

HOBBS OGD

APR 25 2016

RECEIVED

DEVON ENERGY

Lea County, NM (NAD-83)

Green Wave 20-17 Fed

31H

OH

Plan: Plan #1

Standard Planning Report

08 July, 2015

APR 25 2016

LEAM Drilling Systems LLC
Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 31H
Company:	DEVON ENERGY	TVD Reference:	3355.9' GL + 25' RKB @ 3380.90usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3355.9' GL + 25' RKB @ 3380.90usft
Site:	Green Wave 20-17 Fed	North Reference:	Grid
Well:	31H	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:	Green Wave 20-17 Fed				
Site Position:	Northing:	375,027.44 usft	Latitude:	32° 1' 41.837 N	
From:	Map	Easting:	799,785.56 usft	Longitude:	103° 29' 57.677 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.44°

Well:	31H					
Well Position	+N-S	-50.00 usft	Northing:	374,977.44 usft	Latitude:	32° 1' 41.342 N
	+E-W	0.45 usft	Easting:	799,786.01 usft	Longitude:	103° 29' 57.676 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	3,380.90 usft	Ground Level:	3,355.90 usft

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	BGGM2015	7/8/2015	(°) 7.21	(°) 59.97	(nT) 48,107

Design:	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	358.63

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	
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,800.00	5.00	90.00	4,799.37	0.00	21.80	1.00	1.00	0.00	90.00	
6,000.00	5.00	90.00	5,994.80	0.00	126.39	0.00	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,993.53	0.00	170.00	0.50	-0.50	0.00	180.00	
9,685.64	0.00	0.00	9,679.17	0.00	170.00	0.00	0.00	0.00	0.00	
10,510.20	90.70	358.63	10,200.00	527.10	157.38	11.00	11.00	-0.17	358.63	
17,858.95	90.70	358.63	10,110.00	7,873.19	-18.45	0.00	0.00	0.00	0.00	PBHL (GW20-17F 311)

LEAM Drilling Systems LLC

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Site:	Green Wave 20-17 Fed	North Reference:	Grid
Well:	31H	Survey Calculation Method:	Minimum Curvature
Wellbore Design:	OH 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 (GW20-17F 31H)									
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
733.00	0.00	0.00	733.00	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
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,163.00	0.00	0.00	1,163.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
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
Nudge									
4,400.00	1.00	90.00	4,400.00	0.00	0.87	-0.02	1.00	1.00	0.00
4,500.00	2.00	90.00	4,499.96	0.00	3.49	-0.08	1.00	1.00	0.00
4,600.00	3.00	90.00	4,599.86	0.00	7.85	-0.19	1.00	1.00	0.00
4,700.00	4.00	90.00	4,699.68	0.00	13.96	-0.33	1.00	1.00	0.00

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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)
4,800.00	5.00	90.00	4,799.37	0.00	21.80	-0.52	1.00	1.00	0.00
Hold									
4,900.00	5.00	90.00	4,898.99	0.00	30.52	-0.73	0.00	0.00	0.00
5,000.00	5.00	90.00	4,998.60	0.00	39.23	-0.94	0.00	0.00	0.00
5,100.00	5.00	90.00	5,098.22	0.00	47.95	-1.15	0.00	0.00	0.00
5,200.00	5.00	90.00	5,197.84	0.00	56.67	-1.35	0.00	0.00	0.00
5,291.50	5.00	90.00	5,289.00	0.00	64.64	-1.55	0.00	0.00	0.00
Lamar									
5,300.00	5.00	90.00	5,297.46	0.00	65.38	-1.56	0.00	0.00	0.00
5,326.64	5.00	90.00	5,324.00	0.00	67.70	-1.62	0.00	0.00	0.00
Bell Canyon									
5,400.00	5.00	90.00	5,397.08	0.00	74.10	-1.77	0.00	0.00	0.00
5,500.00	5.00	90.00	5,496.70	0.00	82.81	-1.98	0.00	0.00	0.00
5,600.00	5.00	90.00	5,596.32	0.00	91.53	-2.19	0.00	0.00	0.00
5,700.00	5.00	90.00	5,695.94	0.00	100.24	-2.40	0.00	0.00	0.00
5,800.00	5.00	90.00	5,795.56	0.00	108.96	-2.61	0.00	0.00	0.00
5,900.00	5.00	90.00	5,895.18	0.00	117.67	-2.81	0.00	0.00	0.00
6,000.00	5.00	90.00	5,994.80	0.00	126.39	-3.02	0.00	0.00	0.00
Drop									
6,100.00	4.50	90.00	6,094.46	0.00	134.67	-3.22	0.50	-0.50	0.00
6,200.00	4.00	90.00	6,194.18	0.00	142.08	-3.40	0.50	-0.50	0.00
6,300.00	3.50	90.00	6,293.97	0.00	148.62	-3.55	0.50	-0.50	0.00
6,400.00	3.00	90.00	6,393.80	0.00	154.29	-3.69	0.50	-0.50	0.00
6,411.21	2.94	90.00	6,405.00	0.00	154.87	-3.70	0.50	-0.50	0.00
Cherry Canyon									
6,500.00	2.50	90.00	6,493.69	0.00	159.09	-3.80	0.50	-0.50	0.00
6,600.00	2.00	90.00	6,593.61	0.00	163.01	-3.90	0.50	-0.50	0.00
6,700.00	1.50	90.00	6,693.56	0.00	166.07	-3.97	0.50	-0.50	0.00
6,800.00	1.00	90.00	6,793.54	0.00	168.25	-4.02	0.50	-0.50	0.00
6,900.00	0.50	90.00	6,893.53	0.00	169.56	-4.05	0.50	-0.50	0.00
7,000.00	0.00	0.00	6,993.53	0.00	170.00	-4.06	0.50	-0.50	0.00
Hold									
7,100.00	0.00	0.00	7,093.53	0.00	170.00	-4.06	0.00	0.00	0.00
7,200.00	0.00	0.00	7,193.53	0.00	170.00	-4.06	0.00	0.00	0.00
7,300.00	0.00	0.00	7,293.53	0.00	170.00	-4.06	0.00	0.00	0.00
7,400.00	0.00	0.00	7,393.53	0.00	170.00	-4.06	0.00	0.00	0.00
7,500.00	0.00	0.00	7,493.53	0.00	170.00	-4.06	0.00	0.00	0.00
7,600.00	0.00	0.00	7,593.53	0.00	170.00	-4.06	0.00	0.00	0.00
7,700.00	0.00	0.00	7,693.53	0.00	170.00	-4.06	0.00	0.00	0.00
7,800.00	0.00	0.00	7,793.53	0.00	170.00	-4.06	0.00	0.00	0.00
7,900.00	0.00	0.00	7,893.53	0.00	170.00	-4.06	0.00	0.00	0.00
7,959.47	0.00	0.00	7,953.00	0.00	170.00	-4.06	0.00	0.00	0.00
Brushy Canyon									
8,000.00	0.00	0.00	7,993.53	0.00	170.00	-4.06	0.00	0.00	0.00
8,100.00	0.00	0.00	8,093.53	0.00	170.00	-4.06	0.00	0.00	0.00
8,200.00	0.00	0.00	8,193.53	0.00	170.00	-4.06	0.00	0.00	0.00
8,300.00	0.00	0.00	8,293.53	0.00	170.00	-4.06	0.00	0.00	0.00
8,400.00	0.00	0.00	8,393.53	0.00	170.00	-4.06	0.00	0.00	0.00
8,500.00	0.00	0.00	8,493.53	0.00	170.00	-4.06	0.00	0.00	0.00
8,600.00	0.00	0.00	8,593.53	0.00	170.00	-4.06	0.00	0.00	0.00
8,700.00	0.00	0.00	8,693.53	0.00	170.00	-4.06	0.00	0.00	0.00
8,800.00	0.00	0.00	8,793.53	0.00	170.00	-4.06	0.00	0.00	0.00
8,900.00	0.00	0.00	8,893.53	0.00	170.00	-4.06	0.00	0.00	0.00

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Wellbore Design:	OH Plan #1:		

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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)
9,000.00	0.00	0.00	8,993.53	0.00	170.00	-4.06	0.00	0.00	0.00
9,100.00	0.00	0.00	9,093.53	0.00	170.00	-4.06	0.00	0.00	0.00
9,200.00	0.00	0.00	9,193.53	0.00	170.00	-4.06	0.00	0.00	0.00
9,300.00	0.00	0.00	9,293.53	0.00	170.00	-4.06	0.00	0.00	0.00
9,380.47	0.00	0.00	9,374.00	0.00	170.00	-4.06	0.00	0.00	0.00
Lwr Brushy									
9,400.00	0.00	0.00	9,393.53	0.00	170.00	-4.06	0.00	0.00	0.00
9,500.00	0.00	0.00	9,493.53	0.00	170.00	-4.06	0.00	0.00	0.00
9,600.00	0.00	0.00	9,593.53	0.00	170.00	-4.06	0.00	0.00	0.00
9,626.47	0.00	0.00	9,620.00	0.00	170.00	-4.06	0.00	0.00	0.00
Bone Spring									
9,646.47	0.00	0.00	9,640.00	0.00	170.00	-4.06	0.00	0.00	0.00
Upr Leonard									
9,685.64	0.00	0.00	9,679.17	0.00	170.00	-4.06	0.00	0.00	0.00
KOP 11° DLS									
9,700.00	1.58	358.63	9,693.53	0.20	169.99	-3.87	11.00	11.00	0.00
9,750.00	7.08	358.63	9,743.37	3.97	169.90	-0.09	11.00	11.00	0.00
9,800.00	12.58	358.63	9,792.61	12.50	169.70	8.44	11.00	11.00	0.00
9,850.00	18.08	358.63	9,840.82	25.71	169.38	21.65	11.00	11.00	0.00
9,900.00	23.58	358.63	9,887.53	43.48	168.95	39.43	11.00	11.00	0.00
9,936.00	27.54	358.63	9,920.00	59.00	168.58	54.95	11.00	11.00	0.00
Upr Leonard Base									
9,950.00	29.08	358.63	9,932.33	65.64	168.42	61.59	11.00	11.00	0.00
10,000.00	34.58	358.63	9,974.79	91.99	167.79	87.95	11.00	11.00	0.00
10,050.00	40.08	358.63	10,014.53	122.29	167.07	118.26	11.00	11.00	0.00
10,100.00	45.58	358.63	10,051.19	156.26	166.26	152.24	11.00	11.00	0.00
10,150.00	51.08	358.63	10,084.42	193.58	165.36	189.57	11.00	11.00	0.00
10,200.00	56.58	358.63	10,113.92	233.92	164.40	229.92	11.00	11.00	0.00
10,250.00	62.08	358.63	10,139.41	276.90	163.37	272.91	11.00	11.00	0.00
10,300.00	67.58	358.63	10,160.67	322.12	162.29	318.15	11.00	11.00	0.00
10,317.30	69.48	358.63	10,167.00	338.21	161.90	334.24	11.00	11.00	0.00
Mid Leonard									
10,350.00	73.08	358.63	10,177.49	369.17	161.16	365.21	11.00	11.00	0.00
10,400.00	78.58	358.63	10,189.73	417.62	160.00	413.67	11.00	11.00	0.00
10,450.00	84.08	358.63	10,197.26	467.01	158.82	463.08	11.00	11.00	0.00
10,500.00	89.58	358.63	10,200.03	516.90	157.62	512.98	11.00	11.00	0.00
10,510.20	90.70	358.63	10,200.00	527.10	157.38	523.19	11.00	11.00	0.00
LP									
10,600.00	90.70	358.63	10,198.90	616.87	155.23	612.98	0.00	0.00	0.00
10,700.00	90.70	358.63	10,197.68	716.83	152.84	712.97	0.00	0.00	0.00
10,800.00	90.70	358.63	10,196.45	816.79	150.45	812.96	0.00	0.00	0.00
10,900.00	90.70	358.63	10,195.23	916.76	148.05	912.96	0.00	0.00	0.00
11,000.00	90.70	358.63	10,194.00	1,016.72	145.66	1,012.95	0.00	0.00	0.00
11,100.00	90.70	358.63	10,192.78	1,116.68	143.27	1,112.94	0.00	0.00	0.00
11,200.00	90.70	358.63	10,191.55	1,216.65	140.87	1,212.93	0.00	0.00	0.00
11,300.00	90.70	358.63	10,190.33	1,316.61	138.48	1,312.93	0.00	0.00	0.00
11,400.00	90.70	358.63	10,189.10	1,416.58	136.09	1,412.92	0.00	0.00	0.00
11,500.00	90.70	358.63	10,187.88	1,516.54	133.70	1,512.91	0.00	0.00	0.00
11,600.00	90.70	358.63	10,186.66	1,616.50	131.30	1,612.90	0.00	0.00	0.00
11,700.00	90.70	358.63	10,185.43	1,716.47	128.91	1,712.90	0.00	0.00	0.00
11,800.00	90.70	358.63	10,184.21	1,816.43	126.52	1,812.89	0.00	0.00	0.00
11,900.00	90.70	358.63	10,182.98	1,916.40	124.13	1,912.88	0.00	0.00	0.00
12,000.00	90.70	358.63	10,181.76	2,016.36	121.73	2,012.87	0.00	0.00	0.00

LEAM Drilling Systems LLC
 Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 31H
Company:	DEVON ENERGY	TVD Reference:	3355.9' GL + 25' RKB @ 3380.90usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3355.9' GL + 25' RKB @ 3380.90usft
Site:	Green Wave 20-17 Fed	North Reference:	Grid
Well:	31H	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)
12,100.00	90.70	358.63	10,180.53	2,116.32	119.34	2,112.87	0.00	0.00	0.00
12,200.00	90.70	358.63	10,179.31	2,216.29	116.95	2,212.86	0.00	0.00	0.00
12,300.00	90.70	358.63	10,178.08	2,316.25	114.56	2,312.85	0.00	0.00	0.00
12,400.00	90.70	358.63	10,176.86	2,416.22	112.16	2,412.84	0.00	0.00	0.00
12,500.00	90.70	358.63	10,175.63	2,516.18	109.77	2,512.84	0.00	0.00	0.00
12,600.00	90.70	358.63	10,174.41	2,616.14	107.38	2,612.83	0.00	0.00	0.00
12,700.00	90.70	358.63	10,173.18	2,716.11	104.99	2,712.82	0.00	0.00	0.00
12,800.00	90.70	358.63	10,171.96	2,816.07	102.59	2,812.81	0.00	0.00	0.00
12,900.00	90.70	358.63	10,170.73	2,916.03	100.20	2,912.81	0.00	0.00	0.00
13,000.00	90.70	358.63	10,169.51	3,016.00	97.81	3,012.80	0.00	0.00	0.00
13,100.00	90.70	358.63	10,168.28	3,115.96	95.41	3,112.79	0.00	0.00	0.00
13,200.00	90.70	358.63	10,167.06	3,215.93	93.02	3,212.78	0.00	0.00	0.00
13,300.00	90.70	358.63	10,165.83	3,315.89	90.63	3,312.78	0.00	0.00	0.00
13,400.00	90.70	358.63	10,164.61	3,415.85	88.24	3,412.77	0.00	0.00	0.00
13,500.00	90.70	358.63	10,163.39	3,515.82	85.84	3,512.76	0.00	0.00	0.00
13,600.00	90.70	358.63	10,162.16	3,615.78	83.45	3,612.75	0.00	0.00	0.00
13,700.00	90.70	358.63	10,160.94	3,715.75	81.06	3,712.75	0.00	0.00	0.00
13,800.00	90.70	358.63	10,159.71	3,815.71	78.67	3,812.74	0.00	0.00	0.00
13,900.00	90.70	358.63	10,158.49	3,915.67	76.27	3,912.73	0.00	0.00	0.00
14,000.00	90.70	358.63	10,157.26	4,015.64	73.88	4,012.72	0.00	0.00	0.00
14,100.00	90.70	358.63	10,156.04	4,115.60	71.49	4,112.72	0.00	0.00	0.00
14,200.00	90.70	358.63	10,154.81	4,215.56	69.10	4,212.71	0.00	0.00	0.00
14,300.00	90.70	358.63	10,153.59	4,315.53	66.70	4,312.70	0.00	0.00	0.00
14,400.00	90.70	358.63	10,152.36	4,415.49	64.31	4,412.69	0.00	0.00	0.00
14,500.00	90.70	358.63	10,151.14	4,515.46	61.92	4,512.69	0.00	0.00	0.00
14,600.00	90.70	358.63	10,149.91	4,615.42	59.52	4,612.68	0.00	0.00	0.00
14,700.00	90.70	358.63	10,148.69	4,715.38	57.13	4,712.67	0.00	0.00	0.00
14,800.00	90.70	358.63	10,147.46	4,815.35	54.74	4,812.66	0.00	0.00	0.00
14,900.00	90.70	358.63	10,146.24	4,915.31	52.35	4,912.66	0.00	0.00	0.00
15,000.00	90.70	358.63	10,145.01	5,015.28	49.95	5,012.65	0.00	0.00	0.00
15,100.00	90.70	358.63	10,143.79	5,115.24	47.56	5,112.64	0.00	0.00	0.00
15,200.00	90.70	358.63	10,142.57	5,215.20	45.17	5,212.63	0.00	0.00	0.00
15,300.00	90.70	358.63	10,141.34	5,315.17	42.78	5,312.63	0.00	0.00	0.00
15,400.00	90.70	358.63	10,140.12	5,415.13	40.38	5,412.62	0.00	0.00	0.00
15,500.00	90.70	358.63	10,138.89	5,515.10	37.99	5,512.61	0.00	0.00	0.00
15,600.00	90.70	358.63	10,137.67	5,615.06	35.60	5,612.60	0.00	0.00	0.00
15,700.00	90.70	358.63	10,136.44	5,715.02	33.21	5,712.60	0.00	0.00	0.00
15,800.00	90.70	358.63	10,135.22	5,814.99	30.81	5,812.59	0.00	0.00	0.00
15,900.00	90.70	358.63	10,133.99	5,914.95	28.42	5,912.58	0.00	0.00	0.00
16,000.00	90.70	358.63	10,132.77	6,014.91	26.03	6,012.57	0.00	0.00	0.00
16,100.00	90.70	358.63	10,131.54	6,114.88	23.64	6,112.57	0.00	0.00	0.00
16,200.00	90.70	358.63	10,130.32	6,214.84	21.24	6,212.56	0.00	0.00	0.00
16,300.00	90.70	358.63	10,129.09	6,314.81	18.85	6,312.55	0.00	0.00	0.00
16,400.00	90.70	358.63	10,127.87	6,414.77	16.46	6,412.54	0.00	0.00	0.00
16,500.00	90.70	358.63	10,126.64	6,514.73	14.06	6,512.54	0.00	0.00	0.00
16,600.00	90.70	358.63	10,125.42	6,614.70	11.67	6,612.53	0.00	0.00	0.00
16,700.00	90.70	358.63	10,124.19	6,714.66	9.28	6,712.52	0.00	0.00	0.00
16,800.00	90.70	358.63	10,122.97	6,814.63	6.89	6,812.51	0.00	0.00	0.00
16,900.00	90.70	358.63	10,121.74	6,914.59	4.49	6,912.51	0.00	0.00	0.00
17,000.00	90.70	358.63	10,120.52	7,014.55	2.10	7,012.50	0.00	0.00	0.00
17,100.00	90.70	358.63	10,119.30	7,114.52	-0.29	7,112.49	0.00	0.00	0.00
17,200.00	90.70	358.63	10,118.07	7,214.48	-2.68	7,212.48	0.00	0.00	0.00
17,300.00	90.70	358.63	10,116.85	7,314.44	-5.08	7,312.48	0.00	0.00	0.00
17,400.00	90.70	358.63	10,115.62	7,414.41	-7.47	7,412.47	0.00	0.00	0.00

LEAM Drilling Systems LLC
 Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 31H
Company:	DEVON ENERGY	TVD Reference:	3355.9' GL + 25' RKB @ 3380.90usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3355.9' GL + 25' RKB @ 3380.90usft
Site:	Green Wave 20-17 Fed	North Reference:	Grid
Well:	31H	Survey Calculation Method:	Minimum Curvature
Wellbore Design:	OH 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)
17,500.00	90.70	358.63	10,114.40	7,514.37	-9.86	7,512.46	0.00	0.00	0.00
17,600.00	90.70	358.63	10,113.17	7,614.34	-12.25	7,612.45	0.00	0.00	0.00
17,700.00	90.70	358.63	10,111.95	7,714.30	-14.65	7,712.45	0.00	0.00	0.00
17,800.00	90.70	358.63	10,110.72	7,814.26	-17.04	7,812.44	0.00	0.00	0.00
17,858.95	90.70	358.63	10,110.00	7,873.19	-18.45	7,871.38	0.00	0.00	0.00
TD - PBHL (GW20-17F 31H)									

Design Targets										
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (GW20-17F 31H)	- plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	374,977.44	799,786.01	32° 1' 41.342 N	103° 29' 57.676 W
PBHL (GW20-17F 31H)	- plan hits target center - Point	0.00	0.00	10,110.00	7,873.19	-18.45	382,850.63	799,767.56	32° 2' 59.251 N	103° 29' 57.184 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
733.00	733.80	Rustler		0.00		
1,163.00	1,163.80	Salado		0.00		
5,291.50	5,289.80	Lamar		0.00		
5,326.64	5,324.80	Bell Canyon		0.00		
6,411.21	6,405.80	Cherry Canyon		0.00		
7,959.47	7,953.80	Brushy Canyon		0.00		
9,380.47	9,374.80	Lwr Brushy		0.00		
9,626.47	9,620.80	Bone Spring		0.00		
9,646.47	9,640.80	Upr Leonard		0.00		
9,936.00	9,920.80	Upr Leonard Base		0.00		
10,317.30	10,167.80	Mid Leonard		0.00		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,300.00	4,300.00	0.00	0.00	Nudge
4,800.00	4,799.37	0.00	21.80	Hold
6,000.00	5,994.80	0.00	126.39	Drop
7,000.00	6,993.53	0.00	170.00	Hold
9,685.64	9,679.17	0.00	170.00	KOP 11° DLS
10,510.20	10,200.00	527.10	157.38	LP
17,858.95	10,110.00	7,873.19	-18.45	TD