620.17	731,235.46
15,750.00	90.00	0.90	10,382.00	5,120.94	5,121.01	7.26	5,121.02	0.08	414,714.16	731,236.44
15,844.00	90.60	0.80	10,381.50	5,214.92	5,215.00	8.66	5,215.01	0.10	414,808.15	731,237.84
15,938.00	91.30	0.80	10,379.95	5,308.89	5,308.98	9.97	5,308.99	0.11	414,902.13	731,239.15
16,032.00	90.80	0.40	10,378.22	5,402.87	5,402.95	10.96	5,402.97	0.12	414,996.10	731,240.14
16,126.00	89.60	0.40	10,377.89	5,496.86	5,496.95	11.61	5,496.96	0.12	415,090.10	731,240.79
16,220.00	89.90	0.80	10,378.30	5,590.85	5,590.94	12.60	5,590.96	0.13	415,184.09	731,241.78
16,314.00	89.10	0.20	10,379.12	5,684.84	5,684.94	13.42	5,684.95	0.14	415,278.09	731,242.60
16,408.00	89.60	0.30	10,380.19	5,778.83	5,778.93	13.83	5,778.94	0.14	415,372.08	731,243.01
16,502.00	90.30	0.30	10,380.27	5,872.82	5,872.93	14.32	5,872.94	0.14	415,466.08	731,243.50
16,596.00	91.00	0.40	10,379.21	5,966.81	5,966.92	14.89	5,966.94	0.14	415,560.07	731,244.07
16,690.00	91.70	0.20	10,376.99	6,060.78	6,060.89	15.38	6,060.91	0.15	415,654.04	731,244.56
16,784.00	91.10	0.20	10,374.70	6,154.75	6,154.86	15.71	6,154.88	0.15	415,748.01	731,244.89
16,878.00	88.70	359.10	10,374.86	6,248.74	6,248.85	15.14	6,248.87	0.14	415,842.00	731,244.32
16,972.00	89.60	359.30	10,376.25	6,342.72	6,342.83	13.83	6,342.84	0.12	415,935.98	731,243.01
17,067.00	88.90	358.80	10,377.50	6,437.71	6,437.81	12.25	6,437.82	0.11	416,030.96	731,241.43
17,161.00	89.50	358.20	10,378.81	6,531.67	6,531.77	9.79	6,531.77	0.09	416,124.92	731,238.97
17,255.00	90.60	358.50	10,378.73	6,625.64	6,625.72	7.08	6,625.73	0.06	416,218.87	731,236.26
17,349.00	91.60	358.30	10,376.92	6,719.60	6,719.67	4.46	6,719.67	0.04	416,312.82	731,233.64
17,443.00	91.80	358.30	10,374.14	6,813.53	6,813.59	1.67	6,813.59	0.01	416,406.74	731,230.85
17,537.00	90.50	358.80	10,372.25	6,907.48	6,907.54	-0.70	6,907.54	359.99	416,500.69	731,228.48
17,631.00	91.30	359.60	10,370.77	7,001.46	7,001.51	-2.02	7,001.51	359.98	416,594.66	731,227.16



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 506H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 506H
TVD Reference: GL 3404'+KB 25' @ 3429.00usft (Cactus 126)
MD Reference: GL 3404'+KB 25' @ 3429.00usft (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)
17,725.00	91.70	359.70	10,368.31	7,095.43	7,095.48	-2.59	7,095.48	359.98	416,688.63	731,226.59
17,819.00	90.60	0.30	10,366.42	7,189.41	7,189.46	-2.59	7,189.46	359.98	416,782.61	731,226.59
17,913.00	89.40	0.10	10,366.42	7,283.41	7,283.46	-2.26	7,283.46	359.98	416,876.61	731,226.92
18,007.00	88.30	0.00	10,368.31	7,377.38	7,377.44	-2.18	7,377.44	359.98	416,970.59	731,227.00
18,101.00	89.40	1.00	10,370.20	7,471.36	7,471.41	-1.36	7,471.41	359.99	417,064.56	731,227.82
18,195.00	88.80	1.70	10,371.67	7,565.31	7,565.37	0.85	7,565.37	0.01	417,158.52	731,230.03
18,289.00	89.50	2.50	10,373.07	7,659.22	7,659.30	4.30	7,659.30	0.03	417,252.45	731,233.48
18,384.00	88.60	1.70	10,374.64	7,754.12	7,754.22	7.78	7,754.22	0.06	417,347.37	731,236.96
18,478.00	89.80	1.90	10,375.96	7,848.05	7,848.16	10.73	7,848.17	0.08	417,441.31	731,239.91
18,572.00	88.30	1.40	10,377.51	7,941.99	7,942.11	13.44	7,942.12	0.10	417,535.26	731,242.62
18,666.00	88.00	1.10	10,380.55	8,035.91	8,036.03	15.49	8,036.05	0.11	417,629.18	731,244.67
18,760.00	87.50	1.00	10,384.24	8,129.81	8,129.95	17.21	8,129.96	0.12	417,723.10	731,246.39
18,854.00	87.50	0.50	10,388.34	8,223.71	8,223.85	18.44	8,223.87	0.13	417,817.00	731,247.62
18,948.00	88.10	0.20	10,391.95	8,317.63	8,317.78	19.01	8,317.80	0.13	417,910.93	731,248.19
19,042.00	88.30	0.00	10,394.90	8,411.59	8,411.73	19.17	8,411.75	0.13	418,004.88	731,248.35
19,136.00	89.70	359.40	10,396.54	8,505.57	8,505.71	18.68	8,505.73	0.13	418,098.86	731,247.86
19,230.00	90.70	358.30	10,396.21	8,599.55	8,599.69	16.80	8,599.71	0.11	418,192.84	731,245.98
19,324.00	90.40	358.80	10,395.31	8,693.53	8,693.65	14.42	8,693.67	0.10	418,286.80	731,243.60
19,418.00	88.60	358.10	10,396.13	8,787.49	8,787.61	11.88	8,787.62	0.08	418,380.76	731,241.06
19,512.00	88.90	358.00	10,398.18	8,881.43	8,881.54	8.68	8,881.54	0.06	418,474.69	731,237.86
19,606.00	89.60	357.90	10,399.41	8,975.37	8,975.47	5.32	8,975.47	0.03	418,568.62	731,234.50
19,700.00	89.00	356.50	10,400.56	9,069.27	9,069.34	0.72	9,069.34	0.00	418,662.49	731,229.90
19,794.00	89.40	356.60	10,401.87	9,163.11	9,163.16	-4.93	9,163.17	359.97	418,756.31	731,224.25
19,889.00	90.10	358.40	10,402.29	9,258.03	9,258.07	-9.08	9,258.07	359.94	418,851.22	731,220.10
19,983.00	89.70	358.70	10,402.45	9,352.01	9,352.04	-11.45	9,352.05	359.93	418,945.19	731,217.73
20,077.00	90.20	359.20	10,402.53	9,446.00	9,446.02	-13.18	9,446.03	359.92	419,039.17	731,216.00
20,171.00	89.70	359.50	10,402.62	9,540.00	9,540.02	-14.24	9,540.03	359.91	419,133.17	731,214.94



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Lea County, NM (NAD83)
Site: Cotton Draw Unit
Well: 506H
Wellbore: OH
Design: Surveys

Local Co-ordinate Reference: Well 506H
TVD Reference: GL 3404'+KB 25' @ 3429.00usft (Cactus 126)
MD Reference: GL 3404'+KB 25' @ 3429.00usft (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)
20,265.00	90.10	0.10	10,402.78	9,634.00	9,634.01	-14.57	9,634.03	359.91	419,227.16	731,214.61
20,390.00	91.10	0.80	10,401.47	9,758.98	9,759.00	-13.59	9,759.01	359.92	419,352.15	731,215.59
Last Survey: 20390' MD										
20,452.00	91.10	0.80	10,400.28	9,820.96	9,820.98	-12.72	9,820.99	359.93	419,414.13	731,216.46
Final PTB										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
185.00	185.00	0.56	0.58	Pro MWD First Survey: 185' MD
20,390.00	10,401.47	9,759.00	-13.59	Last Survey: 20390' MD
20,452.00	10,400.28	9,820.98	-12.72	Final PTB