

Devon Energy

Project: Lea County, NM (NAD-83)
Site: Fighting Okra 18-19 Fed
Well: 84H
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.44°
Magnetic North: 6.36°

Magnetic Field
Strength: 47889.0snT
Dip Angle: 59.78°
Date: 9/13/2017
Model: HDGM

PROJECT DETAILS: Lea County, NM (NAD-83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone



3369.5' GE + 25' KB @ 3394.50usft
Ground Level: 3369.50

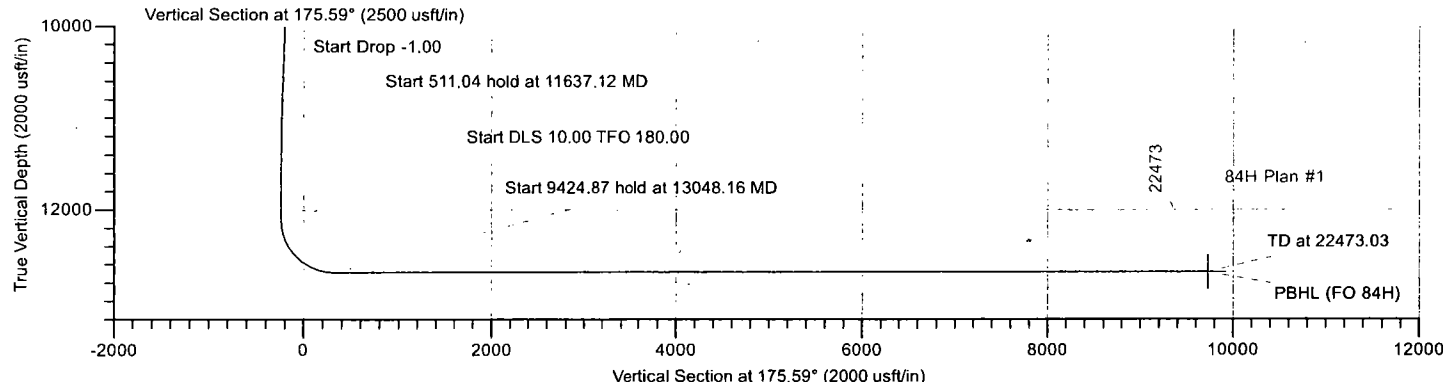
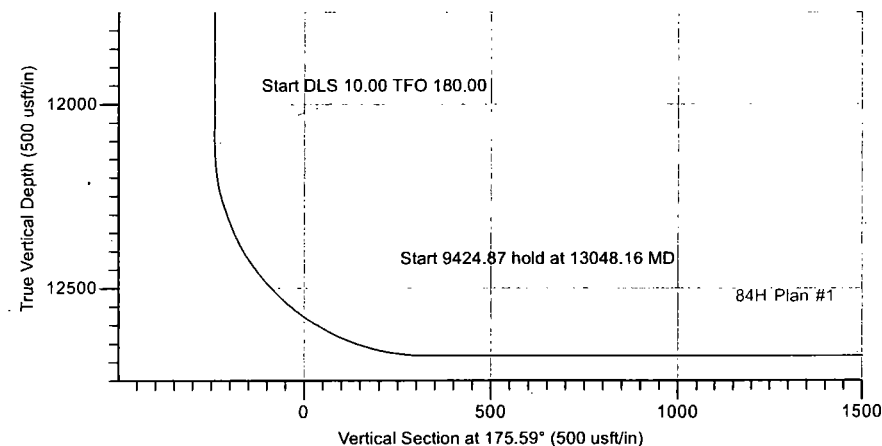
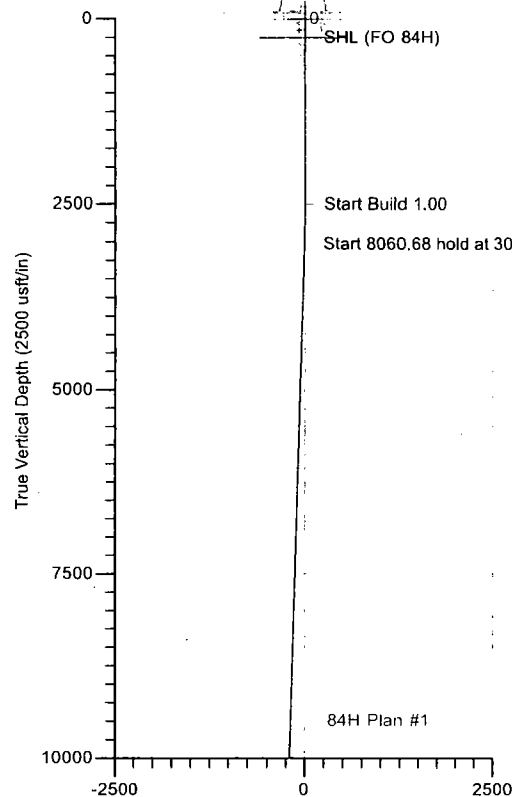
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00
3038.22	5.38	68.09	3037.43	9.43	23.44	1.00	68.09	-7.60
11098.90	5.38	68.09	11062.57	291.57	724.90	0.00	0.00	-234.93
11637.12	0.00	0.00	11600.00	301.00	748.34	1.00	180.00	-242.53
12148.16	0.00	0.00	12111.04	301.00	748.34	0.00	0.00	-242.53
13048.16	90.00	180.00	12684.00	-271.96	748.34	10.00	180.00	328.73
22473.03	90.00	180.00	12684.00	-9696.83	748.34	0.00	0.00	9725.66

Start Build 1.00
Start 8060.68 hold at 3038.22 MD
Start Drop -1.00
Start 511.04 hold at 11637.12 MD
Start DLS 10.00 TFO 180.00
Start 9424.87 hold at 13048.16 MD
TD at 22473.03

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
PBHL (FO 84H)	12684.00	-9696.83	748.34	32° 1' 21.3000 N	103° 30' 5.6753 W
SHL (FO 84H)	0.00	0.00	0.00	32° 2' 57.3102 N	103° 30' 13.5021 W



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

Plan: Plan #1 (84H/OH)
Fighting Okra 18-19 Fed
Created By: Dustin Ault
Date: 12:10, September 13 2017
Approved: _____
Date: _____

Devon Energy

Project: Lea County, NM (NAD-83)

Site: Fighting Okra 18-19 Fed

Well: 84H

Wellbore: OH

Design: Plan #1



Azimuths to Grid North
True North: -0.44°
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Magnetic Field
Strength: 47889.0snT
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Date: 9/13/2017
Model: HDGM



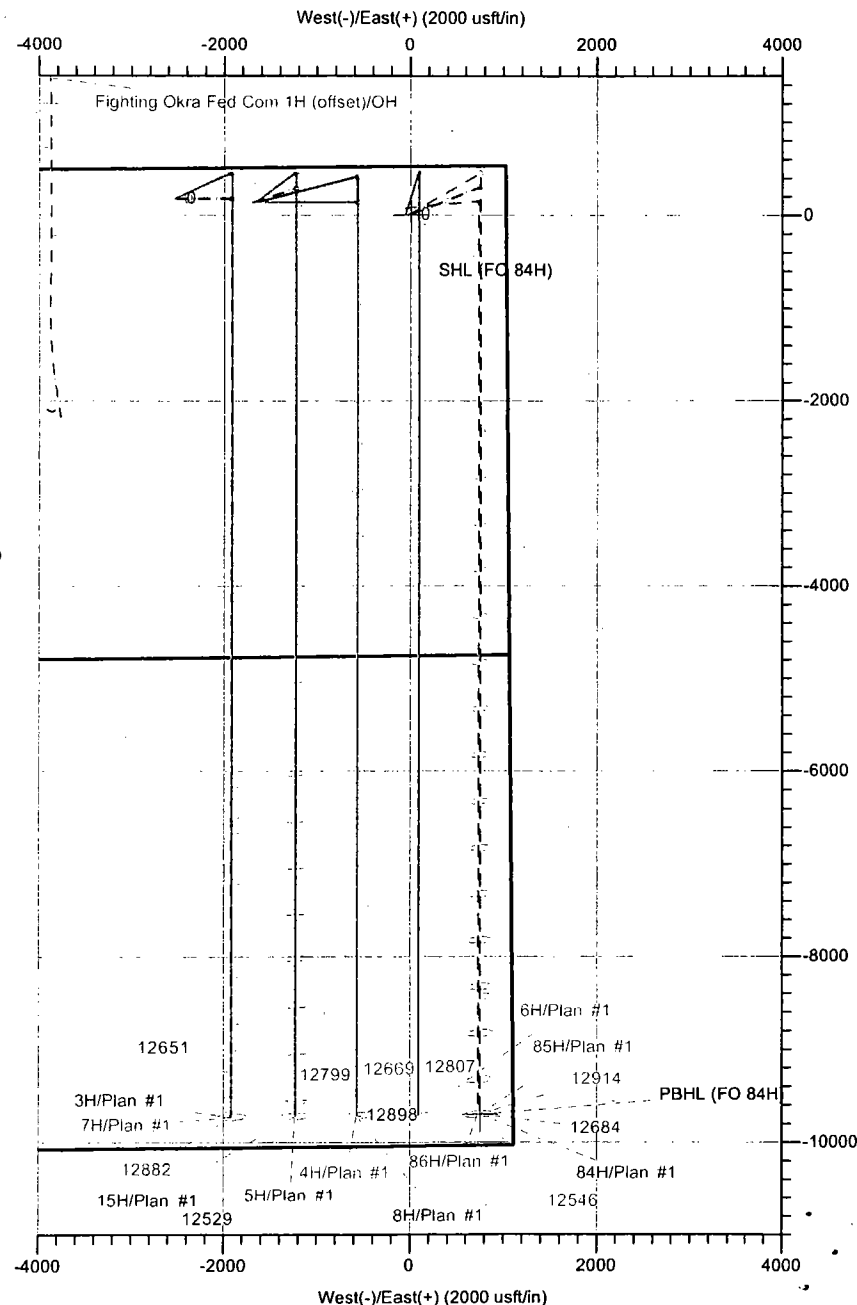
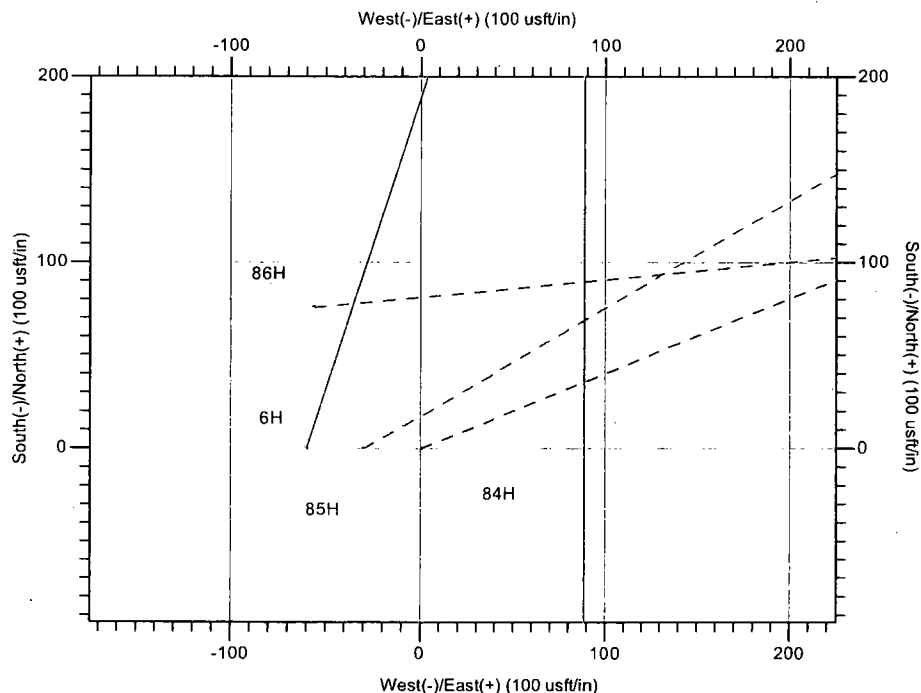
PROJECT DETAILS: Lea County, NM (NAD-83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (FO 84H)	12684.00	-9696.83	748.34	372946.82	799112.98	32° 1' 21.3000 N	103° 30' 5.6753 W
SHL (FO 84H)	0.00	0.00	0.00	382643.65	798364.64	32° 2' 57.3102 N	103° 30' 13.5021 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.00
3038.22	5.38	68.09	3037.43	9.43	23.44	1.00	68.09	-7.60	Start 8060.68 hold at 3038.22 MD
11098.90	5.38	68.09	11062.57	291.57	724.90	0.00	0.00	-234.93	Start Drop -1.00
11637.12	0.00	0.00	11600.00	301.00	748.34	1.00	180.00	-242.53	Start 511.04 hold at 11637.12 MD
12148.16	0.00	0.00	12111.04	301.00	748.34	0.00	0.00	-242.53	Start DLS 10.00 TFO 180.00
13048.16	90.00	180.00	12684.00	-271.96	748.34	10.00	180.00	328.73	Start 9424.87 hold at 13048.16 MD
22473.03	90.00	180.00	12684.00	-9696.83	748.34	0.00	0.00	9725.66	TD at 22473.03



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

Plan: Plan #1 (84H/OH)
Fighting Okra 18-19 Fed
Created By: Dustin Ault
Date: 12:11, September 13 2017
Approved: _____
Date: _____

Devon Energy

Lea County, NM (NAD-83)
Fighting Okra 18-19 Fed
84H

OH

Plan: Plan #1

Standard Planning Report

13 September, 2017

HOBBS OCD
NOV 06 2017
RECEIVED

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
 Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Site: Fighting Okra 18-19 Fed
 Well: 84H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 84H
 TVD Reference: 3369.5' GE + 25' KB @ 3394.50usft
 MD Reference: 3369.5' GE + 25' KB @ 3394.50usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project: Lea County, NM (NAD-83)

Map System: US State Plane 1983
 Geo Datum: North American Datum 1983
 Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site: Fighting Okra 18-19 Fed

Site Position: Northing: 382,937.52 usft Latitude: 32° 3' 0.5157 N
 From: Map Easting: 794,421.25 usft Longitude: 103° 30' 59.2921 W
 Position Uncertainty: 0.00 usft Slot Radius: 13-3/16 " Grid Convergence: 0.43 °

Well: 84H

Well Position: +N/-S: -293.87 usft Northing: 382,643.65 usft Latitude: 32° 2' 57.3102 N
 +E/-W: 3,943.39 usft Easting: 798,364.64 usft Longitude: 103° 30' 13.5021 W
 Position Uncertainty: 0.00 usft Wellhead Elevation: 3,383.00 usft Ground Level: 3,369.50 usft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/13/2017	6.80	59.78	47,889

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	175.59

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	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,038.22	5.38	68.09	3,037.43	9.43	23.44	1.00	1.00	0.00	68.09	
11,098.90	5.38	68.09	11,062.57	291.57	724.90	0.00	0.00	0.00	0.00	
11,637.12	0.00	0.00	11,600.00	301.00	748.34	1.00	-1.00	0.00	180.00	
12,148.16	0.00	0.00	12,111.04	301.00	748.34	0.00	0.00	0.00	0.00	
13,048.16	90.00	180.00	12,684.00	-271.96	748.34	10.00	10.00	-20.00	180.00	
22,473.03	90.00	180.00	12,684.00	-9,696.83	748.34	0.00	0.00	0.00	0.00	PBHL (FO 84H)

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
 Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Site: Fighting Okra 18-19 Fed
 Well: 84H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 84H
 TVD Reference: 3369.5' GE + 25' KB @ 3394.50usft
 MD Reference: 3369.5' GE + 25' KB @ 3394.50usft
 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 (FO 84H)									
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
Start Build 1.00									
2,600.00	1.00	68.09	2,599.99	0.33	0.81	-0.26	1.00	1.00	0.00
2,700.00	2.00	68.09	2,699.96	1.30	3.24	-1.05	1.00	1.00	0.00
2,800.00	3.00	68.09	2,799.86	2.93	7.28	-2.36	1.00	1.00	0.00
2,900.00	4.00	68.09	2,899.68	5.21	12.95	-4.20	1.00	1.00	0.00
3,000.00	5.00	68.09	2,999.37	8.14	20.23	-6.56	1.00	1.00	0.00
3,038.22	5.38	68.09	3,037.43	9.43	23.44	-7.60	1.00	1.00	0.00
Start 8060.68 hold at 3038.22 MD									
3,100.00	5.38	68.09	3,098.94	11.59	28.81	-9.34	0.00	0.00	0.00
3,200.00	5.38	68.09	3,198.50	15.09	37.51	-12.16	0.00	0.00	0.00
3,300.00	5.38	68.09	3,298.05	18.59	46.22	-14.98	0.00	0.00	0.00
3,400.00	5.38	68.09	3,397.61	22.09	54.92	-17.80	0.00	0.00	0.00
3,500.00	5.38	68.09	3,497.17	25.59	63.62	-20.62	0.00	0.00	0.00
3,600.00	5.38	68.09	3,596.73	29.09	72.32	-23.44	0.00	0.00	0.00
3,700.00	5.38	68.09	3,696.29	32.59	81.03	-26.26	0.00	0.00	0.00
3,800.00	5.38	68.09	3,795.85	36.09	89.73	-29.08	0.00	0.00	0.00
3,900.00	5.38	68.09	3,895.41	39.59	98.43	-31.90	0.00	0.00	0.00
4,000.00	5.38	68.09	3,994.97	43.09	107.13	-34.72	0.00	0.00	0.00
4,100.00	5.38	68.09	4,094.53	46.59	115.84	-37.54	0.00	0.00	0.00
4,200.00	5.38	68.09	4,194.09	50.09	124.54	-40.36	0.00	0.00	0.00
4,300.00	5.38	68.09	4,293.65	53.59	133.24	-43.18	0.00	0.00	0.00
4,400.00	5.38	68.09	4,393.20	57.09	141.94	-46.00	0.00	0.00	0.00
4,500.00	5.38	68.09	4,492.76	60.59	150.65	-48.82	0.00	0.00	0.00
4,600.00	5.38	68.09	4,592.32	64.09	159.35	-51.64	0.00	0.00	0.00
4,700.00	5.38	68.09	4,691.88	67.59	168.05	-54.46	0.00	0.00	0.00
4,800.00	5.38	68.09	4,791.44	71.09	176.75	-57.28	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

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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)
4,900.00	5.38	68.09	4,891.00	74.59	185.45	-60.10	0.00	0.00	0.00
5,000.00	5.38	68.09	4,990.56	78.09	194.16	-62.92	0.00	0.00	0.00
5,100.00	5.38	68.09	5,090.12	81.59	202.86	-65.74	0.00	0.00	0.00
5,200.00	5.38	68.09	5,189.68	85.10	211.56	-68.56	0.00	0.00	0.00
5,300.00	5.38	68.09	5,289.24	88.60	220.26	-71.38	0.00	0.00	0.00
5,400.00	5.38	68.09	5,388.80	92.10	228.97	-74.20	0.00	0.00	0.00
5,500.00	5.38	68.09	5,488.36	95.60	237.67	-77.03	0.00	0.00	0.00
5,600.00	5.38	68.09	5,587.91	99.10	246.37	-79.85	0.00	0.00	0.00
5,700.00	5.38	68.09	5,687.47	102.60	255.07	-82.67	0.00	0.00	0.00
5,800.00	5.38	68.09	5,787.03	106.10	263.78	-85.49	0.00	0.00	0.00
5,900.00	5.38	68.09	5,886.59	109.60	272.48	-88.31	0.00	0.00	0.00
6,000.00	5.38	68.09	5,986.15	113.10	281.18	-91.13	0.00	0.00	0.00
6,100.00	5.38	68.09	6,085.71	116.60	289.88	-93.95	0.00	0.00	0.00
6,200.00	5.38	68.09	6,185.27	120.10	298.58	-96.77	0.00	0.00	0.00
6,300.00	5.38	68.09	6,284.83	123.60	307.29	-99.59	0.00	0.00	0.00
6,400.00	5.38	68.09	6,384.39	127.10	315.99	-102.41	0.00	0.00	0.00
6,500.00	5.38	68.09	6,483.95	130.60	324.69	-105.23	0.00	0.00	0.00
6,600.00	5.38	68.09	6,583.51	134.10	333.39	-108.05	0.00	0.00	0.00
6,700.00	5.38	68.09	6,683.06	137.60	342.10	-110.87	0.00	0.00	0.00
6,800.00	5.38	68.09	6,782.62	141.10	350.80	-113.69	0.00	0.00	0.00
6,900.00	5.38	68.09	6,882.18	144.60	359.50	-116.51	0.00	0.00	0.00
7,000.00	5.38	68.09	6,981.74	148.10	368.20	-119.33	0.00	0.00	0.00
7,100.00	5.38	68.09	7,081.30	151.60	376.91	-122.15	0.00	0.00	0.00
7,200.00	5.38	68.09	7,180.86	155.10	385.61	-124.97	0.00	0.00	0.00
7,300.00	5.38	68.09	7,280.42	158.60	394.31	-127.79	0.00	0.00	0.00
7,400.00	5.38	68.09	7,379.98	162.10	403.01	-130.61	0.00	0.00	0.00
7,500.00	5.38	68.09	7,479.54	165.60	411.72	-133.43	0.00	0.00	0.00
7,600.00	5.38	68.09	7,579.10	169.10	420.42	-136.25	0.00	0.00	0.00
7,700.00	5.38	68.09	7,678.66	172.60	429.12	-139.07	0.00	0.00	0.00
7,800.00	5.38	68.09	7,778.21	176.10	437.82	-141.89	0.00	0.00	0.00
7,900.00	5.38	68.09	7,877.77	179.60	446.52	-144.71	0.00	0.00	0.00
8,000.00	5.38	68.09	7,977.33	183.10	455.23	-147.53	0.00	0.00	0.00
8,100.00	5.38	68.09	8,076.89	186.60	463.93	-150.35	0.00	0.00	0.00
8,200.00	5.38	68.09	8,176.45	190.10	472.63	-153.17	0.00	0.00	0.00
8,300.00	5.38	68.09	8,276.01	193.60	481.33	-155.99	0.00	0.00	0.00
8,400.00	5.38	68.09	8,375.57	197.10	490.04	-158.81	0.00	0.00	0.00
8,500.00	5.38	68.09	8,475.13	200.60	498.74	-161.63	0.00	0.00	0.00
8,600.00	5.38	68.09	8,574.69	204.10	507.44	-164.45	0.00	0.00	0.00
8,700.00	5.38	68.09	8,674.25	207.61	516.14	-167.27	0.00	0.00	0.00
8,800.00	5.38	68.09	8,773.81	211.11	524.85	-170.10	0.00	0.00	0.00
8,900.00	5.38	68.09	8,873.37	214.61	533.55	-172.92	0.00	0.00	0.00
9,000.00	5.38	68.09	8,972.92	218.11	542.25	-175.74	0.00	0.00	0.00
9,100.00	5.38	68.09	9,072.48	221.61	550.95	-178.56	0.00	0.00	0.00
9,200.00	5.38	68.09	9,172.04	225.11	559.66	-181.38	0.00	0.00	0.00
9,300.00	5.38	68.09	9,271.60	228.61	568.36	-184.20	0.00	0.00	0.00
9,400.00	5.38	68.09	9,371.16	232.11	577.06	-187.02	0.00	0.00	0.00
9,500.00	5.38	68.09	9,470.72	235.61	585.76	-189.84	0.00	0.00	0.00
9,600.00	5.38	68.09	9,570.28	239.11	594.46	-192.66	0.00	0.00	0.00
9,700.00	5.38	68.09	9,669.84	242.61	603.17	-195.48	0.00	0.00	0.00
9,800.00	5.38	68.09	9,769.40	246.11	611.87	-198.30	0.00	0.00	0.00
9,900.00	5.38	68.09	9,868.96	249.61	620.57	-201.12	0.00	0.00	0.00
10,000.00	5.38	68.09	9,968.52	253.11	629.27	-203.94	0.00	0.00	0.00
10,100.00	5.38	68.09	10,068.07	256.61	637.98	-206.76	0.00	0.00	0.00
10,200.00	5.38	68.09	10,167.63	260.11	646.68	-209.58	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
Company: Devon Energy
Project: Lea County, NM (NAD-83)
Site: Fighting Okra 18-19 Fed
Well: 84H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 84H
TVD Reference: 3369.5' GE + 25' KB @ 3394.50usft
MD Reference: 3369.5' GE + 25' KB @ 3394.50usft
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)
10,300.00	5.38	68.09	10,267.19	263.61	655.38	-212.40	0.00	0.00	0.00
10,400.00	5.38	68.09	10,366.75	267.11	664.08	-215.22	0.00	0.00	0.00
10,500.00	5.38	68.09	10,466.31	270.61	672.79	-218.04	0.00	0.00	0.00
10,600.00	5.38	68.09	10,565.87	274.11	681.49	-220.86	0.00	0.00	0.00
10,700.00	5.38	68.09	10,665.43	277.61	690.19	-223.68	0.00	0.00	0.00
10,800.00	5.38	68.09	10,764.99	281.11	698.89	-226.50	0.00	0.00	0.00
10,900.00	5.38	68.09	10,864.55	284.61	707.59	-229.32	0.00	0.00	0.00
11,000.00	5.38	68.09	10,964.11	288.11	716.30	-232.14	0.00	0.00	0.00
11,098.90	5.38	68.09	11,062.57	291.57	724.90	-234.93	0.00	0.00	0.00
Start Drop -1.00									
11,100.00	5.37	68.09	11,063.67	291.61	725.00	-234.96	1.00	-1.00	0.00
11,200.00	4.37	68.09	11,163.30	294.78	732.88	-237.52	1.00	-1.00	0.00
11,300.00	3.37	68.09	11,263.07	297.30	739.14	-239.55	1.00	-1.00	0.00
11,400.00	2.37	68.09	11,362.95	299.17	743.79	-241.05	1.00	-1.00	0.00
11,500.00	1.37	68.09	11,462.89	300.39	746.82	-242.03	1.00	-1.00	0.00
11,600.00	0.37	68.09	11,562.88	300.96	748.23	-242.49	1.00	-1.00	0.00
11,637.12	0.00	0.00	11,600.00	301.00	748.34	-242.53	1.00	-1.00	-183.42
Start 511.04 hold at 11637.12 MD									
11,700.00	0.00	0.00	11,662.88	301.00	748.34	-242.53	0.00	0.00	0.00
11,800.00	0.00	0.00	11,762.88	301.00	748.34	-242.53	0.00	0.00	0.00
11,900.00	0.00	0.00	11,862.88	301.00	748.34	-242.53	0.00	0.00	0.00
12,000.00	0.00	0.00	11,962.88	301.00	748.34	-242.53	0.00	0.00	0.00
12,100.00	0.00	0.00	12,062.88	301.00	748.34	-242.53	0.00	0.00	0.00
12,148.16	0.00	0.00	12,111.04	301.00	748.34	-242.53	0.00	0.00	0.00
Start DLS 10.00 TFO 180.00									
12,150.00	0.18	180.00	12,112.88	301.00	748.34	-242.52	10.00	10.00	0.00
12,200.00	5.18	180.00	12,162.81	298.66	748.34	-240.19	10.00	10.00	0.00
12,250.00	10.18	180.00	12,212.34	291.97	748.34	-233.53	10.00	10.00	0.00
12,300.00	15.18	180.00	12,261.11	281.00	748.34	-222.58	10.00	10.00	0.00
12,350.00	20.18	180.00	12,308.73	265.81	748.34	-207.45	10.00	10.00	0.00
12,400.00	25.18	180.00	12,354.85	246.54	748.34	-188.23	10.00	10.00	0.00
12,450.00	30.18	180.00	12,399.11	223.32	748.34	-165.07	10.00	10.00	0.00
12,500.00	35.18	180.00	12,441.18	196.32	748.34	-138.16	10.00	10.00	0.00
12,550.00	40.18	180.00	12,480.74	165.77	748.34	-107.70	10.00	10.00	0.00
12,600.00	45.18	180.00	12,517.48	131.88	748.34	-73.91	10.00	10.00	0.00
12,650.00	50.18	180.00	12,551.13	94.92	748.34	-37.06	10.00	10.00	0.00
12,700.00	55.18	180.00	12,581.43	55.17	748.34	2.58	10.00	10.00	0.00
12,750.00	60.18	180.00	12,608.15	12.93	748.34	44.69	10.00	10.00	0.00
12,800.00	65.18	180.00	12,631.09	-31.48	748.34	88.97	10.00	10.00	0.00
12,850.00	70.18	180.00	12,650.07	-77.72	748.34	135.07	10.00	10.00	0.00
12,900.00	75.18	180.00	12,664.95	-125.44	748.34	182.65	10.00	10.00	0.00
12,950.00	80.18	180.00	12,675.61	-174.28	748.34	231.34	10.00	10.00	0.00
13,000.00	85.18	180.00	12,681.98	-223.85	748.34	280.77	10.00	10.00	0.00
13,048.16	90.00	180.00	12,684.00	-271.96	748.34	328.73	10.00	10.00	0.00
Start 9424.87 hold at 13048.16 MD									
13,100.00	90.00	180.00	12,684.00	-323.80	748.34	380.42	0.00	0.00	0.00
13,200.00	90.00	180.00	12,684.00	-423.80	748.34	480.12	0.00	0.00	0.00
13,300.00	90.00	180.00	12,684.00	-523.80	748.34	579.83	0.00	0.00	0.00
13,400.00	90.00	180.00	12,684.00	-623.80	748.34	679.53	0.00	0.00	0.00
13,500.00	90.00	180.00	12,684.00	-723.80	748.34	779.23	0.00	0.00	0.00
13,600.00	90.00	180.00	12,684.00	-823.80	748.34	878.94	0.00	0.00	0.00
13,700.00	90.00	180.00	12,684.00	-923.80	748.34	978.64	0.00	0.00	0.00
13,800.00	90.00	180.00	12,684.00	-1,023.80	748.34	1,078.34	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
 Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Site: Fighting Okra 18-19 Fed
 Well: 84H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 84H
 TVD Reference: 3369.5' GE + 25' KB @ 3394.50usft
 MD Reference: 3369.5' GE + 25' KB @ 3394.50usft
 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)
13,900.00	90.00	180.00	12,684.00	-1,123.80	748.34	1,178.05	0.00	0.00	0.00
14,000.00	90.00	180.00	12,684.00	-1,223.80	748.34	1,277.75	0.00	0.00	0.00
14,100.00	90.00	180.00	12,684.00	-1,323.80	748.34	1,377.45	0.00	0.00	0.00
14,200.00	90.00	180.00	12,684.00	-1,423.80	748.34	1,477.16	0.00	0.00	0.00
14,300.00	90.00	180.00	12,684.00	-1,523.80	748.34	1,576.86	0.00	0.00	0.00
14,400.00	90.00	180.00	12,684.00	-1,623.80	748.34	1,676.56	0.00	0.00	0.00
14,500.00	90.00	180.00	12,684.00	-1,723.80	748.34	1,776.27	0.00	0.00	0.00
14,600.00	90.00	180.00	12,684.00	-1,823.80	748.34	1,875.97	0.00	0.00	0.00
14,700.00	90.00	180.00	12,684.00	-1,923.80	748.34	1,975.67	0.00	0.00	0.00
14,800.00	90.00	180.00	12,684.00	-2,023.80	748.34	2,075.38	0.00	0.00	0.00
14,900.00	90.00	180.00	12,684.00	-2,123.80	748.34	2,175.08	0.00	0.00	0.00
15,000.00	90.00	180.00	12,684.00	-2,223.80	748.34	2,274.79	0.00	0.00	0.00
15,100.00	90.00	180.00	12,684.00	-2,323.80	748.34	2,374.49	0.00	0.00	0.00
15,200.00	90.00	180.00	12,684.00	-2,423.80	748.34	2,474.19	0.00	0.00	0.00
15,300.00	90.00	180.00	12,684.00	-2,523.80	748.34	2,573.90	0.00	0.00	0.00
15,400.00	90.00	180.00	12,684.00	-2,623.80	748.34	2,673.60	0.00	0.00	0.00
15,500.00	90.00	180.00	12,684.00	-2,723.80	748.34	2,773.30	0.00	0.00	0.00
15,600.00	90.00	180.00	12,684.00	-2,823.80	748.34	2,873.01	0.00	0.00	0.00
15,700.00	90.00	180.00	12,684.00	-2,923.80	748.34	2,972.71	0.00	0.00	0.00
15,800.00	90.00	180.00	12,684.00	-3,023.80	748.34	3,072.41	0.00	0.00	0.00
15,900.00	90.00	180.00	12,684.00	-3,123.80	748.34	3,172.12	0.00	0.00	0.00
16,000.00	90.00	180.00	12,684.00	-3,223.80	748.34	3,271.82	0.00	0.00	0.00
16,100.00	90.00	180.00	12,684.00	-3,323.80	748.34	3,371.52	0.00	0.00	0.00
16,200.00	90.00	180.00	12,684.00	-3,423.80	748.34	3,471.23	0.00	0.00	0.00
16,300.00	90.00	180.00	12,684.00	-3,523.80	748.34	3,570.93	0.00	0.00	0.00
16,400.00	90.00	180.00	12,684.00	-3,623.80	748.34	3,670.63	0.00	0.00	0.00
16,500.00	90.00	180.00	12,684.00	-3,723.80	748.34	3,770.34	0.00	0.00	0.00
16,600.00	90.00	180.00	12,684.00	-3,823.80	748.34	3,870.04	0.00	0.00	0.00
16,700.00	90.00	180.00	12,684.00	-3,923.80	748.34	3,969.75	0.00	0.00	0.00
16,800.00	90.00	180.00	12,684.00	-4,023.80	748.34	4,069.45	0.00	0.00	0.00
16,900.00	90.00	180.00	12,684.00	-4,123.80	748.34	4,169.15	0.00	0.00	0.00
17,000.00	90.00	180.00	12,684.00	-4,223.80	748.34	4,268.86	0.00	0.00	0.00
17,100.00	90.00	180.00	12,684.00	-4,323.80	748.34	4,368.56	0.00	0.00	0.00
17,200.00	90.00	180.00	12,684.00	-4,423.80	748.34	4,468.26	0.00	0.00	0.00
17,300.00	90.00	180.00	12,684.00	-4,523.80	748.34	4,567.97	0.00	0.00	0.00
17,400.00	90.00	180.00	12,684.00	-4,623.80	748.34	4,667.67	0.00	0.00	0.00
17,500.00	90.00	180.00	12,684.00	-4,723.80	748.34	4,767.37	0.00	0.00	0.00
17,600.00	90.00	180.00	12,684.00	-4,823.80	748.34	4,867.08	0.00	0.00	0.00
17,700.00	90.00	180.00	12,684.00	-4,923.80	748.34	4,966.78	0.00	0.00	0.00
17,800.00	90.00	180.00	12,684.00	-5,023.80	748.34	5,066.48	0.00	0.00	0.00
17,900.00	90.00	180.00	12,684.00	-5,123.80	748.34	5,166.19	0.00	0.00	0.00
18,000.00	90.00	180.00	12,684.00	-5,223.80	748.34	5,265.89	0.00	0.00	0.00
18,100.00	90.00	180.00	12,684.00	-5,323.80	748.34	5,365.59	0.00	0.00	0.00
18,200.00	90.00	180.00	12,684.00	-5,423.80	748.34	5,465.30	0.00	0.00	0.00
18,300.00	90.00	180.00	12,684.00	-5,523.80	748.34	5,565.00	0.00	0.00	0.00
18,400.00	90.00	180.00	12,684.00	-5,623.80	748.34	5,664.71	0.00	0.00	0.00
18,500.00	90.00	180.00	12,684.00	-5,723.80	748.34	5,764.41	0.00	0.00	0.00
18,600.00	90.00	180.00	12,684.00	-5,823.80	748.34	5,864.11	0.00	0.00	0.00
18,700.00	90.00	180.00	12,684.00	-5,923.80	748.34	5,963.82	0.00	0.00	0.00
18,800.00	90.00	180.00	12,684.00	-6,023.80	748.34	6,063.52	0.00	0.00	0.00
18,900.00	90.00	180.00	12,684.00	-6,123.80	748.34	6,163.22	0.00	0.00	0.00
19,000.00	90.00	180.00	12,684.00	-6,223.80	748.34	6,262.93	0.00	0.00	0.00
19,100.00	90.00	180.00	12,684.00	-6,323.80	748.34	6,362.63	0.00	0.00	0.00
19,200.00	90.00	180.00	12,684.00	-6,423.80	748.34	6,462.33	0.00	0.00	0.00

LEAM Drilling Systems LLC

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 Site: Fighting Okra 18-19 Fed
 Well: 84H
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 Design: Plan #1

Local Co-ordinate Reference: Well 84H
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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)
19,300.00	90.00	180.00	12,684.00	-6,523.80	748.34	6,562.04	0.00	0.00	0.00
19,400.00	90.00	180.00	12,684.00	-6,623.80	748.34	6,661.74	0.00	0.00	0.00
19,500.00	90.00	180.00	12,684.00	-6,723.80	748.34	6,761.44	0.00	0.00	0.00
19,600.00	90.00	180.00	12,684.00	-6,823.80	748.34	6,861.15	0.00	0.00	0.00
19,700.00	90.00	180.00	12,684.00	-6,923.80	748.34	6,960.85	0.00	0.00	0.00
19,800.00	90.00	180.00	12,684.00	-7,023.80	748.34	7,060.55	0.00	0.00	0.00
19,900.00	90.00	180.00	12,684.00	-7,123.80	748.34	7,160.26	0.00	0.00	0.00
20,000.00	90.00	180.00	12,684.00	-7,223.80	748.34	7,259.96	0.00	0.00	0.00
20,100.00	90.00	180.00	12,684.00	-7,323.80	748.34	7,359.67	0.00	0.00	0.00
20,200.00	90.00	180.00	12,684.00	-7,423.80	748.34	7,459.37	0.00	0.00	0.00
20,300.00	90.00	180.00	12,684.00	-7,523.80	748.34	7,559.07	0.00	0.00	0.00
20,400.00	90.00	180.00	12,684.00	-7,623.80	748.34	7,658.78	0.00	0.00	0.00
20,500.00	90.00	180.00	12,684.00	-7,723.80	748.34	7,758.48	0.00	0.00	0.00
20,600.00	90.00	180.00	12,684.00	-7,823.80	748.34	7,858.18	0.00	0.00	0.00
20,700.00	90.00	180.00	12,684.00	-7,923.80	748.34	7,957.89	0.00	0.00	0.00
20,800.00	90.00	180.00	12,684.00	-8,023.80	748.34	8,057.59	0.00	0.00	0.00
20,900.00	90.00	180.00	12,684.00	-8,123.80	748.34	8,157.29	0.00	0.00	0.00
21,000.00	90.00	180.00	12,684.00	-8,223.80	748.34	8,257.00	0.00	0.00	0.00
21,100.00	90.00	180.00	12,684.00	-8,323.80	748.34	8,356.70	0.00	0.00	0.00
21,200.00	90.00	180.00	12,684.00	-8,423.80	748.34	8,456.40	0.00	0.00	0.00
21,300.00	90.00	180.00	12,684.00	-8,523.80	748.34	8,556.11	0.00	0.00	0.00
21,400.00	90.00	180.00	12,684.00	-8,623.80	748.34	8,655.81	0.00	0.00	0.00
21,500.00	90.00	180.00	12,684.00	-8,723.80	748.34	8,755.52	0.00	0.00	0.00
21,600.00	90.00	180.00	12,684.00	-8,823.80	748.34	8,855.22	0.00	0.00	0.00
21,700.00	90.00	180.00	12,684.00	-8,923.80	748.34	8,954.92	0.00	0.00	0.00
21,800.00	90.00	180.00	12,684.00	-9,023.80	748.34	9,054.63	0.00	0.00	0.00
21,900.00	90.00	180.00	12,684.00	-9,123.80	748.34	9,154.33	0.00	0.00	0.00
22,000.00	90.00	180.00	12,684.00	-9,223.80	748.34	9,254.03	0.00	0.00	0.00
22,100.00	90.00	180.00	12,684.00	-9,323.80	748.34	9,353.74	0.00	0.00	0.00
22,200.00	90.00	180.00	12,684.00	-9,423.80	748.34	9,453.44	0.00	0.00	0.00
22,300.00	90.00	180.00	12,684.00	-9,523.80	748.34	9,553.14	0.00	0.00	0.00
22,400.00	90.00	180.00	12,684.00	-9,623.80	748.34	9,652.85	0.00	0.00	0.00
22,473.03	90.00	180.00	12,684.00	-9,696.83	748.34	9,725.66	0.00	0.00	0.00

TD at 22473.03 - PBHL (FO 84H)

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (FO 84H)	0.00	0.00	0.00	0.00	0.00	382,643.65	798,364.64	32° 2' 57.3102 N	103° 30' 13.5021 W
- hit/miss target									
- plan hits target center									
- Point									
PBHL (FO 84H)	0.00	0.00	12,684.00	-9,696.83	748.34	372,946.82	799,112.98	32° 1' 21.3000 N	103° 30' 5.6753 W
- plan hits target center									
- Point									

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well 84H
Company:	Devon Energy	TVD Reference:	3369.5' GE + 25' KB @ 3394.50usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3369.5' GE + 25' KB @ 3394.50usft
Site:	Fighting Okra 18-19 Fed	North Reference:	Grid
Well:	84H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,500.00	2,500.00	0.00	0.00	Start Build 1.00
3,038.22	3,037.43	9.43	23.44	Start 8060.68 hold at 3038.22 MD
11,098.90	11,062.57	291.57	724.90	Start Drop -1.00
11,637.12	11,600.00	301.00	748.34	Start 511.04 hold at 11637.12 MD
12,148.16	12,111.04	301.00	748.34	Start DLS 10.00 TFO 180.00
13,048.16	12,684.00	-271.96	748.34	Start 9424.87 hold at 13048.16 MD
22,473.03	12,684.00	-9,696.83	748.34	TD at 22473.03