

Devon US

Delaware Basin

Sec 18-25S-32E_Non TRAC

Cotton Draw Unit 448H

Original Hole

Plan: Plan_1

Standard Planning Report

23 June, 2016

HOBBS OCD
MAR 21 2017
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Devon Energy

Planning Report

Database: EDM r5000 US Production
Company: Devon US
Project: Delaware Basin
Site: Sec 18-25S-32E_Non TRAC
Well: Cotton Draw Unit 448H
Wellbore: Original Hole
Design: Plan_1

Local Co-ordinate Reference: Well Cotton Draw Unit 448H
TVD Reference: KB @ 3435.50ft
MD Reference: KB @ 3435.50ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Delaware Basin		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 18-25S-32E_Non TRAC			
Site Position:		Northing:	414,320.16 usft	Latitude: 32.137574
From:	Map	Easting:	730,250.42 usft	Longitude: -103.723006
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence: 0.32 °

Well	Cotton Draw Unit 448H			
Well Position	+N/-S	-519.59 ft	Northing:	413,800.57 usft
	+E/-W	1,751.84 ft	Easting:	732,002.26 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	3,410.50 ft

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,773.60	7.74	90.00	5,771.25	0.00	52.15	1.00	1.00	0.00	90.00	
9,067.07	7.74	90.00	9,034.75	0.00	495.47	0.00	0.00	0.00	0.00	
9,840.67	0.00	0.00	9,806.00	0.00	547.62	1.00	-1.00	0.00	180.00	
9,841.67	0.10	180.00	9,807.00	0.00	547.62	10.00	10.00	0.00	180.00	
10,740.81	90.01	180.00	10,378.96	-573.10	547.62	10.00	10.00	0.00	0.00	
14,619.44	90.01	180.00	10,378.00	-4,451.73	547.62	0.00	0.00	0.00	0.00	BHL_CDU448H

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Local Co-ordinate Reference: Well Cotton Draw Unit 448H
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 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	1.00	90.00	5,100.00	0.00	0.87	0.00	1.00	1.00	0.00
5,200.00	2.00	90.00	5,199.96	0.00	3.49	0.00	1.00	1.00	0.00
5,300.00	3.00	90.00	5,299.86	0.00	7.85	0.00	1.00	1.00	0.00

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Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	4.00	90.00	5,399.68	0.00	13.96	0.00	1.00	1.00	0.00
5,500.00	5.00	90.00	5,499.37	0.00	21.80	0.00	1.00	1.00	0.00
5,600.00	6.00	90.00	5,598.90	0.00	31.39	0.00	1.00	1.00	0.00
5,700.00	7.00	90.00	5,698.26	0.00	42.71	0.00	1.00	1.00	0.00
5,773.60	7.74	90.00	5,771.25	0.00	52.15	0.00	1.00	1.00	0.00
5,800.00	7.74	90.00	5,797.41	0.00	55.70	0.00	0.00	0.00	0.00
5,900.00	7.74	90.00	5,896.50	0.00	69.16	0.00	0.00	0.00	0.00
6,000.00	7.74	90.00	5,995.59	0.00	82.62	0.00	0.00	0.00	0.00
6,100.00	7.74	90.00	6,094.68	0.00	96.08	0.00	0.00	0.00	0.00
6,200.00	7.74	90.00	6,193.77	0.00	109.54	0.00	0.00	0.00	0.00
6,300.00	7.74	90.00	6,292.86	0.00	123.00	0.00	0.00	0.00	0.00
6,400.00	7.74	90.00	6,391.95	0.00	136.46	0.00	0.00	0.00	0.00
6,500.00	7.74	90.00	6,491.04	0.00	149.93	0.00	0.00	0.00	0.00
6,600.00	7.74	90.00	6,590.13	0.00	163.39	0.00	0.00	0.00	0.00
6,700.00	7.74	90.00	6,689.22	0.00	176.85	0.00	0.00	0.00	0.00
6,800.00	7.74	90.00	6,788.31	0.00	190.31	0.00	0.00	0.00	0.00
6,900.00	7.74	90.00	6,887.40	0.00	203.77	0.00	0.00	0.00	0.00
7,000.00	7.74	90.00	6,986.49	0.00	217.23	0.00	0.00	0.00	0.00
7,100.00	7.74	90.00	7,085.58	0.00	230.69	0.00	0.00	0.00	0.00
7,200.00	7.74	90.00	7,184.67	0.00	244.15	0.00	0.00	0.00	0.00
7,300.00	7.74	90.00	7,283.76	0.00	257.61	0.00	0.00	0.00	0.00
7,400.00	7.74	90.00	7,382.85	0.00	271.07	0.00	0.00	0.00	0.00
7,500.00	7.74	90.00	7,481.94	0.00	284.53	0.00	0.00	0.00	0.00
7,600.00	7.74	90.00	7,581.03	0.00	297.99	0.00	0.00	0.00	0.00
7,700.00	7.74	90.00	7,680.12	0.00	311.46	0.00	0.00	0.00	0.00
7,800.00	7.74	90.00	7,779.21	0.00	324.92	0.00	0.00	0.00	0.00
7,900.00	7.74	90.00	7,878.30	0.00	338.38	0.00	0.00	0.00	0.00
8,000.00	7.74	90.00	7,977.39	0.00	351.84	0.00	0.00	0.00	0.00
8,100.00	7.74	90.00	8,076.48	0.00	365.30	0.00	0.00	0.00	0.00
8,200.00	7.74	90.00	8,175.57	0.00	378.76	0.00	0.00	0.00	0.00
8,300.00	7.74	90.00	8,274.66	0.00	392.22	0.00	0.00	0.00	0.00
8,400.00	7.74	90.00	8,373.75	0.00	405.68	0.00	0.00	0.00	0.00
8,500.00	7.74	90.00	8,472.84	0.00	419.14	0.00	0.00	0.00	0.00
8,600.00	7.74	90.00	8,571.93	0.00	432.60	0.00	0.00	0.00	0.00
8,700.00	7.74	90.00	8,671.02	0.00	446.06	0.00	0.00	0.00	0.00
8,800.00	7.74	90.00	8,770.11	0.00	459.52	0.00	0.00	0.00	0.00
8,900.00	7.74	90.00	8,869.20	0.00	472.99	0.00	0.00	0.00	0.00
9,000.00	7.74	90.00	8,968.29	0.00	486.45	0.00	0.00	0.00	0.00
9,067.07	7.74	90.00	9,034.75	0.00	495.47	0.00	0.00	0.00	0.00
9,100.00	7.41	90.00	9,067.39	0.00	499.81	0.00	1.00	-1.00	0.00
9,200.00	6.41	90.00	9,166.66	0.00	511.84	0.00	1.00	-1.00	0.00
9,300.00	5.41	90.00	9,266.13	0.00	522.13	0.00	1.00	-1.00	0.00
9,400.00	4.41	90.00	9,365.76	0.00	530.68	0.00	1.00	-1.00	0.00
9,500.00	3.41	90.00	9,465.53	0.00	537.50	0.00	1.00	-1.00	0.00
9,600.00	2.41	90.00	9,565.40	0.00	542.57	0.00	1.00	-1.00	0.00
9,700.00	1.41	90.00	9,665.34	0.00	545.89	0.00	1.00	-1.00	0.00
9,800.00	0.41	90.00	9,765.33	0.00	547.48	0.00	1.00	-1.00	0.00
9,840.67	0.00	0.00	9,806.00	0.00	547.62	0.00	1.00	-1.00	0.00
9,841.67	0.10	180.00	9,807.00	0.00	547.62	0.00	10.00	10.00	0.00
9,850.00	0.93	180.00	9,815.33	-0.08	547.62	-0.08	10.00	10.00	0.00
9,900.00	5.93	180.00	9,865.22	-3.07	547.62	-3.07	10.00	10.00	0.00
9,950.00	10.93	180.00	9,914.67	-10.40	547.62	-10.40	10.00	10.00	0.00
10,000.00	15.93	180.00	9,963.28	-22.01	547.62	-22.01	10.00	10.00	0.00
10,050.00	20.93	180.00	10,010.70	-37.82	547.62	-37.82	10.00	10.00	0.00

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Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,100.00	25.93	180.00	10,056.57	-57.69	547.62	-57.69	10.00	10.00	0.00
10,150.00	30.93	180.00	10,100.52	-81.49	547.62	-81.49	10.00	10.00	0.00
10,200.00	35.93	180.00	10,142.23	-109.03	547.62	-109.03	10.00	10.00	0.00
10,250.00	40.93	180.00	10,181.39	-140.10	547.62	-140.10	10.00	10.00	0.00
10,300.00	45.93	180.00	10,217.69	-174.47	547.62	-174.47	10.00	10.00	0.00
10,350.00	50.93	180.00	10,250.85	-211.86	547.62	-211.86	10.00	10.00	0.00
10,400.00	55.93	180.00	10,280.63	-252.01	547.62	-252.01	10.00	10.00	0.00
10,450.00	60.93	180.00	10,306.80	-294.60	547.62	-294.60	10.00	10.00	0.00
10,500.00	65.93	180.00	10,329.15	-339.30	547.62	-339.30	10.00	10.00	0.00
10,550.00	70.93	180.00	10,347.52	-385.79	547.62	-385.79	10.00	10.00	0.00
10,600.00	75.93	180.00	10,361.78	-433.70	547.62	-433.70	10.00	10.00	0.00
10,650.00	80.93	180.00	10,371.80	-482.66	547.62	-482.66	10.00	10.00	0.00
10,700.00	85.93	180.00	10,377.52	-532.32	547.62	-532.32	10.00	10.00	0.00
10,740.81	90.01	180.00	10,378.96	-573.10	547.62	-573.10	10.00	10.00	0.00
10,800.00	90.01	180.00	10,378.94	-632.29	547.62	-632.29	0.00	0.00	0.00
10,900.00	90.01	180.00	10,378.92	-732.29	547.62	-732.29	0.00	0.00	0.00
11,000.00	90.01	180.00	10,378.90	-832.29	547.62	-832.29	0.00	0.00	0.00
11,100.00	90.01	180.00	10,378.87	-932.29	547.62	-932.29	0.00	0.00	0.00
11,200.00	90.01	180.00	10,378.85	-1,032.29	547.62	-1,032.29	0.00	0.00	0.00
11,300.00	90.01	180.00	10,378.82	-1,132.29	547.62	-1,132.29	0.00	0.00	0.00
11,400.00	90.01	180.00	10,378.80	-1,232.29	547.62	-1,232.29	0.00	0.00	0.00
11,500.00	90.01	180.00	10,378.77	-1,332.29	547.62	-1,332.29	0.00	0.00	0.00
11,600.00	90.01	180.00	10,378.75	-1,432.29	547.62	-1,432.29	0.00	0.00	0.00
11,700.00	90.01	180.00	10,378.72	-1,532.29	547.62	-1,532.29	0.00	0.00	0.00
11,800.00	90.01	180.00	10,378.70	-1,632.29	547.62	-1,632.29	0.00	0.00	0.00
11,900.00	90.01	180.00	10,378.67	-1,732.29	547.62	-1,732.29	0.00	0.00	0.00
12,000.00	90.01	180.00	10,378.65	-1,832.29	547.62	-1,832.29	0.00	0.00	0.00
12,100.00	90.01	180.00	10,378.62	-1,932.29	547.62	-1,932.29	0.00	0.00	0.00
12,200.00	90.01	180.00	10,378.60	-2,032.29	547.62	-2,032.29	0.00	0.00	0.00
12,300.00	90.01	180.00	10,378.57	-2,132.29	547.62	-2,132.29	0.00	0.00	0.00
12,400.00	90.01	180.00	10,378.55	-2,232.29	547.62	-2,232.29	0.00	0.00	0.00
12,500.00	90.01	180.00	10,378.52	-2,332.29	547.62	-2,332.29	0.00	0.00	0.00
12,600.00	90.01	180.00	10,378.50	-2,432.29	547.62	-2,432.29	0.00	0.00	0.00
12,700.00	90.01	180.00	10,378.47	-2,532.29	547.62	-2,532.29	0.00	0.00	0.00
12,800.00	90.01	180.00	10,378.45	-2,632.29	547.62	-2,632.29	0.00	0.00	0.00
12,900.00	90.01	180.00	10,378.43	-2,732.29	547.62	-2,732.29	0.00	0.00	0.00
13,000.00	90.01	180.00	10,378.40	-2,832.29	547.62	-2,832.29	0.00	0.00	0.00
13,100.00	90.01	180.00	10,378.38	-2,932.29	547.62	-2,932.29	0.00	0.00	0.00
13,200.00	90.01	180.00	10,378.35	-3,032.29	547.62	-3,032.29	0.00	0.00	0.00
13,300.00	90.01	180.00	10,378.33	-3,132.29	547.62	-3,132.29	0.00	0.00	0.00
13,400.00	90.01	180.00	10,378.30	-3,232.29	547.62	-3,232.29	0.00	0.00	0.00
13,500.00	90.01	180.00	10,378.28	-3,332.29	547.62	-3,332.29	0.00	0.00	0.00
13,600.00	90.01	180.00	10,378.25	-3,432.29	547.62	-3,432.29	0.00	0.00	0.00
13,700.00	90.01	180.00	10,378.23	-3,532.29	547.62	-3,532.29	0.00	0.00	0.00
13,800.00	90.01	180.00	10,378.20	-3,632.29	547.62	-3,632.29	0.00	0.00	0.00
13,900.00	90.01	180.00	10,378.18	-3,732.29	547.62	-3,732.29	0.00	0.00	0.00
14,000.00	90.01	180.00	10,378.15	-3,832.29	547.62	-3,832.29	0.00	0.00	0.00
14,100.00	90.01	180.00	10,378.13	-3,932.29	547.62	-3,932.29	0.00	0.00	0.00
14,200.00	90.01	180.00	10,378.10	-4,032.29	547.62	-4,032.29	0.00	0.00	0.00
14,300.00	90.01	180.00	10,378.08	-4,132.29	547.62	-4,132.29	0.00	0.00	0.00
14,400.00	90.01	180.00	10,378.05	-4,232.29	547.62	-4,232.29	0.00	0.00	0.00
14,500.00	90.01	180.00	10,378.03	-4,332.29	547.62	-4,332.29	0.00	0.00	0.00
14,600.00	90.01	180.00	10,378.01	-4,432.29	547.62	-4,432.29	0.00	0.00	0.00
14,619.44	90.01	180.00	10,378.00	-4,451.73	547.62	-4,451.73	0.00	0.00	0.00

Devon Energy

Planning Report

Database: EDM r5000 US Production
Company: Devon US
Project: Delaware Basin
Site: Sec 18-25S-32E_Non TRAC
Well: Cotton Draw Unit 448H
Wellbore: Original Hole
Design: Plan_1

Local Co-ordinate Reference: Well Cotton Draw Unit 448H
TVD Reference: KB @ 3435.50ft
MD Reference: KB @ 3435.50ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
9,841.67	9,807.00	0.00	0.00	KOP
14,619.44	10,378.00	0.00	52.15	TD