

HOBBS OCD

AUG 03 2017

RECEIVED



Devon Energy

Project: Lea County, NM (NAD-83)

Site: Cotton Draw Unit

Well: 509H

Wellbore: OH

Design: Plan #1

3409.2' GE + 25' KB @ 3434.20usft
Ground Level: 3409.20



Azimuths to Grid North
True North: -0.33°
Magnetic North: 6.55°

Magnetic Field
Strength: 48048.6nT
Dip Angle: 59.87°
Date: 4/11/2017
Model: HDGM

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

Geodetic System: US State Plane 1983

Datum: North American Datum 1983

Ellipsoid: GRS 1980

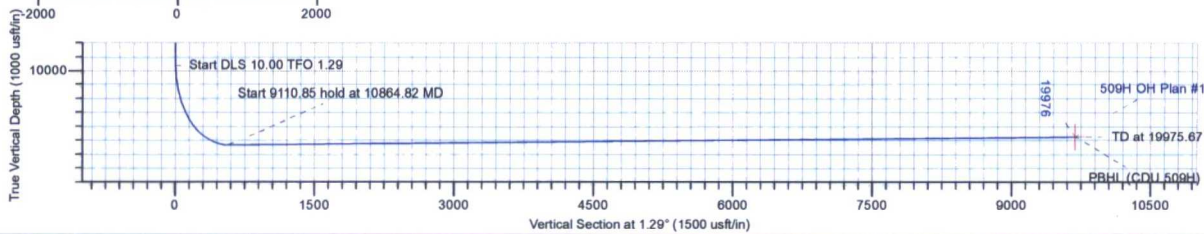
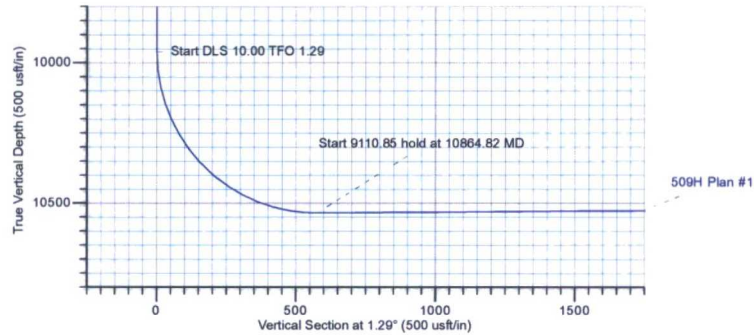
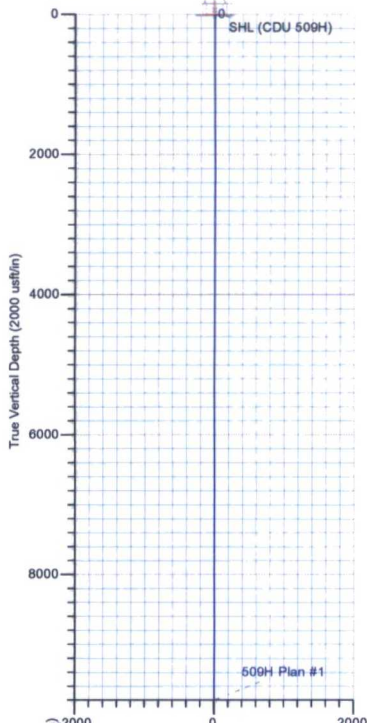
Zone: New Mexico Eastern Zone

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	
9961.05	0.00	0.00	9961.05	0.00	0.00	0.00	0.00	0.00	Start DLS 10.00 TFO 1.29
10864.82	90.38	1.29	10534.00	576.58	12.98	10.00	1.29	576.73	Start 9110.85 hold at 10864.82 MD
19975.67	90.38	1.29	10474.00	9684.93	218.08	0.00	0.00	9687.38	TD at 19975.67

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
PBHL (CDU 509H)	10474.00	9684.93	218.08	32° 9' 4.244 N	103° 42' 24.656 W
SHL (CDU 509H)	0.00	0.00	0.00	32° 7' 28.418 N	103° 42' 27.847 W



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

Plan: Plan #1 (509H/OH)
Cotton Draw Unit
Created By: Dustin Ault
Date: 14.03, April 11 2017
Approved: _____
Date: _____

Devon Energy

Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 509H
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.33°
Magnetic North: 6.55°

Magnetic Field
Strength: 48048.6nT
Dip Angle: 59.87°
Date: 4/11/2017
Model: HDGM



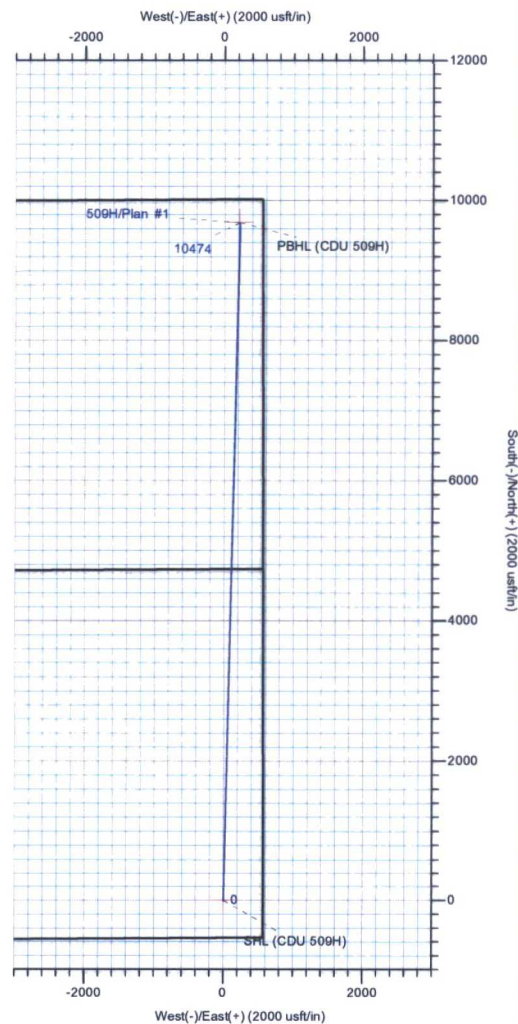
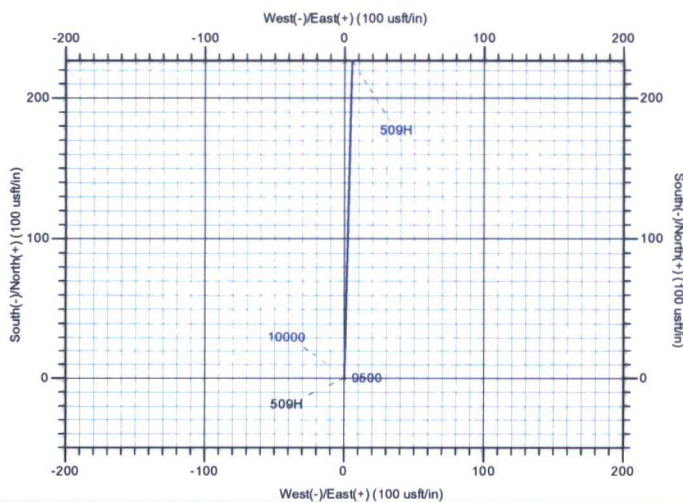
PROJECT DETAILS: Lea County, NM (NAD-83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9961.05	0.00	0.00	9961.05	0.00	0.00	0.00	0.00	0.00	
10864.82	90.38	1.29	10534.00	576.58	12.98	10.00	1.29	576.73	
19975.67	90.38	1.29	10474.00	9684.93	218.08	0.00	0.00	9687.38	PBHL (CDU 509H)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (CDU 509H)	10474.00	9684.93	218.08	410298.29	735222.53	32° 9' 4.244 N	103° 42' 24.856 W
SHL (CDU 509H)	0.00	0.00	0.00	409613.36	735004.45	32° 7' 28.418 N	103° 42' 27.847 W



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

Plan: Plan #1 (509H/OH)
Cotton Draw Unit
Created By: Dustin Ault
Date: 14.04, April 11 2017
Approved: _____
Date: _____

Devon Energy

Lea County, NM (NAD-83)

Cotton Draw Unit

509H

OH

Plan: Plan #1

Standard Planning Report

11 April, 2017

HOBBS OCD

AUG 03 2017

RECEIVED

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well 509H
Company:	Devon Energy	TVD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Site:	Cotton Draw Unit	North Reference:	Grid
Well:	509H	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	Cotton Draw Unit				
Site Position:		Northing:	409,601.90 usft	Latitude:	32° 7' 28.458 N
From:	Map	Easting:	732,306.79 usft	Longitude:	103° 42' 59.218 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.33 °

Well	509H					
Well Position	+N/-S	11.46 usft	Northing:	409,613.36 usft	Latitude:	32° 7' 28.418 N
	+E/-W	2,697.66 usft	Easting:	735,004.45 usft	Longitude:	103° 42' 27.847 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,409.20 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/11/2017	6.88	59.87	48,049

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	1.29	

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	
9,961.05	0.00	0.00	9,961.05	0.00	0.00	0.00	0.00	0.00	0.00	
10,864.82	90.38	1.29	10,534.00	576.58	12.98	10.00	10.00	0.14	1.29	
19,975.68	90.38	1.29	10,474.00	9,684.93	218.08	0.00	0.00	0.00	0.00	PBHL (CDU 509H)

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well 509H
Company:	Devon Energy	TVD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Site:	Cotton Draw Unit	North Reference:	Grid
Well:	509H	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 (CDU 509H)									
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
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
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

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well 509H
Company:	Devon Energy	TVD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Site:	Cotton Draw Unit	North Reference:	Grid
Well:	509H	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)	
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	
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	
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
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	
9,500.00	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	
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,961.05	0.00	0.00	9,961.05	0.00	0.00	0.00	0.00	0.00	0.00	
Start DLS 10.00 TFO 1.29										
10,000.00	3.90	1.29	9,999.97	1.32	0.03	1.32	10.00	10.00	0.00	
10,050.00	8.90	1.29	10,049.64	6.89	0.16	6.89	10.00	10.00	0.00	
10,100.00	13.90	1.29	10,098.64	16.76	0.38	16.77	10.00	10.00	0.00	
10,150.00	18.90	1.29	10,146.59	30.87	0.70	30.87	10.00	10.00	0.00	

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well 509H
Company:	Devon Energy	TVD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Site:	Cotton Draw Unit	North Reference:	Grid
Well:	509H	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)
10,200.00	23.90	1.29	10,193.13	49.10	1.11	49.11	10.00	10.00	0.00
10,250.00	28.90	1.29	10,237.91	71.31	1.61	71.33	10.00	10.00	0.00
10,300.00	33.90	1.29	10,280.57	97.34	2.19	97.37	10.00	10.00	0.00
10,350.00	38.90	1.29	10,320.81	126.99	2.86	127.03	10.00	10.00	0.00
10,400.00	43.90	1.29	10,358.30	160.04	3.60	160.08	10.00	10.00	0.00
10,450.00	48.90	1.29	10,392.78	196.22	4.42	196.27	10.00	10.00	0.00
10,500.00	53.90	1.29	10,423.96	235.27	5.30	235.33	10.00	10.00	0.00
10,550.00	58.90	1.29	10,451.63	276.89	6.23	276.96	10.00	10.00	0.00
10,600.00	63.90	1.29	10,475.56	320.77	7.22	320.85	10.00	10.00	0.00
10,650.00	68.90	1.29	10,495.58	366.56	8.25	366.65	10.00	10.00	0.00
10,700.00	73.90	1.29	10,511.52	413.92	9.32	414.02	10.00	10.00	0.00
10,750.00	78.90	1.29	10,523.28	462.48	10.41	462.60	10.00	10.00	0.00
10,800.00	83.90	1.29	10,530.76	511.89	11.53	512.02	10.00	10.00	0.00
10,850.00	88.90	1.29	10,533.90	561.77	12.65	561.91	10.00	10.00	0.00
10,864.82	90.38	1.29	10,534.00	576.58	12.98	576.73	10.00	10.00	0.00
Start 9110.85 hold at 10864.82 MD									
10,900.00	90.38	1.29	10,533.76	611.75	13.78	611.91	0.00	0.00	0.00
11,000.00	90.38	1.29	10,533.11	711.72	16.03	711.90	0.00	0.00	0.00
11,100.00	90.38	1.29	10,532.45	811.70	18.28	811.90	0.00	0.00	0.00
11,200.00	90.38	1.29	10,531.79	911.67	20.53	911.90	0.00	0.00	0.00
11,300.00	90.38	1.29	10,531.13	1,011.64	22.78	1,011.90	0.00	0.00	0.00
11,400.00	90.38	1.29	10,530.47	1,111.61	25.03	1,111.90	0.00	0.00	0.00
11,500.00	90.38	1.29	10,529.81	1,211.59	27.28	1,211.89	0.00	0.00	0.00
11,600.00	90.38	1.29	10,529.15	1,311.56	29.53	1,311.89	0.00	0.00	0.00
11,700.00	90.38	1.29	10,528.50	1,411.53	31.78	1,411.89	0.00	0.00	0.00
11,800.00	90.38	1.29	10,527.84	1,511.50	34.04	1,511.89	0.00	0.00	0.00
11,900.00	90.38	1.29	10,527.18	1,611.48	36.29	1,611.89	0.00	0.00	0.00
12,000.00	90.38	1.29	10,526.52	1,711.45	38.54	1,711.88	0.00	0.00	0.00
12,100.00	90.38	1.29	10,525.86	1,811.42	40.79	1,811.88	0.00	0.00	0.00
12,200.00	90.38	1.29	10,525.20	1,911.39	43.04	1,911.88	0.00	0.00	0.00
12,300.00	90.38	1.29	10,524.54	2,011.37	45.29	2,011.88	0.00	0.00	0.00
12,400.00	90.38	1.29	10,523.89	2,111.34	47.54	2,111.87	0.00	0.00	0.00
12,500.00	90.38	1.29	10,523.23	2,211.31	49.79	2,211.87	0.00	0.00	0.00
12,600.00	90.38	1.29	10,522.57	2,311.28	52.04	2,311.87	0.00	0.00	0.00
12,700.00	90.38	1.29	10,521.91	2,411.26	54.30	2,411.87	0.00	0.00	0.00
12,800.00	90.38	1.29	10,521.25	2,511.23	56.55	2,511.87	0.00	0.00	0.00
12,900.00	90.38	1.29	10,520.59	2,611.20	58.80	2,611.86	0.00	0.00	0.00
13,000.00	90.38	1.29	10,519.94	2,711.17	61.05	2,711.86	0.00	0.00	0.00
13,100.00	90.38	1.29	10,519.28	2,811.15	63.30	2,811.86	0.00	0.00	0.00
13,200.00	90.38	1.29	10,518.62	2,911.12	65.55	2,911.86	0.00	0.00	0.00
13,300.00	90.38	1.29	10,517.96	3,011.09	67.80	3,011.86	0.00	0.00	0.00
13,400.00	90.38	1.29	10,517.30	3,111.06	70.05	3,111.85	0.00	0.00	0.00
13,500.00	90.38	1.29	10,516.64	3,211.04	72.30	3,211.85	0.00	0.00	0.00
13,600.00	90.38	1.29	10,515.98	3,311.01	74.56	3,311.85	0.00	0.00	0.00
13,700.00	90.38	1.29	10,515.33	3,410.98	76.81	3,411.85	0.00	0.00	0.00
13,800.00	90.38	1.29	10,514.67	3,510.95	79.06	3,511.84	0.00	0.00	0.00
13,900.00	90.38	1.29	10,514.01	3,610.93	81.31	3,611.84	0.00	0.00	0.00
14,000.00	90.38	1.29	10,513.35	3,710.90	83.56	3,711.84	0.00	0.00	0.00
14,100.00	90.38	1.29	10,512.69	3,810.87	85.81	3,811.84	0.00	0.00	0.00
14,200.00	90.38	1.29	10,512.03	3,910.84	88.06	3,911.84	0.00	0.00	0.00
14,300.00	90.38	1.29	10,511.37	4,010.82	90.31	4,011.83	0.00	0.00	0.00
14,400.00	90.38	1.29	10,510.72	4,110.79	92.56	4,111.83	0.00	0.00	0.00
14,500.00	90.38	1.29	10,510.06	4,210.76	94.82	4,211.83	0.00	0.00	0.00
14,600.00	90.38	1.29	10,509.40	4,310.73	97.07	4,311.83	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well 509H
Company:	Devon Energy	TVD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Site:	Cotton Draw Unit	North Reference:	Grid
Well:	509H	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)
14,700.00	90.38	1.29	10,508.74	4,410.71	99.32	4,411.82	0.00	0.00	0.00
14,800.00	90.38	1.29	10,508.08	4,510.68	101.57	4,511.82	0.00	0.00	0.00
14,900.00	90.38	1.29	10,507.42	4,610.65	103.82	4,611.82	0.00	0.00	0.00
15,000.00	90.38	1.29	10,506.77	4,710.62	106.07	4,711.82	0.00	0.00	0.00
15,100.00	90.38	1.29	10,506.11	4,810.60	108.32	4,811.82	0.00	0.00	0.00
15,200.00	90.38	1.29	10,505.45	4,910.57	110.57	4,911.81	0.00	0.00	0.00
15,300.00	90.38	1.29	10,504.79	5,010.54	112.82	5,011.81	0.00	0.00	0.00
15,400.00	90.38	1.29	10,504.13	5,110.51	115.08	5,111.81	0.00	0.00	0.00
15,500.00	90.38	1.29	10,503.47	5,210.49	117.33	5,211.81	0.00	0.00	0.00
15,600.00	90.38	1.29	10,502.81	5,310.46	119.58	5,311.81	0.00	0.00	0.00
15,700.00	90.38	1.29	10,502.16	5,410.43	121.83	5,411.80	0.00	0.00	0.00
15,800.00	90.38	1.29	10,501.50	5,510.40	124.08	5,511.80	0.00	0.00	0.00
15,900.00	90.38	1.29	10,500.84	5,610.38	126.33	5,611.80	0.00	0.00	0.00
16,000.00	90.38	1.29	10,500.18	5,710.35	128.58	5,711.80	0.00	0.00	0.00
16,100.00	90.38	1.29	10,499.52	5,810.32	130.83	5,811.79	0.00	0.00	0.00
16,200.00	90.38	1.29	10,498.86	5,910.29	133.08	5,911.79	0.00	0.00	0.00
16,300.00	90.38	1.29	10,498.20	6,010.27	135.34	6,011.79	0.00	0.00	0.00
16,400.00	90.38	1.29	10,497.55	6,110.24	137.59	6,111.79	0.00	0.00	0.00
16,500.00	90.38	1.29	10,496.89	6,210.21	139.84	6,211.79	0.00	0.00	0.00
16,600.00	90.38	1.29	10,496.23	6,310.18	142.09	6,311.78	0.00	0.00	0.00
16,700.00	90.38	1.29	10,495.57	6,410.16	144.34	6,411.78	0.00	0.00	0.00
16,800.00	90.38	1.29	10,494.91	6,510.13	146.59	6,511.78	0.00	0.00	0.00
16,900.00	90.38	1.29	10,494.25	6,610.10	148.84	6,611.78	0.00	0.00	0.00
17,000.00	90.38	1.29	10,493.60	6,710.07	151.09	6,711.77	0.00	0.00	0.00
17,100.00	90.38	1.29	10,492.94	6,810.05	153.34	6,811.77	0.00	0.00	0.00
17,200.00	90.38	1.29	10,492.28	6,910.02	155.60	6,911.77	0.00	0.00	0.00
17,300.00	90.38	1.29	10,491.62	7,009.99	157.85	7,011.77	0.00	0.00	0.00
17,400.00	90.38	1.29	10,490.96	7,109.96	160.10	7,111.77	0.00	0.00	0.00
17,500.00	90.38	1.29	10,490.30	7,209.94	162.35	7,211.76	0.00	0.00	0.00
17,600.00	90.38	1.29	10,489.64	7,309.91	164.60	7,311.76	0.00	0.00	0.00
17,700.00	90.38	1.29	10,488.99	7,409.88	166.85	7,411.76	0.00	0.00	0.00
17,800.00	90.38	1.29	10,488.33	7,509.85	169.10	7,511.76	0.00	0.00	0.00
17,900.00	90.38	1.29	10,487.67	7,609.83	171.35	7,611.76	0.00	0.00	0.00
18,000.00	90.38	1.29	10,487.01	7,709.80	173.61	7,711.75	0.00	0.00	0.00
18,100.00	90.38	1.29	10,486.35	7,809.77	175.86	7,811.75	0.00	0.00	0.00
18,200.00	90.38	1.29	10,485.69	7,909.74	178.11	7,911.75	0.00	0.00	0.00
18,300.00	90.38	1.29	10,485.03	8,009.72	180.36	8,011.75	0.00	0.00	0.00
18,400.00	90.38	1.29	10,484.38	8,109.69	182.61	8,111.74	0.00	0.00	0.00
18,500.00	90.38	1.29	10,483.72	8,209.66	184.86	8,211.74	0.00	0.00	0.00
18,600.00	90.38	1.29	10,483.06	8,309.63	187.11	8,311.74	0.00	0.00	0.00
18,700.00	90.38	1.29	10,482.40	8,409.61	189.36	8,411.74	0.00	0.00	0.00
18,800.00	90.38	1.29	10,481.74	8,509.58	191.61	8,511.74	0.00	0.00	0.00
18,900.00	90.38	1.29	10,481.08	8,609.55	193.87	8,611.73	0.00	0.00	0.00
19,000.00	90.38	1.29	10,480.43	8,709.52	196.12	8,711.73	0.00	0.00	0.00
19,100.00	90.38	1.29	10,479.77	8,809.50	198.37	8,811.73	0.00	0.00	0.00
19,200.00	90.38	1.29	10,479.11	8,909.47	200.62	8,911.73	0.00	0.00	0.00
19,300.00	90.38	1.29	10,478.45	9,009.44	202.87	9,011.73	0.00	0.00	0.00
19,400.00	90.38	1.29	10,477.79	9,109.41	205.12	9,111.72	0.00	0.00	0.00
19,500.00	90.38	1.29	10,477.13	9,209.39	207.37	9,211.72	0.00	0.00	0.00
19,600.00	90.38	1.29	10,476.47	9,309.36	209.62	9,311.72	0.00	0.00	0.00
19,700.00	90.38	1.29	10,475.82	9,409.33	211.87	9,411.72	0.00	0.00	0.00
19,800.00	90.38	1.29	10,475.16	9,509.30	214.13	9,511.71	0.00	0.00	0.00
19,900.00	90.38	1.29	10,474.50	9,609.28	216.38	9,611.71	0.00	0.00	0.00
19,975.68	90.38	1.29	10,474.00	9,684.93	218.08	9,687.39	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well 509H
Company:	Devon Energy	TVD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3409.2' GE + 25' KB @ 3434.20usft
Site:	Cotton Draw Unit	North Reference:	Grid
Well:	509H	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)
TD at 19975.67 - PBHL (CDU 509H)									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (CDU 509H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	409,613.36	735,004.45	32° 7' 28.418 N	103° 42' 27.847 W
PBHL (CDU 509H) - plan hits target center - Point	0.00	0.00	10,474.00	9,684.93	218.08	419,298.29	735,222.53	32° 9' 4.244 N	103° 42' 24.656 W

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
9,961.05	9,961.05	0.00	0.00	Start DLS 10.00 TFO 1.29	
10,864.82	10,534.00	576.58	12.98	Start 9110.85 hold at 10864.82 MD	
19,975.68	10,474.00	9,684.93	218.08	TD at 19975.67	