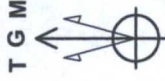


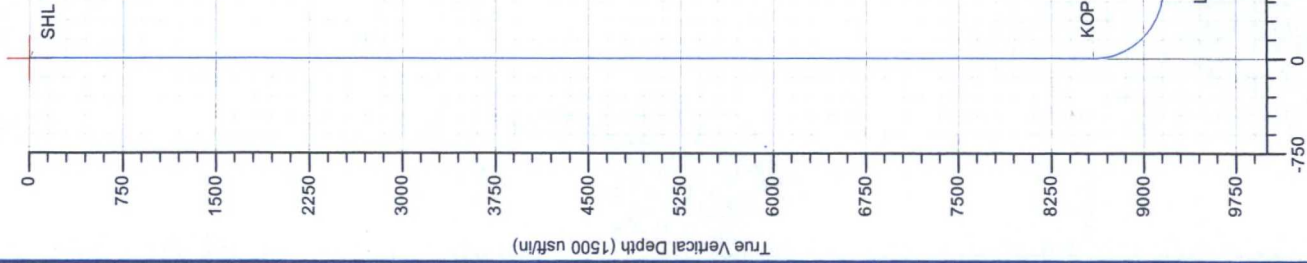


Project: Lea County, NM (NAD-83)
Site: Boomsiang 14-23 Fed
Well: 1H
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.77°

Magnetic Field
Strength: 48171.7snT
Dip Angle: 60.14°
Date: 12/14/2015
Model: BGGM2015



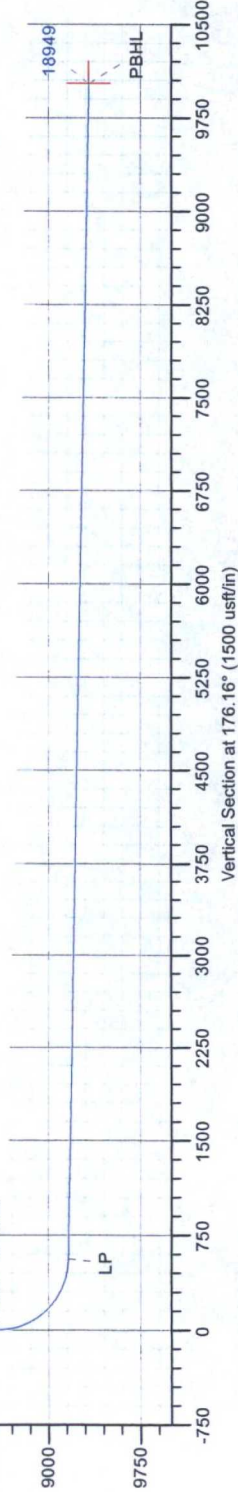
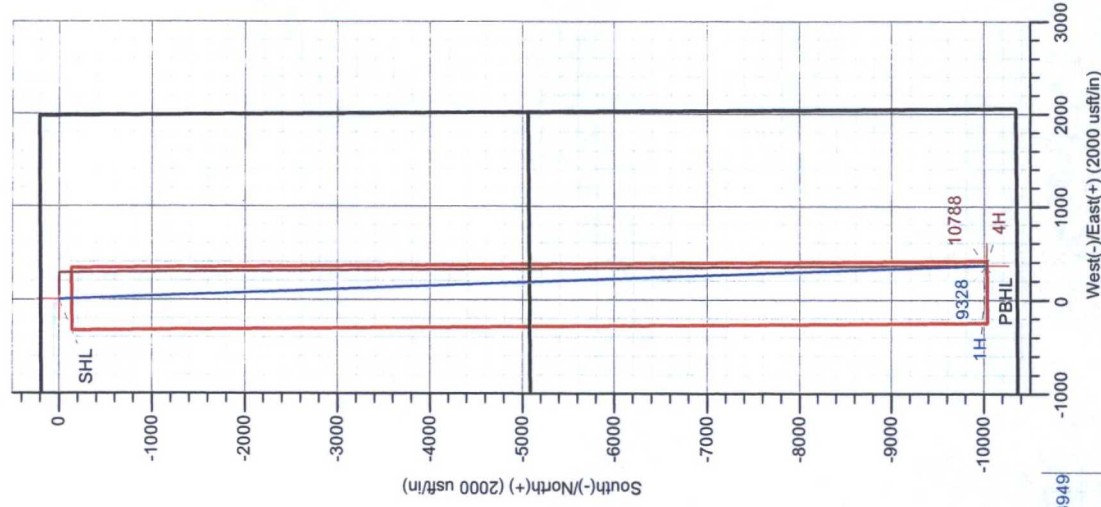
DESIGN TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Northing
SHL (B14F 1H)	0.00	0.00	0.00	446243.13
PBHL (B14F 1H)	9328.26	-10023.92	359.67	436219.21

SECTION DETAILS				
MD	Inc	Azi	TVD	+N/-S
0.00	0.00	0.00	0.00	0.00
8590.13	0.00	0.00	8590.13	0.00
9480.13	89.00	177.95	9163.00	-562.60
18948.98	89.00	177.95	9328.26	-10023.92

PROJECT DETAILS:		Lea County, NM	
Geodetic System:	US State Plane 1983	MDPath	1290.00
Datum:	North American Datum 1983	MDPath	1290.00
Ellipsoid:	GRS 1980	MDPath	1290.00
Zone:	New Mexico Eastern Zone	MDPath	1290.00
System Datum:	Mean Sea Level	MDPath	1290.00

Plan: Plan #1 (1H/OH)	MDPath	1290.00
Boomsiang 14-23 Fed	MDPath	1290.00
Created By: Brady Deaver	MDPath	1290.00
Date: 8:46, December 14 2015	MDPath	1290.00

Target Line:
TL#1: 89° INC





DEVON ENERGY

Lea County, NM (NAD-83)

Boomslang 14-23 Fed

1H

OH

Plan: Plan #1

Standard Planning Report

14 December, 2015





LEAM Drilling Systems LLC

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	3601.6' GL + 25' RKB @ 3626.60usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3601.6' GL + 25' RKB @ 3626.60usft
Site:	Boomslang 14-23 Fed	North Reference:	Grid
Well:	1H	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	Boomslang 14-23 Fed		
Site Position:		Northing:	446,243.13 usft
From:	Map	Easting:	786,353.47 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 13' 27.535 N
		Longitude:	103° 32' 27.617 W
		Grid Convergence:	0.42 °

Well	1H, Leonard		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,626.60 usft
		Latitude:	32° 13' 27.535 N
		Longitude:	103° 32' 27.617 W
		Ground Level:	3,601.60 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	BGGM2015	12/4/2014	7.30
			Dip Angle
			(°)
			60.16
			Field Strength
			(nT)
			48,279

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
			(°)
			176.16

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,590.13	0.00	0.00	8,590.13	0.00	0.00	0.00	0.00	0.00	0.00	
9,480.13	89.00	177.95	9,163.00	-562.60	20.19	10.00	10.00	19.99	177.95	
18,948.98	89.00	177.95	9,328.26	-10,023.92	359.67	0.00	0.00	0.00	0.00	PBHL (B14F 1H)



LEAM Drilling Systems LLC

Planning Report



Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Boomslang 14-23 Fed
Well: 1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: 3601.6' GL + 25' RKB @ 3626.60usft
MD Reference: 3601.6' GL + 25' RKB @ 3626.60usft
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 (B14F 1H)									
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
1,290.00	0.00	0.00	1,290.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,770.00	0.00	0.00	1,770.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
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



LEAM Drilling Systems LLC

Planning Report



Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Boomsiang 14-23 Fed
Well: 1H
Wellbore: OH
Design: Plan #1

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MD Reference: 3601.6' GL + 25' RKB @ 3626.60usft
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)
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
5,090.00	0.00	0.00	5,090.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,190.00	0.00	0.00	5,190.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
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
6,060.00	0.00	0.00	6,060.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
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
7,640.00	0.00	0.00	7,640.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
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
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
8,590.13	0.00	0.00	8,590.13	0.00	0.00	0.00	0.00	0.00	0.00
KOP 10° DLS									
8,600.00	0.99	177.95	8,600.00	-0.08	0.00	0.08	10.00	10.00	0.00
8,650.00	5.99	177.95	8,649.89	-3.12	0.11	3.12	10.00	10.00	0.00
8,700.00	10.99	177.95	8,699.33	-10.50	0.38	10.50	10.00	10.00	0.00
8,750.00	15.99	177.95	8,747.93	-22.15	0.79	22.15	10.00	10.00	0.00
8,800.00	20.99	177.95	8,795.34	-37.98	1.36	37.99	10.00	10.00	0.00
8,850.00	25.99	177.95	8,841.18	-57.89	2.08	57.90	10.00	10.00	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: Boomslang 14-23 Fed
Well: 1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well 1H
3601.6' GL + 25' RKB @ 3626.60usft
3601.6' GL + 25' RKB @ 3626.60usft
Grid
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)
8,900.00	30.99	177.95	8,885.11	-81.72	2.93	81.73	10.00	10.00	0.00
8,950.00	35.99	177.95	8,926.80	-109.28	3.92	109.30	10.00	10.00	0.00
9,000.00	40.99	177.95	8,965.93	-140.37	5.04	140.39	10.00	10.00	0.00
9,050.00	45.99	177.95	9,002.19	-174.74	6.27	174.77	10.00	10.00	0.00
9,100.00	50.99	177.95	9,035.32	-212.15	7.61	212.18	10.00	10.00	0.00
9,150.00	55.99	177.95	9,065.06	-252.29	9.05	252.33	10.00	10.00	0.00
9,158.93	56.88	177.95	9,070.00	-259.73	9.32	259.77	10.00	10.00	0.00
1st BS LM									
9,200.00	60.99	177.95	9,091.19	-294.88	10.58	294.93	10.00	10.00	0.00
9,250.00	65.99	177.95	9,113.50	-339.58	12.18	339.63	10.00	10.00	0.00
9,300.00	70.99	177.95	9,131.83	-386.05	13.85	386.11	10.00	10.00	0.00
9,350.00	75.99	177.95	9,146.04	-433.94	15.57	434.01	10.00	10.00	0.00
9,400.00	80.99	177.95	9,156.01	-482.89	17.33	482.97	10.00	10.00	0.00
9,450.00	85.99	177.95	9,161.68	-532.52	19.11	532.60	10.00	10.00	0.00
9,480.13	89.00	177.95	9,163.00	-562.60	20.19	562.69	10.00	10.00	0.00
LP									
9,500.00	89.00	177.95	9,163.35	-582.45	20.90	582.54	0.00	0.00	0.00
9,600.00	89.00	177.95	9,165.09	-682.37	24.48	682.48	0.00	0.00	0.00
9,700.00	89.00	177.95	9,166.84	-782.29	28.07	782.42	0.00	0.00	0.00
9,800.00	89.00	177.95	9,168.58	-882.21	31.65	882.35	0.00	0.00	0.00
9,900.00	89.00	177.95	9,170.33	-982.13	35.24	982.29	0.00	0.00	0.00
10,000.00	89.00	177.95	9,172.07	-1,082.05	38.83	1,082.23	0.00	0.00	0.00
10,100.00	89.00	177.95	9,173.82	-1,181.97	42.41	1,182.16	0.00	0.00	0.00
10,200.00	89.00	177.95	9,175.56	-1,281.89	46.00	1,282.10	0.00	0.00	0.00
10,300.00	89.00	177.95	9,177.31	-1,381.81	49.58	1,382.04	0.00	0.00	0.00
10,400.00	89.00	177.95	9,179.06	-1,481.73	53.17	1,481.97	0.00	0.00	0.00
10,500.00	89.00	177.95	9,180.80	-1,581.66	56.75	1,581.91	0.00	0.00	0.00
10,600.00	89.00	177.95	9,182.55	-1,681.58	60.34	1,681.85	0.00	0.00	0.00
10,700.00	89.00	177.95	9,184.29	-1,781.50	63.92	1,781.78	0.00	0.00	0.00
10,800.00	89.00	177.95	9,186.04	-1,881.42	67.51	1,881.72	0.00	0.00	0.00
10,900.00	89.00	177.95	9,187.78	-1,981.34	71.09	1,981.65	0.00	0.00	0.00
11,000.00	89.00	177.95	9,189.53	-2,081.26	74.68	2,081.59	0.00	0.00	0.00
11,100.00	89.00	177.95	9,191.27	-2,181.18	78.26	2,181.53	0.00	0.00	0.00
11,200.00	89.00	177.95	9,193.02	-2,281.10	81.85	2,281.46	0.00	0.00	0.00
11,300.00	89.00	177.95	9,194.76	-2,381.02	85.43	2,381.40	0.00	0.00	0.00
11,400.00	89.00	177.95	9,196.51	-2,480.94	89.02	2,481.34	0.00	0.00	0.00
11,500.00	89.00	177.95	9,198.25	-2,580.86	92.60	2,581.27	0.00	0.00	0.00
11,600.00	89.00	177.95	9,200.00	-2,680.78	96.19	2,681.21	0.00	0.00	0.00
11,700.00	89.00	177.95	9,201.74	-2,780.70	99.77	2,781.15	0.00	0.00	0.00
11,800.00	89.00	177.95	9,203.49	-2,880.62	103.36	2,881.08	0.00	0.00	0.00
11,900.00	89.00	177.95	9,205.23	-2,980.54	106.95	2,981.02	0.00	0.00	0.00
12,000.00	89.00	177.95	9,206.98	-3,080.46	110.53	3,080.96	0.00	0.00	0.00
12,100.00	89.00	177.95	9,208.73	-3,180.38	114.12	3,180.89	0.00	0.00	0.00
12,200.00	89.00	177.95	9,210.47	-3,280.30	117.70	3,280.83	0.00	0.00	0.00
12,300.00	89.00	177.95	9,212.22	-3,380.22	121.29	3,380.77	0.00	0.00	0.00
12,400.00	89.00	177.95	9,213.96	-3,480.14	124.87	3,480.70	0.00	0.00	0.00
12,500.00	89.00	177.95	9,215.71	-3,580.06	128.46	3,580.64	0.00	0.00	0.00
12,600.00	89.00	177.95	9,217.45	-3,679.99	132.04	3,680.57	0.00	0.00	0.00
12,700.00	89.00	177.95	9,219.20	-3,779.91	135.63	3,780.51	0.00	0.00	0.00
12,800.00	89.00	177.95	9,220.94	-3,879.83	139.21	3,880.45	0.00	0.00	0.00
12,900.00	89.00	177.95	9,222.69	-3,979.75	142.80	3,980.38	0.00	0.00	0.00
13,000.00	89.00	177.95	9,224.43	-4,079.67	146.38	4,080.32	0.00	0.00	0.00
13,100.00	89.00	177.95	9,226.18	-4,179.59	149.97	4,180.26	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: Boomsiang 14-23 Fed
Well: 1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well 1H
3601.6' GL + 25' RKB @ 3626.60usft
3601.6' GL + 25' RKB @ 3626.60usft
Grid
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)
13,200.00	89.00	177.95	9,227.92	-4,279.51	153.55	4,280.19	0.00	0.00	0.00
13,300.00	89.00	177.95	9,229.67	-4,379.43	157.14	4,380.13	0.00	0.00	0.00
13,400.00	89.00	177.95	9,231.41	-4,479.35	160.72	4,480.07	0.00	0.00	0.00
13,500.00	89.00	177.95	9,233.16	-4,579.27	164.31	4,580.00	0.00	0.00	0.00
13,600.00	89.00	177.95	9,234.90	-4,679.19	167.89	4,679.94	0.00	0.00	0.00
13,700.00	89.00	177.95	9,236.65	-4,779.11	171.48	4,779.88	0.00	0.00	0.00
13,800.00	89.00	177.95	9,238.40	-4,879.03	175.07	4,879.81	0.00	0.00	0.00
13,900.00	89.00	177.95	9,240.14	-4,978.95	178.65	4,979.75	0.00	0.00	0.00
14,000.00	89.00	177.95	9,241.89	-5,078.87	182.24	5,079.69	0.00	0.00	0.00
14,100.00	89.00	177.95	9,243.63	-5,178.79	185.82	5,179.62	0.00	0.00	0.00
14,200.00	89.00	177.95	9,245.38	-5,278.71	189.41	5,279.56	0.00	0.00	0.00
14,300.00	89.00	177.95	9,247.12	-5,378.63	192.99	5,379.49	0.00	0.00	0.00
14,400.00	89.00	177.95	9,248.87	-5,478.55	196.58	5,479.43	0.00	0.00	0.00
14,500.00	89.00	177.95	9,250.61	-5,578.47	200.16	5,579.37	0.00	0.00	0.00
14,600.00	89.00	177.95	9,252.36	-5,678.39	203.75	5,679.30	0.00	0.00	0.00
14,700.00	89.00	177.95	9,254.10	-5,778.31	207.33	5,779.24	0.00	0.00	0.00
14,800.00	89.00	177.95	9,255.85	-5,878.24	210.92	5,879.18	0.00	0.00	0.00
14,900.00	89.00	177.95	9,257.59	-5,978.16	214.50	5,979.11	0.00	0.00	0.00
15,000.00	89.00	177.95	9,259.34	-6,078.08	218.09	6,079.05	0.00	0.00	0.00
15,100.00	89.00	177.95	9,261.08	-6,178.00	221.67	6,178.99	0.00	0.00	0.00
15,200.00	89.00	177.95	9,262.83	-6,277.92	225.26	6,278.92	0.00	0.00	0.00
15,300.00	89.00	177.95	9,264.57	-6,377.84	228.84	6,378.86	0.00	0.00	0.00
15,400.00	89.00	177.95	9,266.32	-6,477.76	232.43	6,478.80	0.00	0.00	0.00
15,500.00	89.00	177.95	9,268.07	-6,577.68	236.01	6,578.73	0.00	0.00	0.00
15,600.00	89.00	177.95	9,269.81	-6,677.60	239.60	6,678.67	0.00	0.00	0.00
15,700.00	89.00	177.95	9,271.56	-6,777.52	243.19	6,778.61	0.00	0.00	0.00
15,800.00	89.00	177.95	9,273.30	-6,877.44	246.77	6,878.54	0.00	0.00	0.00
15,900.00	89.00	177.95	9,275.05	-6,977.36	250.36	6,978.48	0.00	0.00	0.00
16,000.00	89.00	177.95	9,276.79	-7,077.28	253.94	7,078.42	0.00	0.00	0.00
16,100.00	89.00	177.95	9,278.54	-7,177.20	257.53	7,178.35	0.00	0.00	0.00
16,200.00	89.00	177.95	9,280.28	-7,277.12	261.11	7,278.29	0.00	0.00	0.00
16,300.00	89.00	177.95	9,282.03	-7,377.04	264.70	7,378.22	0.00	0.00	0.00
16,400.00	89.00	177.95	9,283.77	-7,476.96	268.28	7,478.16	0.00	0.00	0.00
16,500.00	89.00	177.95	9,285.52	-7,576.88	271.87	7,578.10	0.00	0.00	0.00
16,600.00	89.00	177.95	9,287.26	-7,676.80	275.45	7,678.03	0.00	0.00	0.00
16,700.00	89.00	177.95	9,289.01	-7,776.72	279.04	7,777.97	0.00	0.00	0.00
16,800.00	89.00	177.95	9,290.75	-7,876.64	282.62	7,877.91	0.00	0.00	0.00
16,900.00	89.00	177.95	9,292.50	-7,976.57	286.21	7,977.84	0.00	0.00	0.00
17,000.00	89.00	177.95	9,294.24	-8,076.49	289.79	8,077.78	0.00	0.00	0.00
17,100.00	89.00	177.95	9,295.99	-8,176.41	293.38	8,177.72	0.00	0.00	0.00
17,200.00	89.00	177.95	9,297.74	-8,276.33	296.96	8,277.65	0.00	0.00	0.00
17,300.00	89.00	177.95	9,299.48	-8,376.25	300.55	8,377.59	0.00	0.00	0.00
17,400.00	89.00	177.95	9,301.23	-8,476.17	304.13	8,477.53	0.00	0.00	0.00
17,500.00	89.00	177.95	9,302.97	-8,576.09	307.72	8,577.46	0.00	0.00	0.00
17,600.00	89.00	177.95	9,304.72	-8,676.01	311.31	8,677.40	0.00	0.00	0.00
17,700.00	89.00	177.95	9,306.46	-8,775.93	314.89	8,777.34	0.00	0.00	0.00
17,800.00	89.00	177.95	9,308.21	-8,875.85	318.48	8,877.27	0.00	0.00	0.00
17,900.00	89.00	177.95	9,309.95	-8,975.77	322.06	8,977.21	0.00	0.00	0.00
18,000.00	89.00	177.95	9,311.70	-9,075.69	325.65	9,077.14	0.00	0.00	0.00
18,100.00	89.00	177.95	9,313.44	-9,175.61	329.23	9,177.08	0.00	0.00	0.00
18,200.00	89.00	177.95	9,315.19	-9,275.53	332.82	9,277.02	0.00	0.00	0.00
18,300.00	89.00	177.95	9,316.93	-9,375.45	336.40	9,376.95	0.00	0.00	0.00
18,400.00	89.00	177.95	9,318.68	-9,475.37	339.99	9,476.89	0.00	0.00	0.00
18,500.00	89.00	177.95	9,320.42	-9,575.29	343.57	9,576.83	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: Boomslang 14-23 Fed
Well: 1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 1H
TVD Reference: 3601.6' GL + 25' RKB @ 3626.60usft
MD Reference: 3601.6' GL + 25' RKB @ 3626.60usft
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)
18,600.00	89.00	177.95	9,322.17	-9,675.21	347.16	9,676.76	0.00	0.00	0.00
18,700.00	89.00	177.95	9,323.91	-9,775.13	350.74	9,776.70	0.00	0.00	0.00
18,800.00	89.00	177.95	9,325.66	-9,875.05	354.33	9,876.64	0.00	0.00	0.00
18,900.00	89.00	177.95	9,327.41	-9,974.97	357.91	9,976.57	0.00	0.00	0.00
18,948.98	89.00	177.95	9,328.26	-10,023.92	359.67	10,025.52	0.00	0.00	0.00

TD - PBHL (B14F 1H)

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 (B14F 1H)	0.00	0.00	0.00	0.00	0.00	446,243.13	786,353.47	32° 13' 27.535 N	103° 32' 27.617 W
- plan hits target center									
- Point									
PBHL (B14F 1H)	0.00	0.00	9,328.26	-10,023.92	359.67	436,219.21	786,713.14	32° 11' 48.321 N	103° 32' 24.291 W
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,290.00	1,290.00	Rustler		0.00	
1,770.00	1,770.00	Top Salt		0.00	
5,090.00	5,090.00	Base Salt		0.00	
5,190.00	5,190.00	Delaware		0.00	
6,060.00	6,060.00	Cherry Canyon		0.00	
7,640.00	7,640.00	Brushy Canyon		0.00	
9,158.93	9,070.00	1st BS LM		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,590.13	8,590.13	0.00	0.00	KOP 10° DLS
9,480.13	9,163.00	-562.60	20.19	LP
18,948.98	9,328.26	-10,023.92	359.67	TD

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company, L.P.
LEASE NO.:	NMLC-063798
WELL NAME & NO.:	Boomslang 14-23 Fed 1H
SURFACE HOLE FOOTAGE:	0200' FNL & 1980' FEL
BOTTOM HOLE FOOTAGE:	0330' FSL & 1700' FEL
LOCATION:	Section 14, T. 24 S., R 33 E., NMPM
COUNTY:	Lea County, New Mexico

A. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red Beds, Rustler, and Delaware.

1. The 13-3/8 inch surface casing shall be set at approximately 1400 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
- c. **Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.**
- d. **If cement falls back, remedial cementing will be done prior to drilling out that string.**

Option #1 (Single Stage):

- ☒ **Cement to surface. If cement does not circulate see B.1.a, c-d above.**

Option #2:

Operator has proposed DV tool at depth of 500', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

- a. **First stage to DV tool:**
 - ☒ **Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve approved top of cement on the next stage.**
- b. **Second stage above DV tool:**
 - ☒ **Cement to surface. If cement does not circulate see B.1.a, c-d above.**

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

Option #1 (Single Stage):

- ☒ **Cement to surface. If cement does not circulate see B.1.a, c-d above.**

Option #2:

Operator has proposed DV tool at depth of 3850', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

- c. **First stage to DV tool:**

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve approved top of cement on the next stage.

d. Second stage above DV tool:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the **5-1/2 inch production casing** is:

Option #1 (Single Stage):

- ☒ Cement as proposed by operator. Operator shall provide method of verification.
Excess calculates to 25% - Additional cement may be required.

Option #2:

Operator has proposed DV tool at depth of 6500', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

e. First stage to DV tool:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve approved top of cement on the next stage.

f. Second stage above DV tool:

- ☒ Cement as proposed by operator. Operator shall provide method of verification.
Excess calculates to 24% - Additional cement may be required.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi.**
 - a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
 - b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
 - c. **Manufacturer representative shall install the test plug for the initial BOP test.**
 - d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
 - e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer.**
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear

chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

- d. The results of the test shall be reported to the appropriate BLM office.
- e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

C. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

CLN 012016