

DEVON ENERGY

Lea County, NM (NAD-83)

Cotton Draw Unit

452H

OH

Plan: Plan #1

Standard Planning Report

15 August, 2016

HOBBS OCD

MAR 13 2017

RECEIVED

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 452H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 452H
TVD Reference: 3423.9' GE + 25' KB @ 3448.90usft
MD Reference: 3423.9' GE + 25' KB @ 3448.90usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD-83)		
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:	414,142.25 usft
From:	Map	Easting:	733,967.43 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 8' 13.293 N
		Longitude:	103° 42' 39.602 W
		Grid Convergence:	0.33 °

Well	452H		
Well Position	+N/-S	160.84 usft	Northing:
	+E/-W	989.43 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,448.90 usft
		Latitude:	32° 8' 14.828 N
		Longitude:	103° 42' 28.084 W
		Ground Level:	3,423.90 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	8/15/2016	6.95
			Dip Angle
			(°)
			59.88
			Field Strength
			(nT)
			48,132

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			0.30

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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	
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,000.00	6.00	90.00	4,998.90	0.00	31.39	1.00	1.00	0.00	90.00	
6,100.00	6.00	90.00	6,092.88	0.00	146.37	0.00	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,290.69	0.00	209.14	0.50	-0.50	0.00	180.00	
9,910.00	0.00	0.00	9,900.69	0.00	209.14	0.00	0.00	0.00	0.00	
10,806.63	89.66	0.30	10,473.63	569.58	212.12	10.00	10.00	0.03	0.30	
15,272.12	89.66	0.30	10,499.90	5,034.93	235.46	0.00	0.00	0.00	0.00	PBHL (CDU 452H)

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 TVD Reference: 3423.9' GE + 25' KB @ 3448.90usft
 MD Reference: 3423.9' GE + 25' KB @ 3448.90usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned 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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (CDU 452H)									
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
Rustler									
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
1,001.00	0.00	0.00	1,001.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
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
4,230.00	0.00	0.00	4,230.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
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
Nudge									
4,458.00	0.58	90.00	4,458.00	0.00	0.29	0.00	1.00	1.00	0.00

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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)
Delaware									
4,493.00	0.93	90.00	4,493.00	0.00	0.75	0.00	1.00	1.00	0.00
Bell Canyon									
4,500.00	1.00	90.00	4,500.00	0.00	0.87	0.00	1.00	1.00	0.00
4,600.00	2.00	90.00	4,599.96	0.00	3.49	0.02	1.00	1.00	0.00
4,700.00	3.00	90.00	4,699.86	0.00	7.85	0.04	1.00	1.00	0.00
4,800.00	4.00	90.00	4,799.68	0.00	13.96	0.07	1.00	1.00	0.00
4,900.00	5.00	90.00	4,899.37	0.00	21.80	0.11	1.00	1.00	0.00
5,000.00	6.00	90.00	4,998.90	0.00	31.39	0.16	1.00	1.00	0.00
Hold									
5,100.00	6.00	90.00	5,098.36	0.00	41.84	0.22	0.00	0.00	0.00
5,200.00	6.00	90.00	5,197.81	0.00	52.29	0.27	0.00	0.00	0.00
5,300.00	6.00	90.00	5,297.26	0.00	62.75	0.33	0.00	0.00	0.00
5,400.00	6.00	90.00	5,396.71	0.00	73.20	0.38	0.00	0.00	0.00
5,423.42	6.00	90.00	5,420.00	0.00	75.65	0.40	0.00	0.00	0.00
Cherry Canyon									
5,500.00	6.00	90.00	5,496.17	0.00	83.65	0.44	0.00	0.00	0.00
5,600.00	6.00	90.00	5,595.62	0.00	94.10	0.49	0.00	0.00	0.00
5,700.00	6.00	90.00	5,695.07	0.00	104.56	0.55	0.00	0.00	0.00
5,800.00	6.00	90.00	5,794.52	0.00	115.01	0.60	0.00	0.00	0.00
5,900.00	6.00	90.00	5,893.97	0.00	125.46	0.66	0.00	0.00	0.00
6,000.00	6.00	90.00	5,993.43	0.00	135.92	0.71	0.00	0.00	0.00
6,100.00	6.00	90.00	6,092.88	0.00	146.37	0.77	0.00	0.00	0.00
Drop									
6,200.00	5.50	90.00	6,192.37	0.00	156.39	0.82	0.50	-0.50	0.00
6,300.00	5.00	90.00	6,291.95	0.00	165.54	0.87	0.50	-0.50	0.00
6,400.00	4.50	90.00	6,391.61	0.00	173.82	0.91	0.50	-0.50	0.00
6,500.00	4.00	90.00	6,491.34	0.00	181.23	0.95	0.50	-0.50	0.00
6,600.00	3.50	90.00	6,591.12	0.00	187.77	0.98	0.50	-0.50	0.00
6,700.00	3.00	90.00	6,690.96	0.00	193.44	1.01	0.50	-0.50	0.00
6,778.14	2.61	90.00	6,769.01	0.00	197.26	1.03	0.50	-0.50	0.00
Brushy Canyon									
6,800.00	2.50	90.00	6,790.84	0.00	198.24	1.04	0.50	-0.50	0.00
6,900.00	2.00	90.00	6,890.77	0.00	202.16	1.06	0.50	-0.50	0.00
7,000.00	1.50	90.00	6,990.72	0.00	205.22	1.07	0.50	-0.50	0.00
7,100.00	1.00	90.00	7,090.70	0.00	207.40	1.09	0.50	-0.50	0.00
7,200.00	0.50	90.00	7,190.69	0.00	208.71	1.09	0.50	-0.50	0.00
7,300.00	0.00	0.00	7,290.69	0.00	209.14	1.10	0.50	-0.50	0.00
Hold									
7,400.00	0.00	0.00	7,390.69	0.00	209.14	1.10	0.00	0.00	0.00
7,500.00	0.00	0.00	7,490.69	0.00	209.14	1.10	0.00	0.00	0.00
7,600.00	0.00	0.00	7,590.69	0.00	209.14	1.10	0.00	0.00	0.00
7,700.00	0.00	0.00	7,690.69	0.00	209.14	1.10	0.00	0.00	0.00
7,800.00	0.00	0.00	7,790.69	0.00	209.14	1.10	0.00	0.00	0.00
7,900.00	0.00	0.00	7,890.69	0.00	209.14	1.10	0.00	0.00	0.00
8,000.00	0.00	0.00	7,990.69	0.00	209.14	1.10	0.00	0.00	0.00
8,100.00	0.00	0.00	8,090.69	0.00	209.14	1.10	0.00	0.00	0.00
8,200.00	0.00	0.00	8,190.69	0.00	209.14	1.10	0.00	0.00	0.00
8,300.00	0.00	0.00	8,290.69	0.00	209.14	1.10	0.00	0.00	0.00
8,369.32	0.00	0.00	8,360.01	0.00	209.14	1.10	0.00	0.00	0.00
1st BS LM									
8,400.00	0.00	0.00	8,390.69	0.00	209.14	1.10	0.00	0.00	0.00
8,500.00	0.00	0.00	8,490.69	0.00	209.14	1.10	0.00	0.00	0.00

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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)
8,600.00	0.00	0.00	8,590.69	0.00	209.14	1.10	0.00	0.00	0.00
8,700.00	0.00	0.00	8,690.69	0.00	209.14	1.10	0.00	0.00	0.00
8,800.00	0.00	0.00	8,790.69	0.00	209.14	1.10	0.00	0.00	0.00
8,900.00	0.00	0.00	8,890.69	0.00	209.14	1.10	0.00	0.00	0.00
9,000.00	0.00	0.00	8,990.69	0.00	209.14	1.10	0.00	0.00	0.00
9,100.00	0.00	0.00	9,090.69	0.00	209.14	1.10	0.00	0.00	0.00
9,200.00	0.00	0.00	9,190.69	0.00	209.14	1.10	0.00	0.00	0.00
9,300.00	0.00	0.00	9,290.69	0.00	209.14	1.10	0.00	0.00	0.00
9,400.00	0.00	0.00	9,390.69	0.00	209.14	1.10	0.00	0.00	0.00
9,441.32	0.00	0.00	9,432.01	0.00	209.14	1.10	0.00	0.00	0.00
1st BS SS									
9,500.00	0.00	0.00	9,490.69	0.00	209.14	1.10	0.00	0.00	0.00
9,600.00	0.00	0.00	9,590.69	0.00	209.14	1.10	0.00	0.00	0.00
9,660.32	0.00	0.00	9,651.01	0.00	209.14	1.10	0.00	0.00	0.00
2nd BS LM									
9,700.00	0.00	0.00	9,690.69	0.00	209.14	1.10	0.00	0.00	0.00
9,800.00	0.00	0.00	9,790.69	0.00	209.14	1.10	0.00	0.00	0.00
9,910.00	0.00	0.00	9,900.69	0.00	209.14	1.10	0.00	0.00	0.00
KOP 10° DLS - KOP (CDU 452H)									
9,950.00	4.00	0.30	9,940.65	1.40	209.15	2.49	10.00	10.00	0.00
10,000.00	9.00	0.30	9,990.32	7.05	209.18	8.15	10.00	10.00	0.00
10,014.96	10.50	0.30	10,005.06	9.59	209.19	10.68	10.00	10.00	0.00
2nd BS SS									
10,050.00	14.00	0.30	10,039.30	17.02	209.23	18.11	10.00	10.00	0.00
10,100.00	19.00	0.30	10,087.22	31.22	209.31	32.31	10.00	10.00	0.00
10,150.00	24.00	0.30	10,133.73	49.53	209.40	50.63	10.00	10.00	0.00
10,200.00	29.00	0.30	10,178.46	71.84	209.52	72.93	10.00	10.00	0.00
10,250.00	34.00	0.30	10,221.08	97.95	209.65	99.05	10.00	10.00	0.00
10,300.00	39.00	0.30	10,261.26	127.68	209.81	128.78	10.00	10.00	0.00
10,350.00	44.00	0.30	10,298.70	160.80	209.98	161.90	10.00	10.00	0.00
10,400.00	49.00	0.30	10,333.10	197.06	210.17	198.16	10.00	10.00	0.00
10,445.21	53.52	0.30	10,361.39	232.31	210.36	233.41	10.00	10.00	0.00
POE - 2nd BS SS LWR - POE (CDU 452H)									
10,450.00	54.00	0.30	10,364.22	236.18	210.38	237.28	10.00	10.00	0.00
10,500.00	59.00	0.30	10,391.81	277.86	210.60	278.96	10.00	10.00	0.00
10,550.00	64.00	0.30	10,415.66	321.79	210.82	322.88	10.00	10.00	0.00
10,600.00	69.00	0.30	10,435.59	367.62	211.06	368.72	10.00	10.00	0.00
10,650.00	74.00	0.30	10,451.45	415.02	211.31	416.12	10.00	10.00	0.00
10,700.00	79.00	0.30	10,463.12	463.63	211.57	464.73	10.00	10.00	0.00
10,750.00	84.00	0.30	10,470.51	513.06	211.82	514.16	10.00	10.00	0.00
10,800.00	89.00	0.30	10,473.56	562.95	212.09	564.05	10.00	10.00	0.00
10,806.63	89.66	0.30	10,473.63	569.58	212.12	570.68	10.00	10.00	0.00
LP									
10,900.00	89.66	0.30	10,474.18	662.95	212.61	664.05	0.00	0.00	0.00
11,000.00	89.66	0.30	10,474.77	762.94	213.13	764.05	0.00	0.00	0.00
11,100.00	89.66	0.30	10,475.36	862.94	213.65	864.05	0.00	0.00	0.00
11,200.00	89.66	0.30	10,475.95	962.94	214.18	964.05	0.00	0.00	0.00
11,300.00	89.66	0.30	10,476.54	1,062.93	214.70	1,064.04	0.00	0.00	0.00
11,400.00	89.66	0.30	10,477.12	1,162.93	215.22	1,164.04	0.00	0.00	0.00
11,500.00	89.66	0.30	10,477.71	1,262.93	215.74	1,264.04	0.00	0.00	0.00
11,600.00	89.66	0.30	10,478.30	1,362.93	216.27	1,364.04	0.00	0.00	0.00
11,700.00	89.66	0.30	10,478.89	1,462.92	216.79	1,464.04	0.00	0.00	0.00
11,800.00	89.66	0.30	10,479.48	1,562.92	217.31	1,564.04	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
 Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Site: Cotton Draw Unit
 Well: 452H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 452H
 TVD Reference: 3423.9' GE + 25' KB @ 3448.90usft
 MD Reference: 3423.9' GE + 25' KB @ 3448.90usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned 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)
11,900.00	89.66	0.30	10,480.07	1,662.92	217.83	1,664.03	0.00	0.00	0.00
12,000.00	89.66	0.30	10,480.65	1,762.91	218.36	1,764.03	0.00	0.00	0.00
12,100.00	89.66	0.30	10,481.24	1,862.91	218.88	1,864.03	0.00	0.00	0.00
12,200.00	89.66	0.30	10,481.83	1,962.91	219.40	1,964.03	0.00	0.00	0.00
12,300.00	89.66	0.30	10,482.42	2,062.90	219.93	2,064.03	0.00	0.00	0.00
12,400.00	89.66	0.30	10,483.01	2,162.90	220.45	2,164.03	0.00	0.00	0.00
12,500.00	89.66	0.30	10,483.59	2,262.90	220.97	2,264.02	0.00	0.00	0.00
12,600.00	89.66	0.30	10,484.18	2,362.89	221.49	2,364.02	0.00	0.00	0.00
12,700.00	89.66	0.30	10,484.77	2,462.89	222.02	2,464.02	0.00	0.00	0.00
12,800.00	89.66	0.30	10,485.36	2,562.89	222.54	2,564.02	0.00	0.00	0.00
12,900.00	89.66	0.30	10,485.95	2,662.89	223.06	2,664.02	0.00	0.00	0.00
13,000.00	89.66	0.30	10,486.54	2,762.88	223.58	2,764.01	0.00	0.00	0.00
13,100.00	89.66	0.30	10,487.12	2,862.88	224.11	2,864.01	0.00	0.00	0.00
13,200.00	89.66	0.30	10,487.71	2,962.88	224.63	2,964.01	0.00	0.00	0.00
13,300.00	89.66	0.30	10,488.30	3,062.87	225.15	3,064.01	0.00	0.00	0.00
13,400.00	89.66	0.30	10,488.89	3,162.87	225.67	3,164.01	0.00	0.00	0.00
13,500.00	89.66	0.30	10,489.48	3,262.87	226.20	3,264.01	0.00	0.00	0.00
13,600.00	89.66	0.30	10,490.06	3,362.86	226.72	3,364.00	0.00	0.00	0.00
13,700.00	89.66	0.30	10,490.65	3,462.86	227.24	3,464.00	0.00	0.00	0.00
13,800.00	89.66	0.30	10,491.24	3,562.86	227.77	3,564.00	0.00	0.00	0.00
13,900.00	89.66	0.30	10,491.83	3,662.85	228.29	3,664.00	0.00	0.00	0.00
14,000.00	89.66	0.30	10,492.42	3,762.85	228.81	3,764.00	0.00	0.00	0.00
14,100.00	89.66	0.30	10,493.01	3,862.85	229.33	3,864.00	0.00	0.00	0.00
14,200.00	89.66	0.30	10,493.59	3,962.85	229.86	3,963.99	0.00	0.00	0.00
14,300.00	89.66	0.30	10,494.18	4,062.84	230.38	4,063.99	0.00	0.00	0.00
14,400.00	89.66	0.30	10,494.77	4,162.84	230.90	4,163.99	0.00	0.00	0.00
14,500.00	89.66	0.30	10,495.36	4,262.84	231.42	4,263.99	0.00	0.00	0.00
14,600.00	89.66	0.30	10,495.95	4,362.83	231.95	4,363.99	0.00	0.00	0.00
14,700.00	89.66	0.30	10,496.54	4,462.83	232.47	4,463.99	0.00	0.00	0.00
14,800.00	89.66	0.30	10,497.12	4,562.83	232.99	4,563.98	0.00	0.00	0.00
14,900.00	89.66	0.30	10,497.71	4,662.82	233.52	4,663.98	0.00	0.00	0.00
15,000.00	89.66	0.30	10,498.30	4,762.82	234.04	4,763.98	0.00	0.00	0.00
15,100.00	89.66	0.30	10,498.89	4,862.82	234.56	4,863.98	0.00	0.00	0.00
15,200.00	89.66	0.30	10,499.48	4,962.81	235.08	4,963.98	0.00	0.00	0.00
15,272.12	89.66	0.30	10,499.90	5,034.93	235.46	5,036.09	0.00	0.00	0.00

TD - PBHL (CDU 452H)

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
 Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Site: Cotton Draw Unit
 Well: 452H
 Wellbore: OH
 Design: Plan #1

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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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
SHL (CDU 452H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	414,303.09	734,956.86	32° 8' 14.828 N	103° 42' 28.084 W
KOP (CDU 452H) - plan hits target center - Point	0.00	0.00	9,900.69	0.00	209.14	414,303.09	735,166.00	32° 8' 14.816 N	103° 42' 25.652 W
POE (CDU 452H) - plan hits target center - Point	0.00	0.00	10,361.39	232.31	210.36	414,535.40	735,167.21	32° 8' 17.115 N	103° 42' 25.622 W
PBHL (CDU 452H) - plan hits target center - Point	0.00	0.00	10,499.90	5,034.93	235.46	419,338.02	735,192.32	32° 9' 4.638 N	103° 42' 25.005 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
700.00	700.00	Rustler		0.34	0.30
1,001.00	1,001.00	Salado		0.34	0.30
4,230.00	4,230.00	Base Salt		0.34	0.30
4,458.00	4,458.00	Delaware		0.34	0.30
4,493.00	4,493.00	Bell Canyon		0.34	0.30
5,423.42	5,420.00	Cherry Canyon		0.34	0.30
6,778.14	6,769.01	Brushy Canyon		0.34	0.30
8,369.32	8,360.01	1st BS LM		0.34	0.30
9,441.32	9,432.01	1st BS SS		0.34	0.30
9,660.32	9,651.01	2nd BS LM		0.34	0.30
10,014.96	10,005.06	2nd BS SS		0.34	0.30
10,445.21	10,361.39	2nd BS SS LWR		0.34	0.30

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,400.00	4,400.00	0.00	0.00	Nudge
5,000.00	4,998.90	0.00	31.39	Hold
6,100.00	6,092.88	0.00	146.37	Drop
7,300.00	7,290.69	0.00	209.14	Hold
9,910.00	9,900.69	0.00	209.14	KOP 10° DLS
10,445.21	10,361.39	232.32	210.36	POE
10,806.63	10,473.63	569.58	212.12	LP
15,272.12	10,499.90	5,034.93	235.46	TD