

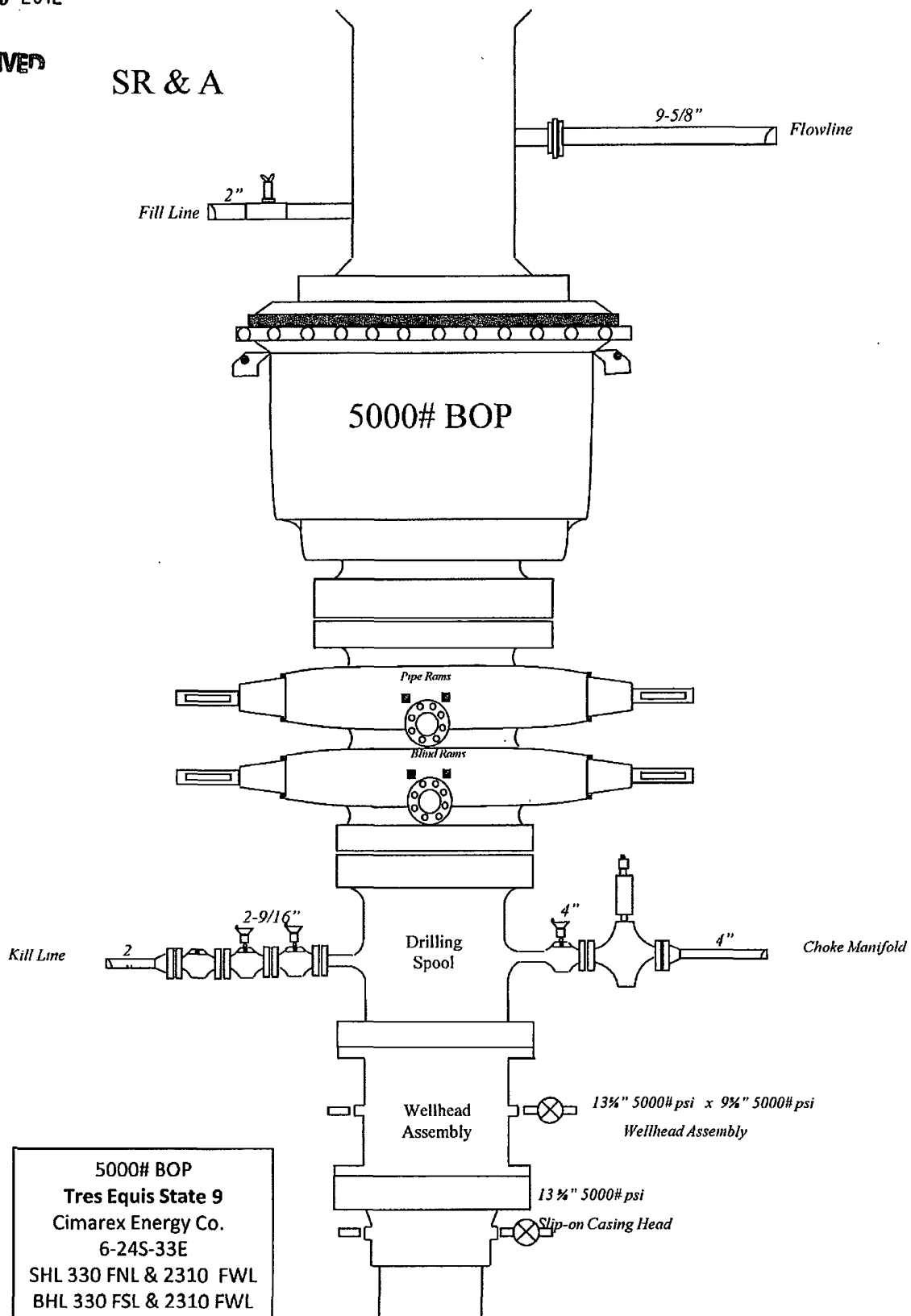
HOBBS OCD

30025-40659

JUN 29 2012

RECEIVED

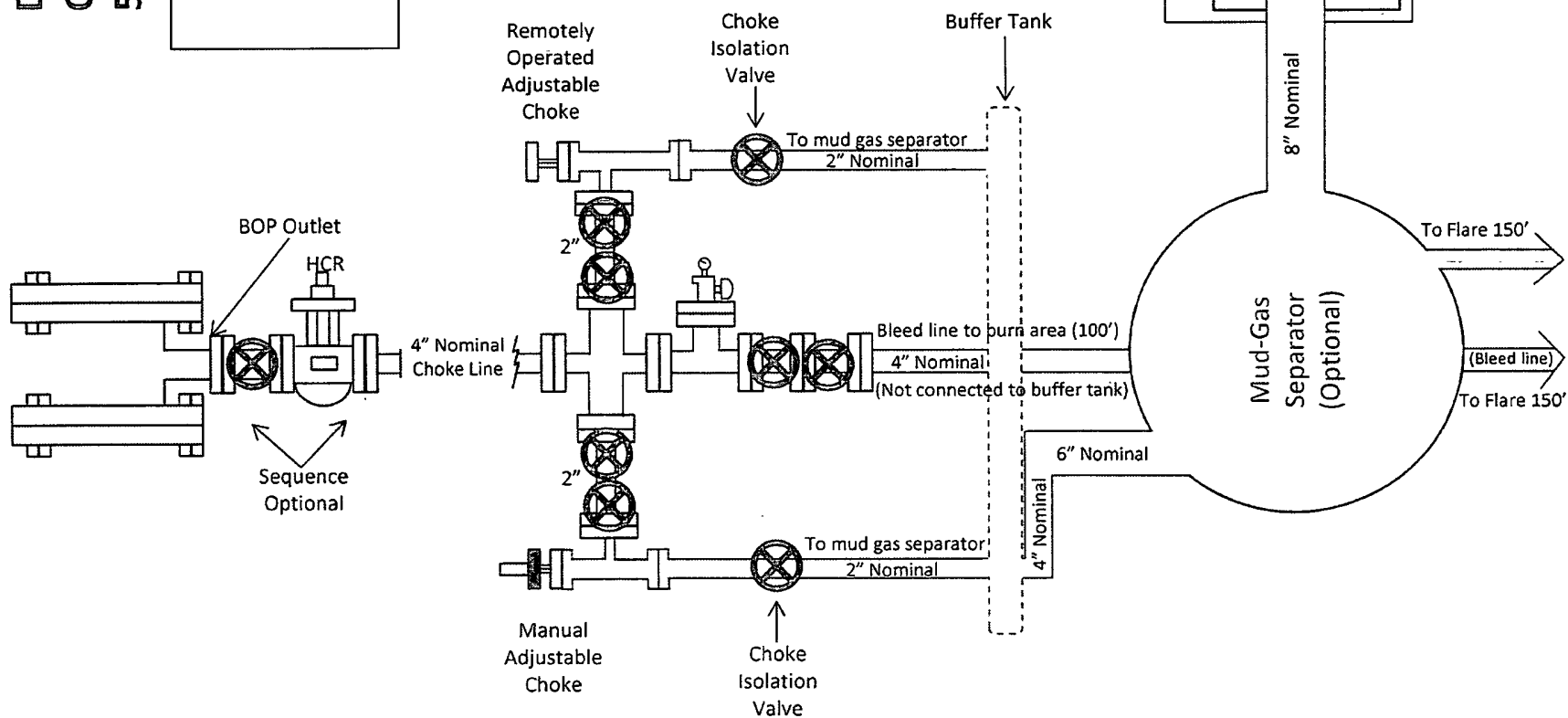
SR & A



JUL 02 2012

Drilling Operations Choke Manifold 5M Service

Choke Manifold Diagram
Tres Equis State 9
Cimarex Energy Co.
6-24S-33E
SHL 330 FNL & 2310 FWL
BHL 330 FSL & 2310 FWL
Lea County, NM.





HOBBS OCD

JUN 29 2012

RECEIVED

Cimarex Energy Co.

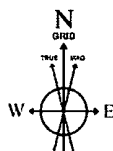
Location: Lea County, NM
Field: (Tres Equis) Sec 6, T24S, R33E
Facility: Tres Equis State No. 9

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

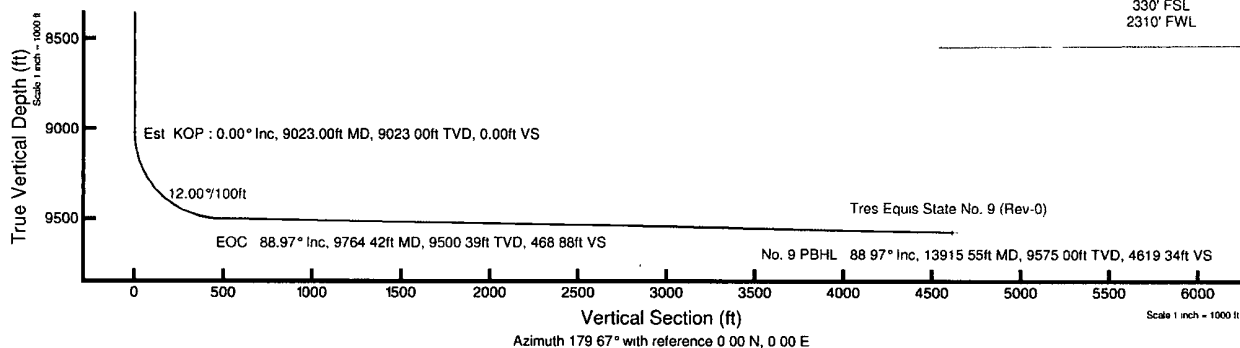
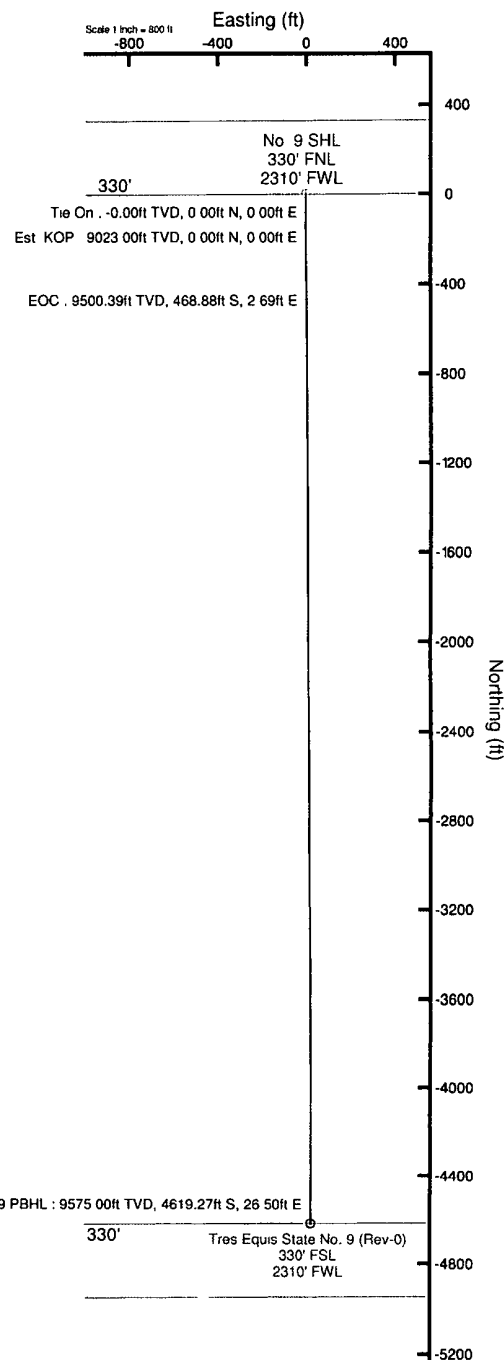


Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	0.00	0.000	179.671	0.00	0.00	0.00	0.00
Est. KOP	9023.00	0.000	179.671	9023.00	0.00	0.00	0.00
EOC	9764.42	88.970	179.671	9500.39	-468.88	2.69	468.88
No. 9 PBHL	13915.55	88.970	179.671	9575.00	-4619.27	26.50	4619.34

Plot reference wellpath is Rev-A 0	
True vertical depths are referenced to Rig on No. 9 SHL (RT)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001) US feet
Measured depths are referenced to Rig on No. 9 SHL (RT)	North Reference: Grid north
Rig on No. 9 SHL (RT) to Mean Sea Level: 3651 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot No. 9 SHL): -3851 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: hartkol on 4/11/2012



BGGM (1945 to 2013) Dip: 60.15° Field: 48550.1 nT
Magnetic North is 7.59 degrees East of True North (at 4/10/2012)
Grid North is 0.38 degrees East of True North
To correct azimuth from True to Grid subtract 0.38 degrees
To correct azimuth from Magnetic to Grid add 7.20 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 - 7.20 = 97.20





Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9 SHL
Area	Lea County, NM	Well	No. 9
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 9 PWB
Facility	Tres Equis State No. 9		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect@ 3.0.0
North Reference	Grid	User	Harrkol
Scale	0.999966	Report Generated	4/11/2012 at 8:44:42 AM
Convergence at slot	0.38° East	Database/Source file	WA Midland/No._9_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W
Facility Reference Pt			764242.00	456556.60	32°15'11.130"N	103°36'44.206"W
Field Reference Pt			763911.80	456554.80	32°15'11.134"N	103°36'48.051"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 9 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No. 9 SHL (RT) to Mean Sea Level	3651.00ft
Vertical Reference Pt	Rig on No. 9 SHL (RT)	Rig on No. 9 SHL (RT) to Mud Line at Slot (No. 9 SHL)	0.00ft
MD Reference Pt	Rig on No. 9 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.67°



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9 SHL
Area	Lea County, NM	Well	No. 9
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 9 PWB
Facility	Tres Equis State No. 9		

WELLPATH DATA (146 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	179.671	0.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	Tie On
100.00†	0.000	179.671	100.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
200.00†	0.000	179.671	200.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
300.00†	0.000	179.671	300.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
400.00†	0.000	179.671	400.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
500.00†	0.000	179.671	500.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
600.00†	0.000	179.671	600.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
700.00†	0.000	179.671	700.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
800.00†	0.000	179.671	800.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
900.00†	0.000	179.671	900.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
1000.00†	0.000	179.671	1000.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
1100.00†	0.000	179.671	1100.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
1200.00†	0.000	179.671	1200.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	Rustler
1300.00†	0.000	179.671	1300.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
1400.00†	0.000	179.671	1400.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
1420.00†	0.000	179.671	1420.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	Salt
1500.00†	0.000	179.671	1500.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
1600.00†	0.000	179.671	1600.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
1700.00†	0.000	179.671	1700.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
1800.00†	0.000	179.671	1800.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
1900.00†	0.000	179.671	1900.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2000.00†	0.000	179.671	2000.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2100.00†	0.000	179.671	2100.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2200.00†	0.000	179.671	2200.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2300.00†	0.000	179.671	2300.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2400.00†	0.000	179.671	2400.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2500.00†	0.000	179.671	2500.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2600.00†	0.000	179.671	2600.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2700.00†	0.000	179.671	2700.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2800.00†	0.000	179.671	2800.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
2900.00†	0.000	179.671	2900.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
3000.00†	0.000	179.671	3000.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
3100.00†	0.000	179.671	3100.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
3200.00†	0.000	179.671	3200.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
3300.00†	0.000	179.671	3300.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	Castille
3400.00†	0.000	179.671	3400.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
3500.00†	0.000	179.671	3500.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
3600.00†	0.000	179.671	3600.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
3700.00†	0.000	179.671	3700.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
3800.00†	0.000	179.671	3800.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
3900.00†	0.000	179.671	3900.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
4000.00†	0.000	179.671	4000.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
4100.00†	0.000	179.671	4100.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
4200.00†	0.000	179.671	4200.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
4300.00†	0.000	179.671	4300.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 9 SHL
Area	Lea County, NM	Well	No. 9
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 9 PWB
Facility	Tres Equis State No. 9		

WELLPATH DATA (146 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4400.00†	0.000	179.671	4400.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
4500.00†	0.000	179.671	4500.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
4600.00†	0.000	179.671	4600.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
4700.00†	0.000	179.671	4700.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
4800.00†	0.000	179.671	4800.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
4900.00†	0.000	179.671	4900.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
5000.00†	0.000	179.671	5000.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	Delaware
5100.00†	0.000	179.671	5100.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
5200.00†	0.000	179.671	5200.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
5300.00†	0.000	179.671	5300.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
5400.00†	0.000	179.671	5400.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
5500.00†	0.000	179.671	5500.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
5600.00†	0.000	179.671	5600.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
5700.00†	0.000	179.671	5700.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
5800.00†	0.000	179.671	5800.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
5900.00†	0.000	179.671	5900.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6000.00†	0.000	179.671	6000.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6100.00†	0.000	179.671	6100.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6200.00†	0.000	179.671	6200.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6300.00†	0.000	179.671	6300.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6400.00†	0.000	179.671	6400.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6500.00†	0.000	179.671	6500.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6600.00†	0.000	179.671	6600.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6700.00†	0.000	179.671	6700.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6800.00†	0.000	179.671	6800.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
6900.00†	0.000	179.671	6900.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7000.00†	0.000	179.671	7000.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7100.00†	0.000	179.671	7100.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7200.00†	0.000	179.671	7200.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7300.00†	0.000	179.671	7300.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7400.00†	0.000	179.671	7400.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7500.00†	0.000	179.671	7500.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7600.00†	0.000	179.671	7600.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7700.00†	0.000	179.671	7700.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7800.00†	0.000	179.671	7800.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
7900.00†	0.000	179.671	7900.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
8000.00†	0.000	179.671	8000.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
8100.00†	0.000	179.671	8100.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
8200.00†	0.000	179.671	8200.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
8300.00†	0.000	179.671	8300.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
8400.00†	0.000	179.671	8400.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
8500.00†	0.000	179.671	8500.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
8575.00†	0.000	179.671	8575.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	Basal Brushy Canyon
8600.00†	0.000	179.671	8600.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
8700.00†	0.000	179.671	8700.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 9 SHL
Area	Lea County, NM	Well	No. 9
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 9 PWB
Facility	Tres Equis State No. 9		

WELLPATH DATA (146 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8800.00†	0.000	179.671	8800.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
8900.00†	0.000	179.671	8900.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	Bone Spring
9000.00†	0.000	179.671	9000.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	
9023.00	0.000	179.671	9023.00	0.00	0.00	0.00	764242.00	456556.60	32°15'11.130"N	103°36'44.206"W	0.00	Est. KOP
9100.00†	9.240	179.671	9099.67	6.20	-6.20	0.04	764242.04	456550.40	32°15'11.069"N	103°36'44.206"W	12.00	
9200.00†	21.240	179.671	9195.97	32.43	-32.43	0.19	764242.19	456524.17	32°15'10.809"N	103°36'44.206"W	12.00	
9300.00†	33.240	179.671	9284.72	78.12	-78.12	0.45	764242.45	456478.48	32°15'10.357"N	103°36'44.207"W	12.00	
9318.51†	35.461	179.671	9300.00	88.56	-88.56	0.51	764242.51	456468.04	32°15'10.254"N	103°36'44.207"W	12.00	Upper Bone Spring Shale
9400.00†	45.240	179.671	9362.03	141.26	-141.26	0.81	764242.81	456415.34	32°15'09.732"N	103°36'44.207"W	12.00	
9500.00†	57.240	179.671	9424.52	219.10	-219.09	1.26	764243.26	456337.51	32°15'08.962"N	103°36'44.208"W	12.00	
9600.00†	69.240	179.671	9469.46	308.23	-308.22	1.77	764243.77	456248.39	32°15'08.080"N	103°36'44.209"W	12.00	
9700.00†	81.240	179.671	9494.90	404.75	-404.74	2.32	764244.32	456151.87	32°15'07.125"N	103°36'44.210"W	12.00	
9764.42	88.970	179.671	9500.39	468.88	-468.88	2.69	764244.69	456087.74	32°15'06.491"N	103°36'44.211"W	12.00	EOC
9800.00†	88.970	179.671	9501.03	504.46	-504.45	2.89	764244.89	456052.17	32°15'06.139"N	103°36'44.212"W	0.00	
9900.00†	88.970	179.671	9502.82	604.44	-604.43	3.47	764245.47	455952.19	32°15'05.149"N	103°36'44.213"W	0.00	
10000.00†	88.970	179.671	9504.62	704.43	-704.42	4.04	764246.04	455852.21	32°15'04.160"N	103°36'44.214"W	0.00	
10100.00†	88.970	179.671	9506.42	804.41	-804.40	4.61	764246.61	455752.23	32°15'03.171"N	103°36'44.215"W	0.00	
10200.00†	88.970	179.671	9508.22	904.39	-904.38	5.19	764247.19	455652.25	32°15'02.181"N	103°36'44.216"W	0.00	
10300.00†	88.970	179.671	9510.01	1004.38	-1004.36	5.76	764247.76	455552.27	32°15'01.192"N	103°36'44.217"W	0.00	
10400.00†	88.970	179.671	9511.81	1104.36	-1104.34	6.34	764248.34	455452.30	32°15'00.202"N	103°36'44.218"W	0.00	
10500.00†	88.970	179.671	9513.61	1204.35	-1204.33	6.91	764248.91	455352.32	32°14'59.213"N	103°36'44.220"W	0.00	
10600.00†	88.970	179.671	9515.41	1304.33	-1304.31	7.48	764249.48	455252.34	32°14'58.224"N	103°36'44.221"W	0.00	
10700.00†	88.970	179.671	9517.20	1404.31	-1404.29	8.06	764250.06	455152.36	32°14'57.234"N	103°36'44.222"W	0.00	
10800.00†	88.970	179.671	9519.00	1504.30	-1504.27	8.63	764250.63	455052.38	32°14'56.245"N	103°36'44.223"W	0.00	
10900.00†	88.970	179.671	9520.80	1604.28	-1604.26	9.20	764251.20	454952.40	32°14'55.256"N	103°36'44.224"W	0.00	
11000.00†	88.970	179.671	9522.60	1704.27	-1704.24	9.78	764251.78	454852.42	32°14'54.266"N	103°36'44.225"W	0.00	
11100.00†	88.970	179.671	9524.39	1804.25	-1804.22	10.35	764252.35	454752.45	32°14'53.277"N	103°36'44.226"W	0.00	
11200.00†	88.970	179.671	9526.19	1904.23	-1904.20	10.92	764252.92	454652.47	32°14'52.288"N	103°36'44.228"W	0.00	
11300.00†	88.970	179.671	9527.99	2004.22	-2004.18	11.50	764253.50	454552.49	32°14'51.298"N	103°36'44.229"W	0.00	
11400.00†	88.970	179.671	9529.79	2104.20	-2104.17	12.07	764254.07	454452.51	32°14'50.309"N	103°36'44.230"W	0.00	
11500.00†	88.970	179.671	9531.58	2204.18	-2204.15	12.65	764254.64	454352.53	32°14'49.320"N	103°36'44.231"W	0.00	
11600.00†	88.970	179.671	9533.38	2304.17	-2304.13	13.22	764255.22	454252.55	32°14'48.330"N	103°36'44.232"W	0.00	
11700.00†	88.970	179.671	9535.18	2404.15	-2404.11	13.79	764255.79	454152.57	32°14'47.341"N	103°36'44.233"W	0.00	
11800.00†	88.970	179.671	9536.98	2504.14	-2504.10	14.37	764256.37	454052.59	32°14'46.352"N	103°36'44.234"W	0.00	
11900.00†	88.970	179.671	9538.77	2604.12	-2604.08	14.94	764256.94	453952.62	32°14'45.362"N	103°36'44.236"W	0.00	
12000.00†	88.970	179.671	9540.57	2704.10	-2704.06	15.51	764257.51	453852.64	32°14'44.373"N	103°36'44.237"W	0.00	
12100.00†	88.970	179.671	9542.37	2804.09	-2804.04	16.09	764258.09	453752.66	32°14'43.384"N	103°36'44.238"W	0.00	
12200.00†	88.970	179.671	9544.16	2904.07	-2904.02	16.66	764258.66	453652.68	32°14'42.394"N	103°36'44.239"W	0.00	
12300.00†	88.970	179.671	9545.96	3004.06	-3004.01	17.23	764259.23	453552.70	32°14'41.405"N	103°36'44.240"W	0.00	
12400.00†	88.970	179.671	9547.76	3104.04	-3103.99	17.81	764259.81	453452.72	32°14'40.415"N	103°36'44.241"W	0.00	
12500.00†	88.970	179.671	9549.56	3204.02	-3203.97	18.38	764260.38	453352.74	32°14'39.426"N	103°36'44.242"W	0.00	
12600.00†	88.970	179.671	9551.35	3304.01	-3303.95	18.95	764260.95	453252.77	32°14'38.437"N	103°36'44.244"W	0.00	
12700.00†	88.970	179.671	9553.15	3403.99	-3403.94	19.53	764261.53	453152.79	32°14'37.447"N	103°36'44.245"W	0.00	
12800.00†	88.970	179.671	9554.95	3503.97	-3503.92	20.10	764262.10	453052.81	32°14'36.458"N	103°36'44.246"W	0.00	
12900.00†	88.970	179.671	9556.75	3603.96	-3603.90	20.68	764262.68	452952.83	32°14'35.469"N	103°36'44.247"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 9 SHL
Area	Lea County, NM	Well	No. 9
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 9 PWB
Facility	Tres Equis State No. 9		

WELLPATH DATA (146 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13000.00†	88.970	179.671	9558.54	3703.94	-3703.88	21.25	764263.25	452852.85	32°14'34.479"N	103°36'44.248"W	0.00	
13100.00†	88.970	179.671	9560.34	3803.93	-3803.86	21.82	764263.82	452752.87	32°14'33.490"N	103°36'44.249"W	0.00	
13200.00†	88.970	179.671	9562.14	3903.91	-3903.85	22.40	764264.40	452652.89	32°14'32.501"N	103°36'44.250"W	0.00	
13300.00†	88.970	179.671	9563.94	4003.89	-4003.83	22.97	764264.97	452552.92	32°14'31.511"N	103°36'44.251"W	0.00	
13400.00†	88.970	179.671	9565.73	4103.88	-4103.81	23.54	764265.54	452452.94	32°14'30.522"N	103°36'44.253"W	0.00	
13500.00†	88.970	179.671	9567.53	4203.86	-4203.79	24.12	764266.12	452352.96	32°14'29.533"N	103°36'44.254"W	0.00	
13600.00†	88.970	179.671	9569.33	4303.85	-4303.77	24.69	764266.69	452252.98	32°14'28.543"N	103°36'44.255"W	0.00	
13700.00†	88.970	179.671	9571.13	4403.83	-4403.76	25.26	764267.26	452153.00	32°14'27.554"N	103°36'44.256"W	0.00	
13800.00†	88.970	179.671	9572.92	4503.81	-4503.74	25.84	764267.84	452053.02	32°14'26.565"N	103°36'44.257"W	0.00	
13900.00†	88.970	179.671	9574.72	4603.80	-4603.72	26.41	764268.41	451953.04	32°14'25.575"N	103°36'44.258"W	0.00	
13915.55	88.970	179.671	9575.00	4619.34	-4619.27	26.50	764268.50	451937.50	32°14'25.421"N	103°36'44.258"W	0.00	No. 9 PBHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) Tres Equis State No. 9 (Rev-0)	13915.55	9575.00	-4619.27	26.50	764268.50	451937.50	32°14'25.421"N	103°36'44.258"W	point

SURVEY PROGRAM - Ref Wellbore: No. 9 PWB Ref Wellpath: Rev-A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	13915.55	NaviTrak (Standard)		No. 9 PWB