

LEAM
Drilling Systems, Inc.

HOBBSOCD

JAN 07 2015

RECEIVED

DEVON ENERGY

Lea County, NM (NAD-83)
Butter Cup 36 State Com
3H

OH

Plan: Plan #1

Standard Planning Report

15 December, 2014


devon

JAN 21 2015

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 3H
Company:	DEVON ENERGY	TVD Reference:	3972' GL + 25' RKB @ 3997.00usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3972' GL + 25' RKB @ 3997.00usft
Site:	Butter Cup 36 State Com	North Reference:	Grid
Well:	3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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	Butter Cup 36 State Com		
Site Position:		Northing:	621,668.30 usft
From:	Map	Easting:	790,570.53 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 42' 23.004 N
		Longitude:	103° 31' 23.025 W
		Grid Convergence:	0.44 °

Well	3H, 3rd BS SS					
Well Position	+N/-S	0.00 usft	Northing:	621,668.30 usft	Latitude:	32° 42' 23.004 N
	+E/-W	0.00 usft	Easting:	790,570.53 usft	Longitude:	103° 31' 23.025 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	3,997.00 usft	Ground Level:	3,972.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	12/15/2014	7.34	60.55	48,513

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	89.37

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	
10,082.06	0.00	0.00	10,082.06	0.00	0.00	0.00	0.00	0.00	0.00	
10,977.06	89.50	89.37	10,655.00	6.20	567.92	10.00	10.00	9.99	89.37	
15,560.75	89.50	89.37	10,695.00	56.20	5,151.17	0.00	0.00	0.00	0.00	PBHL (BC36SC 3H)

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Site:	Butter Cup 36 State Com	North Reference:	Grid
Well:	3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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 (BC36SC 3H)									
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
1,889.00	0.00	0.00	1,889.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
2,170.00	0.00	0.00	2,170.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
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
3,340.00	0.00	0.00	3,340.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salado									
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,415.00	0.00	0.00	3,415.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
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

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Well:	3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
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
4,670.00	0.00	0.00	4,670.00	0.00	0.00	0.00	0.00	0.00	0.00
Queen									
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	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,250.00	0.00	0.00	5,250.00	0.00	0.00	0.00	0.00	0.00	0.00
Grayburg									
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,925.00	0.00	0.00	7,925.00	0.00	0.00	0.00	0.00	0.00	0.00
1st BS LM									
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00

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Site:	Butter Cup 36 State Com	North Reference:	Grid
Well:	3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,270.00	0.00	0.00	9,270.00	0.00	0.00	0.00	0.00	0.00	0.00
1st BS SS									
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,470.00	0.00	0.00	9,470.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd BS LM									
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00
9,810.00	0.00	0.00	9,810.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd BS SS									
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,950.00	0.00	0.00	9,950.00	0.00	0.00	0.00	0.00	0.00	0.00
3rd BS LM									
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
10,082.06	0.00	0.00	10,082.06	0.00	0.00	0.00	0.00	0.00	0.00
KOP 10° DLS									
10,100.00	1.79	89.37	10,100.00	0.00	0.28	0.28	10.00	10.00	0.00
10,150.00	6.79	89.37	10,149.84	0.04	4.02	4.02	10.00	10.00	0.00
10,200.00	11.79	89.37	10,199.17	0.13	12.10	12.10	10.00	10.00	0.00
10,250.00	16.79	89.37	10,247.61	0.27	24.44	24.44	10.00	10.00	0.00
10,300.00	21.79	89.37	10,294.78	0.45	40.95	40.95	10.00	10.00	0.00
10,350.00	26.79	89.37	10,340.34	0.67	61.51	61.52	10.00	10.00	0.00
10,400.00	31.79	89.37	10,383.93	0.94	85.97	85.97	10.00	10.00	0.00
10,450.00	36.79	89.37	10,425.23	1.25	114.13	114.14	10.00	10.00	0.00
10,500.00	41.79	89.37	10,463.91	1.59	145.78	145.79	10.00	10.00	0.00
10,550.00	46.79	89.37	10,499.69	1.97	180.69	180.70	10.00	10.00	0.00
10,600.00	51.79	89.37	10,532.29	2.38	218.58	218.59	10.00	10.00	0.00
10,650.00	56.79	89.37	10,561.46	2.83	259.16	259.18	10.00	10.00	0.00
10,700.00	61.79	89.37	10,586.98	3.30	302.14	302.15	10.00	10.00	0.00
10,750.00	66.79	89.37	10,608.66	3.79	347.17	347.19	10.00	10.00	0.00
10,800.00	71.79	89.37	10,626.34	4.30	393.92	393.95	10.00	10.00	0.00
10,850.00	76.79	89.37	10,639.87	4.82	442.04	442.06	10.00	10.00	0.00
10,900.00	81.79	89.37	10,649.15	5.36	491.15	491.18	10.00	10.00	0.00
10,950.00	86.79	89.37	10,654.12	5.90	540.88	540.91	10.00	10.00	0.00
10,977.06	89.50	89.37	10,655.00	6.20	567.92	567.96	10.00	10.00	0.00
LP									
11,000.00	89.50	89.37	10,655.20	6.45	590.86	590.90	0.00	0.00	0.00
11,100.00	89.50	89.37	10,656.07	7.54	690.85	690.89	0.00	0.00	0.00
11,200.00	89.50	89.37	10,656.94	8.63	790.84	790.89	0.00	0.00	0.00
11,300.00	89.50	89.37	10,657.81	9.72	890.83	890.89	0.00	0.00	0.00
11,400.00	89.50	89.37	10,658.69	10.81	990.82	990.88	0.00	0.00	0.00
11,500.00	89.50	89.37	10,659.56	11.90	1,090.81	1,090.88	0.00	0.00	0.00
11,600.00	89.50	89.37	10,660.43	12.99	1,190.80	1,190.87	0.00	0.00	0.00
11,700.00	89.50	89.37	10,661.31	14.08	1,290.79	1,290.87	0.00	0.00	0.00
11,800.00	89.50	89.37	10,662.18	15.17	1,390.78	1,390.87	0.00	0.00	0.00
11,900.00	89.50	89.37	10,663.05	16.26	1,490.77	1,490.86	0.00	0.00	0.00
12,000.00	89.50	89.37	10,663.92	17.36	1,590.76	1,590.86	0.00	0.00	0.00
12,100.00	89.50	89.37	10,664.80	18.45	1,690.75	1,690.86	0.00	0.00	0.00
12,200.00	89.50	89.37	10,665.67	19.54	1,790.74	1,790.85	0.00	0.00	0.00
12,300.00	89.50	89.37	10,666.54	20.63	1,890.73	1,890.85	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 3H
Company:	DEVON ENERGY	TVD Reference:	3972' GL + 25' RKB @ 3997.00usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3972' GL + 25' RKB @ 3997.00usft
Site:	Butter Cup 36 State Com	North Reference:	Grid
Well:	3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
12,400.00	89.50	89.37	10,667.41	21.72	1,990.73	1,990.84	0.00	0.00	0.00
12,500.00	89.50	89.37	10,668.29	22.81	2,090.72	2,090.84	0.00	0.00	0.00
12,600.00	89.50	89.37	10,669.16	23.90	2,190.71	2,190.84	0.00	0.00	0.00
12,700.00	89.50	89.37	10,670.03	24.99	2,290.70	2,290.83	0.00	0.00	0.00
12,800.00	89.50	89.37	10,670.91	26.08	2,390.69	2,390.83	0.00	0.00	0.00
12,900.00	89.50	89.37	10,671.78	27.17	2,490.68	2,490.82	0.00	0.00	0.00
13,000.00	89.50	89.37	10,672.65	28.26	2,590.67	2,590.82	0.00	0.00	0.00
13,100.00	89.50	89.37	10,673.52	29.36	2,690.66	2,690.82	0.00	0.00	0.00
13,200.00	89.50	89.37	10,674.40	30.45	2,790.65	2,790.81	0.00	0.00	0.00
13,300.00	89.50	89.37	10,675.27	31.54	2,890.64	2,890.81	0.00	0.00	0.00
13,400.00	89.50	89.37	10,676.14	32.63	2,990.63	2,990.81	0.00	0.00	0.00
13,500.00	89.50	89.37	10,677.02	33.72	3,090.62	3,090.80	0.00	0.00	0.00
13,600.00	89.50	89.37	10,677.89	34.81	3,190.61	3,190.80	0.00	0.00	0.00
13,700.00	89.50	89.37	10,678.76	35.90	3,290.60	3,290.79	0.00	0.00	0.00
13,800.00	89.50	89.37	10,679.63	36.99	3,390.59	3,390.79	0.00	0.00	0.00
13,900.00	89.50	89.37	10,680.51	38.08	3,490.58	3,490.79	0.00	0.00	0.00
14,000.00	89.50	89.37	10,681.38	39.17	3,590.57	3,590.78	0.00	0.00	0.00
14,100.00	89.50	89.37	10,682.25	40.26	3,690.56	3,690.78	0.00	0.00	0.00
14,200.00	89.50	89.37	10,683.12	41.36	3,790.55	3,790.78	0.00	0.00	0.00
14,300.00	89.50	89.37	10,684.00	42.45	3,890.54	3,890.77	0.00	0.00	0.00
14,400.00	89.50	89.37	10,684.87	43.54	3,990.53	3,990.77	0.00	0.00	0.00
14,500.00	89.50	89.37	10,685.74	44.63	4,090.52	4,090.76	0.00	0.00	0.00
14,600.00	89.50	89.37	10,686.62	45.72	4,190.51	4,190.76	0.00	0.00	0.00
14,700.00	89.50	89.37	10,687.49	46.81	4,290.50	4,290.76	0.00	0.00	0.00
14,800.00	89.50	89.37	10,688.36	47.90	4,390.49	4,390.75	0.00	0.00	0.00
14,900.00	89.50	89.37	10,689.23	48.99	4,490.48	4,490.75	0.00	0.00	0.00
15,000.00	89.50	89.37	10,690.11	50.08	4,590.47	4,590.74	0.00	0.00	0.00
15,100.00	89.50	89.37	10,690.98	51.17	4,690.46	4,690.74	0.00	0.00	0.00
15,200.00	89.50	89.37	10,691.85	52.26	4,790.45	4,790.74	0.00	0.00	0.00
15,300.00	89.50	89.37	10,692.72	53.36	4,890.44	4,890.73	0.00	0.00	0.00
15,400.00	89.50	89.37	10,693.60	54.45	4,990.43	4,990.73	0.00	0.00	0.00
15,500.00	89.50	89.37	10,694.47	55.54	5,090.42	5,090.73	0.00	0.00	0.00
15,560.75	89.50	89.37	10,695.00	56.20	5,151.17	5,151.48	0.00	0.00	0.00

TD - PBHL (BC36SC 3H)

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL (BC36SC 3H)	0.00	0.00	0.00	0.00	0.00	621,668.30	790,570.53	32° 42' 23.004 N	103° 31' 23.025 W
- plan hits target center									
- Point									
PBHL (BC36SC 3H)	0.00	0.00	10,695.00	56.20	5,151.17	621,724.50	795,721.70	32° 42' 23.166 N	103° 30' 22.737 W
- plan hits target center									
- Point									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 3H
Company:	DEVON ENERGY	TVD Reference:	3972' GL + 25' RKB @ 3997.00usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3972' GL + 25' RKB @ 3997.00usft
Site:	Butter Cup 36 State Com	North Reference:	Grid
Well:	3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,889.00	1,889.00	Rustler		0.00	
2,170.00	2,170.00	Salado		0.00	
3,340.00	3,340.00	Base Salado		0.00	
3,415.00	3,415.00	Yates		0.00	
4,670.00	4,670.00	Queen		0.00	
5,250.00	5,250.00	Grayburg		0.00	
7,925.00	7,925.00	1st BS LM		0.00	
9,270.00	9,270.00	1st BS SS		0.00	
9,470.00	9,470.00	2nd BS LM		0.00	
9,810.00	9,810.00	2nd BS SS		0.00	
9,950.00	9,950.00	3rd BS LM		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,082.06	10,082.06	0.00	0.00	KOP 10° DLS
10,977.06	10,655.00	6.20	567.92	LP
15,560.75	10,695.00	56.20	5,151.17	TD

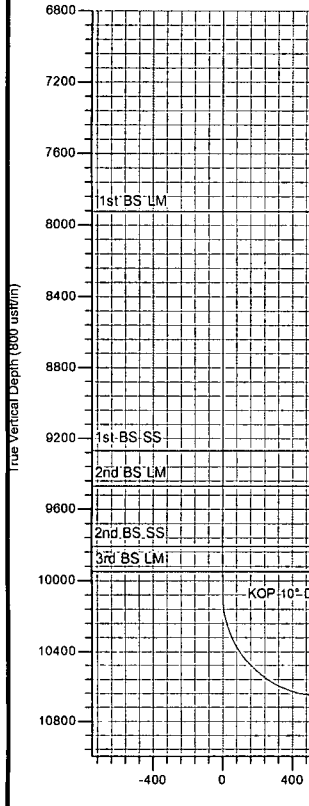
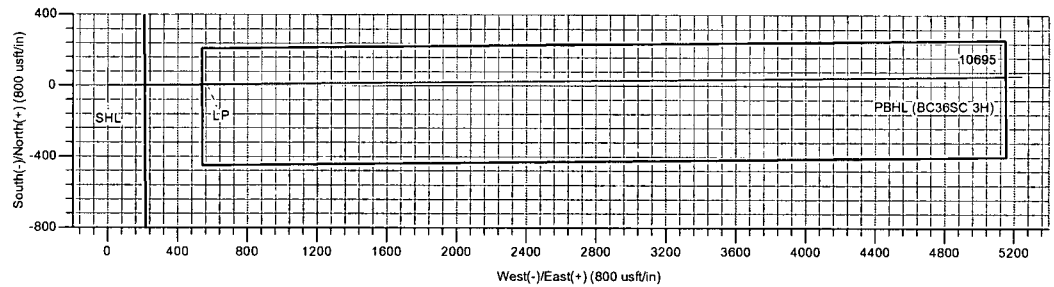
DEVON ENERGY

Project: Lea County, NM (NAD-83)
 Site: Butter Cup 36 State Com
 Well: 3H
 Wellbore: OH
 Design: Plan #1



Azimuths to Grid North
 True North: -0.44°
 Magnetic North: 6.90°
 Magnetic Field
 Strength: 48513.4nT
 Dip Angle: 60.55°
 Date: 12/15/2014
 Model: BGGM2014

devon



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL (BC36SC 3H)	0.00	0.00	0.00	621668.30	796570.53	32° 42' 23.004 N	103° 31' 23.025 W
PBHL (BC36SC 3H)	10695.00	56.20	5151.17	621724.50	795721.70	32° 42' 23.166 N	103° 30' 22.737 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	10082.06	0.00	0.00	10082.06	0.00	0.00	0.00	0.00	0.00	KOP 10° DLS
3	10977.06	89.50	89.37	10655.00	6.20	567.92	10.00	89.37	567.96	LP
4	15560.75	89.50	89.37	10695.00	56.20	5151.17	0.00	0.00	5151.48	TD

Vertical Section at 89.37° (800 usft/in)



LEAM DRILLING SYSTEMS LLC
 2010 East Davis, Conroe, Texas 77301
 Phone: 936/756-7577, Fax 936/756-7595

Plan: Plan #1 (3H/OH)
 Butter Cup 36 State Com
 Created By: Brady Deaver
 Date: 15.16, December 15 2014
 Approved: _____
 Date: _____