

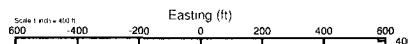


Location Lea County NM
Field (State DR) Sec 16, T19S R32E
Facility State DR No. 9H

Cimarex Energy Co.

Slot No. 9H SHL
Well No. 9H
Wellbore No. 9H PWB

30.025-3 9796



BAKER HUGHES INTEQ

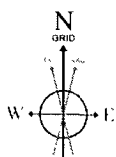
No. 9H SHL
330 FNL
460 FEL

Tie On: 0.00h TVD, 0.00h N, 0.00h E
Est. KOP: 9209.20h TVD, 0.00h N, 0.00h E

Scale: 1 inch = 400 ft

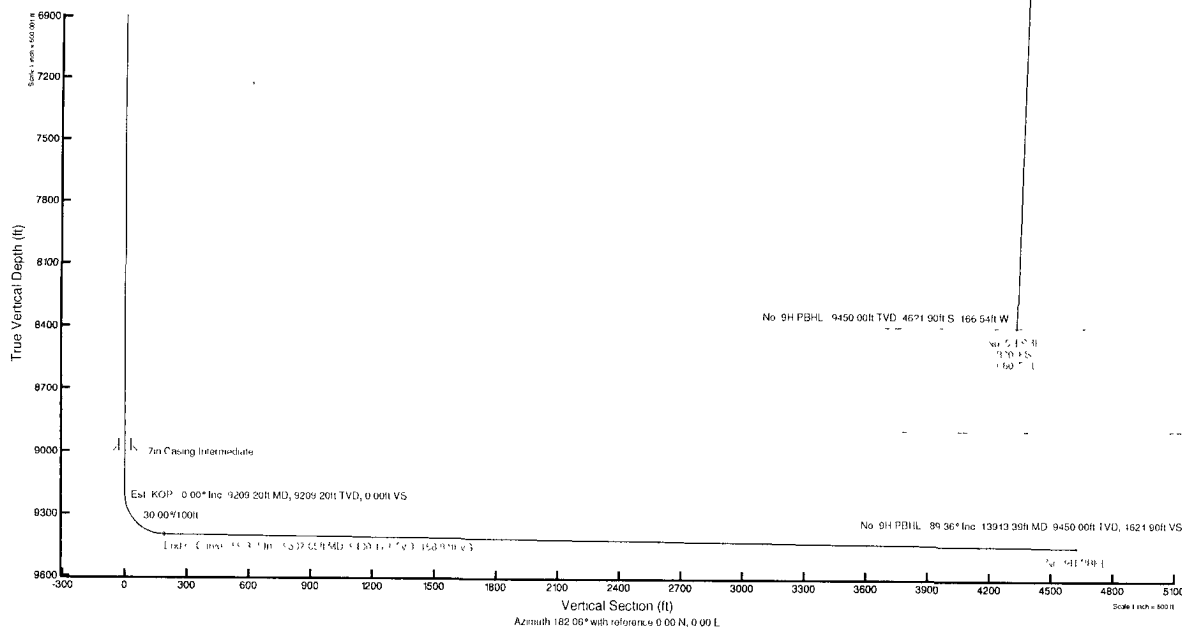
Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (ft/100ft)
Tie On	0.00	0.00	182.064	0.00	0.00	0.00	0.00
Est. KOP	9209.20	0.00	182.064	9209.20	0.00	0.00	0.00
End of Profile	9516.36	87.41	182.064	9450.00	4621.90	-166.54	17.15
No. 9H PBHL	13943.39	86.356	182.064	9450.00	4621.90	-166.54	0.00

Hole and Casing Sections									
Name	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start Local N (ft)	Start Local E (ft)	End Local N (ft)	End Local E (ft)
9 5/8" Casing Surface	0.00	4800.00	4800.00	0.00	4900.00	0.00	0.00	0.00	0.00
7" Casing Intermediate	0.00	9000.00	9000.00	0.00	9000.00	0.00	0.00	0.00	0.00



BGGM (1945.0 to 2011.0) Dip 80.51° Field 49028.1° T
Magnetic North is 7.87 degrees East of True North (at 6/8/2010)
Grid North is 0.31 degrees East of True North
To correct azimuth from True to Grid subtract 0.31 degrees
To correct azimuth from Magnetic to Grid add 7.56 degrees
For example if the Magnetic North Azimuth = 90 degrees then the Grid North Azimuth = 90 + 7.56 = 97.56

Plot references, wellpaths Profile 1		Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
True vertical depths are referenced to Ray on No. 9H SHL (CL)		North Reference: Grid north
Measured depths are referenced to Ray on No. 9H SHL (CL)		Scale: True distance
Ray on No. 9H SHL (CL) to Mean Sea Level: 9611 feet		Depths are in feet
Mean Sea Level to Measuring (Facility State DR No. 9H) 3031 feet		Created by: Roland Flores on 6/8/2010
Coordinates are in feet referenced to Slot Location		





Planned Wellpath Report

Prelim 1

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9H SHL
Area	Lea County, NM	Well	No. 9H
Field	(State DR) Sec 16, T19S, R32E	Wellbore	No. 9H PWB
Facility	State DR No. 9H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001),	Software System	WellArchitect@ 2.0
	US feet		
North Reference	Grid	User	Florroll
Scale	0.999944	Report Generated	6/8/2010 at 10:41:48 AM
Convergence at slot	0.31° East	Database/Source file	WA Midland/No. 9H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W
Facility Reference Pt			716486.10	606767.40	32°40'00.331"N	103°45'50.986"W
Field Reference Pt			712327.80	606759.10	32°40'00.467"N	103°46'39.631"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 9H SHL (GL) to Ground Level	0.00ft
Horizontal Reference Pt	Slot Location	Rig on No. 9H SHL (GL) to Mean Sea Level	3631.00ft
Vertical Reference Pt	Rig on No. 9H SHL (GL)	Ground Level to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 9H SHL (GL)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	182.06°



Planned Wellpath Report

Prelim 1
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REFERENCE WELLPATH IDENTIFICATION

Operator **Cimarex Energy Co.**

Slot **No. 9H SHL**

Area **Lea County, NM**

Well **No. 9H**

Field **(State DR) Sec 16, T19S, R32E**

Wellbore **No. 9H PWB**

Facility **State DR No. 9H**

WELLPATH DATA (143 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	182.064	0.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	Tie On
100.00†	0.000	182.064	100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
200.00†	0.000	182.064	200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
300.00†	0.000	182.064	300.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
400.00†	0.000	182.064	400.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
500.00†	0.000	182.064	500.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
600.00†	0.000	182.064	600.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
700.00†	0.000	182.064	700.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
800.00†	0.000	182.064	800.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
900.00†	0.000	182.064	900.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1000.00†	0.000	182.064	1000.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1100.00†	0.000	182.064	1100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1200.00†	0.000	182.064	1200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1300.00†	0.000	182.064	1300.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1400.00†	0.000	182.064	1400.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1500.00†	0.000	182.064	1500.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1600.00†	0.000	182.064	1600.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1700.00†	0.000	182.064	1700.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1800.00†	0.000	182.064	1800.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
1900.00†	0.000	182.064	1900.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2000.00†	0.000	182.064	2000.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2100.00†	0.000	182.064	2100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2200.00†	0.000	182.064	2200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2300.00†	0.000	182.064	2300.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2400.00†	0.000	182.064	2400.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2500.00†	0.000	182.064	2500.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2600.00†	0.000	182.064	2600.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2700.00†	0.000	182.064	2700.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2800.00†	0.000	182.064	2800.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
2900.00†	0.000	182.064	2900.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3000.00†	0.000	182.064	3000.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3100.00†	0.000	182.064	3100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3200.00†	0.000	182.064	3200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3300.00†	0.000	182.064	3300.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3400.00†	0.000	182.064	3400.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3500.00†	0.000	182.064	3500.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3600.00†	0.000	182.064	3600.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3700.00†	0.000	182.064	3700.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3800.00†	0.000	182.064	3800.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
3900.00†	0.000	182.064	3900.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
4000.00†	0.000	182.064	4000.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
4100.00†	0.000	182.064	4100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
4200.00†	0.000	182.064	4200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
4300.00†	0.000	182.064	4300.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
4400.00†	0.000	182.064	4400.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	



Planned Wellpath Report

Prelim 1
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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9H SHL
Area	Lea County, NM	Well	No. 9H
Field	(State DR) Sec 16, T19S, R32E	Wellbore	No. 9H PWB
Facility	State DR No. 9H		

WELLPATH DATA (143 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4500.00†	0.000	182.064	4500.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
4600.00†	0.000	182.064	4600.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
4700.00†	0.000	182.064	4700.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
4800.00†	0.000	182.064	4800.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
4900.00†	0.000	182.064	4900.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5000.00†	0.000	182.064	5000.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5100.00†	0.000	182.064	5100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5200.00†	0.000	182.064	5200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5300.00†	0.000	182.064	5300.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5400.00†	0.000	182.064	5400.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5500.00†	0.000	182.064	5500.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5600.00†	0.000	182.064	5600.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5700.00†	0.000	182.064	5700.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5800.00†	0.000	182.064	5800.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
5900.00†	0.000	182.064	5900.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6000.00†	0.000	182.064	6000.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6100.00†	0.000	182.064	6100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6200.00†	0.000	182.064	6200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6300.00†	0.000	182.064	6300.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6400.00†	0.000	182.064	6400.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6500.00†	0.000	182.064	6500.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6600.00†	0.000	182.064	6600.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6700.00†	0.000	182.064	6700.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6800.00†	0.000	182.064	6800.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
6900.00†	0.000	182.064	6900.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7000.00†	0.000	182.064	7000.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7100.00†	0.000	182.064	7100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7200.00†	0.000	182.064	7200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7300.00†	0.000	182.064	7300.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7400.00†	0.000	182.064	7400.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7500.00†	0.000	182.064	7500.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7600.00†	0.000	182.064	7600.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7700.00†	0.000	182.064	7700.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7800.00†	0.000	182.064	7800.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
7900.00†	0.000	182.064	7900.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8000.00†	0.000	182.064	8000.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8100.00†	0.000	182.064	8100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8200.00†	0.000	182.064	8200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8300.00†	0.000	182.064	8300.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8400.00†	0.000	182.064	8400.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8500.00†	0.000	182.064	8500.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8600.00†	0.000	182.064	8600.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8700.00†	0.000	182.064	8700.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8800.00†	0.000	182.064	8800.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
8900.00†	0.000	182.064	8900.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9H SHL
Area	Lea County, NM	Well	No. 9H
Field	(State DR) Sec 16, T19S, R32E	Wellbore	No. 9H PWB
Facility	State DR No. 9H		

WELLPATH DATA (143 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
9000.00†	0.000	182.064	9000.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
9100.00†	0.000	182.064	9100.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
9200.00†	0.000	182.064	9200.00	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	
9209.20	0.000	182.064	9209.20	0.00	0.00	0.00	716486.10	606767.40	32°40'00.331"N	103°45'50.986"W	0.00	Est KOP
9300.00†	27.240	182.064	9296.62	21.18	-21.17	-0.76	716485.34	606746.23	32°40'00.122"N	103°45'50.996"W	30.00	
9400.00†	57.240	182.064	9369.81	87.64	-87.58	-3.16	716482.94	606679.82	32°39'59.465"N	103°45'51.028"W	30.00	
9500.00†	87.240	182.064	9399.96	181.79	-181.67	-6.55	716479.55	606585.74	32°39'58.534"N	103°45'51.074"W	30.00	
9507.05	89.356	182.064	9400.17	188.84	-188.72	-6.80	716479.30	606578.69	32°39'58.464"N	103°45'51.077"W	30.00	End of Curve
9600.00†	89.356	182.064	9401.22	281.78	-281.60	-10.15	716475.95	606485.82	32°39'57.545"N	103°45'51.122"W	0.00	
9700.00†	89.356	182.064	9402.34	381.77	-381.53	-13.75	716472.35	606385.90	32°39'56.557"N	103°45'51.170"W	0.00	
9800.00†	89.356	182.064	9403.46	481.77	-481.46	-17.35	716468.75	606285.97	32°39'55.568"N	103°45'51.219"W	0.00	
9900.00†	89.356	182.064	9404.59	581.76	-581.38	-20.95	716465.15	606186.05	32°39'54.580"N	103°45'51.267"W	0.00	
10000.00†	89.356	182.064	9405.71	681.75	-681.31	-24.55	716461.55	606086.13	32°39'53.591"N	103°45'51.315"W	0.00	
10100.00†	89.356	182.064	9406.83	781.75	-781.24	-28.15	716457.95	605986.20	32°39'52.603"N	103°45'51.364"W	0.00	
10200.00†	89.356	182.064	9407.96	881.74	-881.17	-31.75	716454.35	605886.28	32°39'51.614"N	103°45'51.412"W	0.00	
10300.00†	89.356	182.064	9409.08	981.74	-981.10	-35.35	716450.75	605786.36	32°39'50.626"N	103°45'51.461"W	0.00	
10400.00†	89.356	182.064	9410.20	1081.73	-1081.03	-38.95	716447.15	605686.43	32°39'49.637"N	103°45'51.509"W	0.00	
10500.00†	89.356	182.064	9411.33	1181.72	-1180.96	-42.55	716443.55	605586.51	32°39'48.648"N	103°45'51.557"W	0.00	
10600.00†	89.356	182.064	9412.45	1281.72	-1280.89	-46.15	716439.95	605486.59	32°39'47.660"N	103°45'51.606"W	0.00	
10700.00†	89.356	182.064	9413.57	1381.71	-1380.81	-49.75	716436.35	605386.67	32°39'46.671"N	103°45'51.654"W	0.00	
10800.00†	89.356	182.064	9414.70	1481.70	-1480.74	-53.36	716432.75	605286.74	32°39'45.683"N	103°45'51.703"W	0.00	
10900.00†	89.356	182.064	9415.82	1581.70	-1580.67	-56.96	716429.15	605186.82	32°39'44.694"N	103°45'51.751"W	0.00	
11000.00†	89.356	182.064	9416.94	1681.69	-1680.60	-60.56	716425.55	605086.90	32°39'43.706"N	103°45'51.799"W	0.00	
11100.00†	89.356	182.064	9418.06	1781.69	-1780.53	-64.16	716421.95	604986.97	32°39'42.717"N	103°45'51.848"W	0.00	
11200.00†	89.356	182.064	9419.19	1881.68	-1880.46	-67.76	716418.35	604887.05	32°39'41.729"N	103°45'51.896"W	0.00	
11300.00†	89.356	182.064	9420.31	1981.67	-1980.39	-71.36	716414.75	604787.13	32°39'40.740"N	103°45'51.944"W	0.00	
11400.00†	89.356	182.064	9421.43	2081.67	-2080.32	-74.96	716411.14	604687.20	32°39'39.752"N	103°45'51.993"W	0.00	
11500.00†	89.356	182.064	9422.56	2181.66	-2180.25	-78.56	716407.54	604587.28	32°39'38.763"N	103°45'52.041"W	0.00	
11600.00†	89.356	182.064	9423.68	2281.65	-2280.17	-82.16	716403.94	604487.36	32°39'37.775"N	103°45'52.090"W	0.00	
11700.00†	89.356	182.064	9424.80	2381.65	-2380.10	-85.76	716400.34	604387.43	32°39'36.786"N	103°45'52.138"W	0.00	
11800.00†	89.356	182.064	9425.93	2481.64	-2480.03	-89.36	716396.74	604287.51	32°39'35.798"N	103°45'52.186"W	0.00	
11900.00†	89.356	182.064	9427.05	2581.64	-2579.96	-92.96	716393.14	604187.59	32°39'34.809"N	103°45'52.235"W	0.00	
12000.00†	89.356	182.064	9428.17	2681.63	-2679.89	-96.56	716389.54	604087.67	32°39'33.820"N	103°45'52.283"W	0.00	
12100.00†	89.356	182.064	9429.30	2781.62	-2779.82	-100.16	716385.94	603987.74	32°39'32.832"N	103°45'52.331"W	0.00	
12200.00†	89.356	182.064	9430.42	2881.62	-2879.75	-103.77	716382.34	603887.82	32°39'31.843"N	103°45'52.380"W	0.00	
12300.00†	89.356	182.064	9431.54	2981.61	-2979.68	-107.37	716378.74	603787.90	32°39'30.855"N	103°45'52.428"W	0.00	
12400.00†	89.356	182.064	9432.67	3081.60	-3079.60	-110.97	716375.14	603687.97	32°39'29.866"N	103°45'52.477"W	0.00	
12500.00†	89.356	182.064	9433.79	3181.60	-3179.53	-114.57	716371.54	603588.05	32°39'28.878"N	103°45'52.525"W	0.00	
12600.00†	89.356	182.064	9434.91	3281.59	-3279.46	-118.17	716367.94	603488.13	32°39'27.889"N	103°45'52.573"W	0.00	
12700.00†	89.356	182.064	9436.04	3381.58	-3379.39	-121.77	716364.34	603388.20	32°39'26.901"N	103°45'52.622"W	0.00	
12800.00†	89.356	182.064	9437.16	3481.58	-3479.32	-125.37	716360.74	603288.28	32°39'25.912"N	103°45'52.670"W	0.00	
12900.00†	89.356	182.064	9438.28	3581.57	-3579.25	-128.97	716357.14	603188.36	32°39'24.924"N	103°45'52.718"W	0.00	
13000.00†	89.356	182.064	9439.40	3681.57	-3679.18	-132.57	716353.54	603088.43	32°39'23.935"N	103°45'52.767"W	0.00	
13100.00†	89.356	182.064	9440.53	3781.56	-3779.11	-136.17	716349.94	602988.51	32°39'22.947"N	103°45'52.815"W	0.00	
13200.00†	89.356	182.064	9441.65	3881.55	-3879.04	-139.77	716346.34	602888.59	32°39'21.958"N	103°45'52.864"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator **Cimarex Energy Co.**

Slot **No. 9H SHL**

Area **Lea County, NM**

Well **No. 9H**

Field **(State DR) Sec 16, T19S, R32E**

Wellbore **No. 9H PWB**

Facility **State DR No. 9H**

WELLPATH DATA (143 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13300.00†	89.356	182.064	9442.77	3981.55	-3978.96	-143.37	716342.74	602788.67	32°39'20.969"N	103°45'52.912"W	0.00	
13400.00†	89.356	182.064	9443.90	4081.54	-4078.89	-146.97	716339.13	602688.74	32°39'19.981"N	103°45'52.960"W	0.00	
13500.00†	89.356	182.064	9445.02	4181.53	-4178.82	-150.57	716335.53	602588.82	32°39'18.992"N	103°45'53.009"W	0.00	
13600.00†	89.356	182.064	9446.14	4281.53	-4278.75	-154.18	716331.93	602488.90	32°39'18.004"N	103°45'53.057"W	0.00	
13700.00†	89.356	182.064	9447.27	4381.52	-4378.68	-157.78	716328.33	602388.97	32°39'17.015"N	103°45'53.105"W	0.00	
13800.00†	89.356	182.064	9448.39	4481.52	-4478.61	-161.38	716324.73	602289.05	32°39'16.027"N	103°45'53.154"W	0.00	
13900.00†	89.356	182.064	9449.51	4581.51	-4578.54	-164.98	716321.13	602189.13	32°39'15.038"N	103°45'53.202"W	0.00	
13943.39	89.356	182.064	9450.00†	4624.90	-4621.90	-166.54	716319.57	602145.77	32°39'14.609"N	103°45'53.223"W	0.00	No. 9H PBHL

HOLE & CASING SECTIONS Ref Wellbore: No. 9H PWB Ref Wellpath: Prelim 1

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
9.625in Casing Surface	0.00	4800.00	4800.00	0.00	4800.00	0.00	0.00	0.00	0.00
7in Casing Intermediate	0.00	9000.00	9000.00	0.00	9000.00	0.00	0.00	0.00	0.00

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 9H PBHL	13943.39	9450.00	-4621.90	-166.54	716319.57	602145.77	32°39'14.609"N	103°45'53.223"W	point

SURVEY PROGRAM Ref Wellbore: No. 9H PWB Ref Wellpath: Prelim 1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	13943.39	NaviTrak (Standard)		No. 9H PWB