

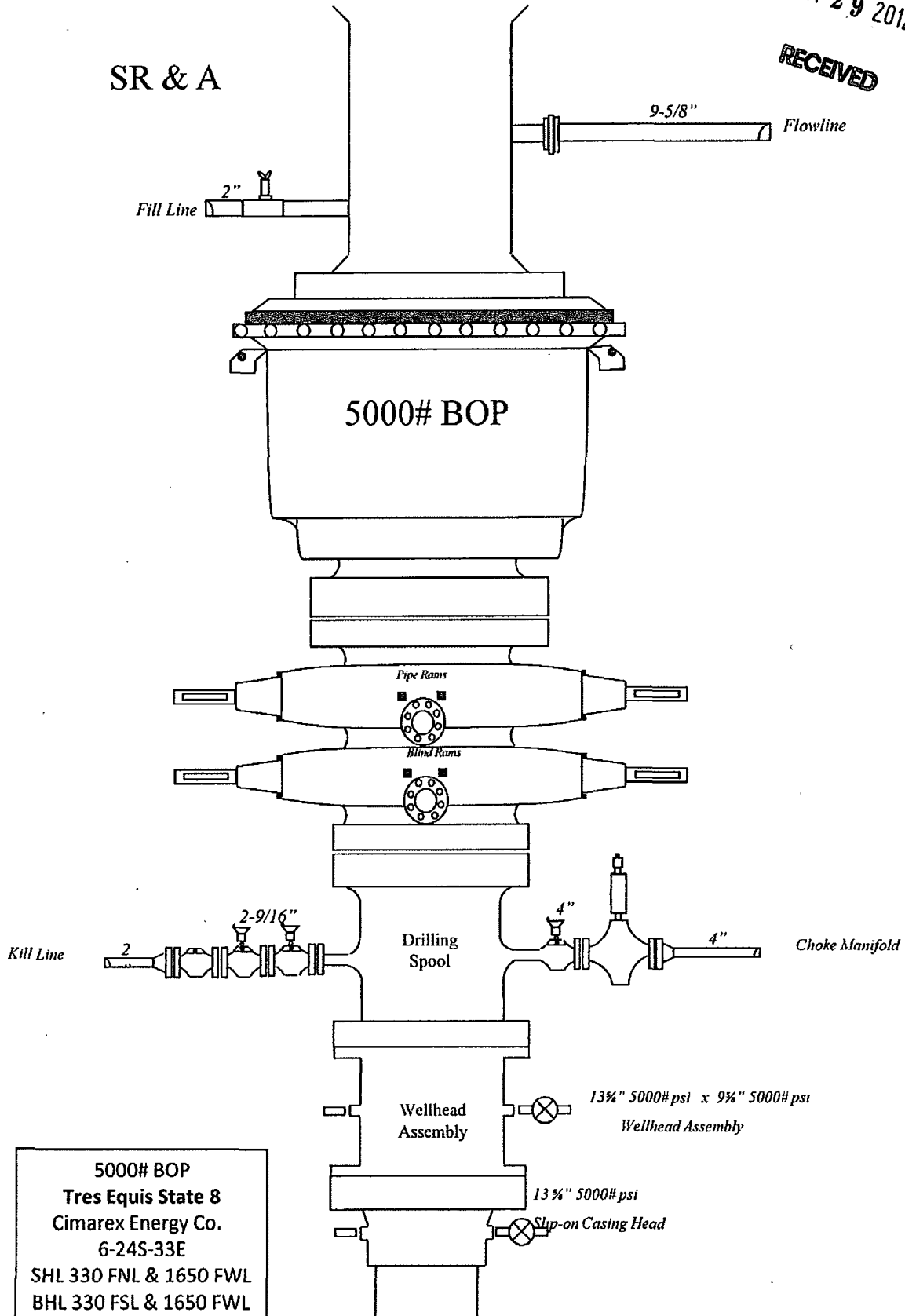
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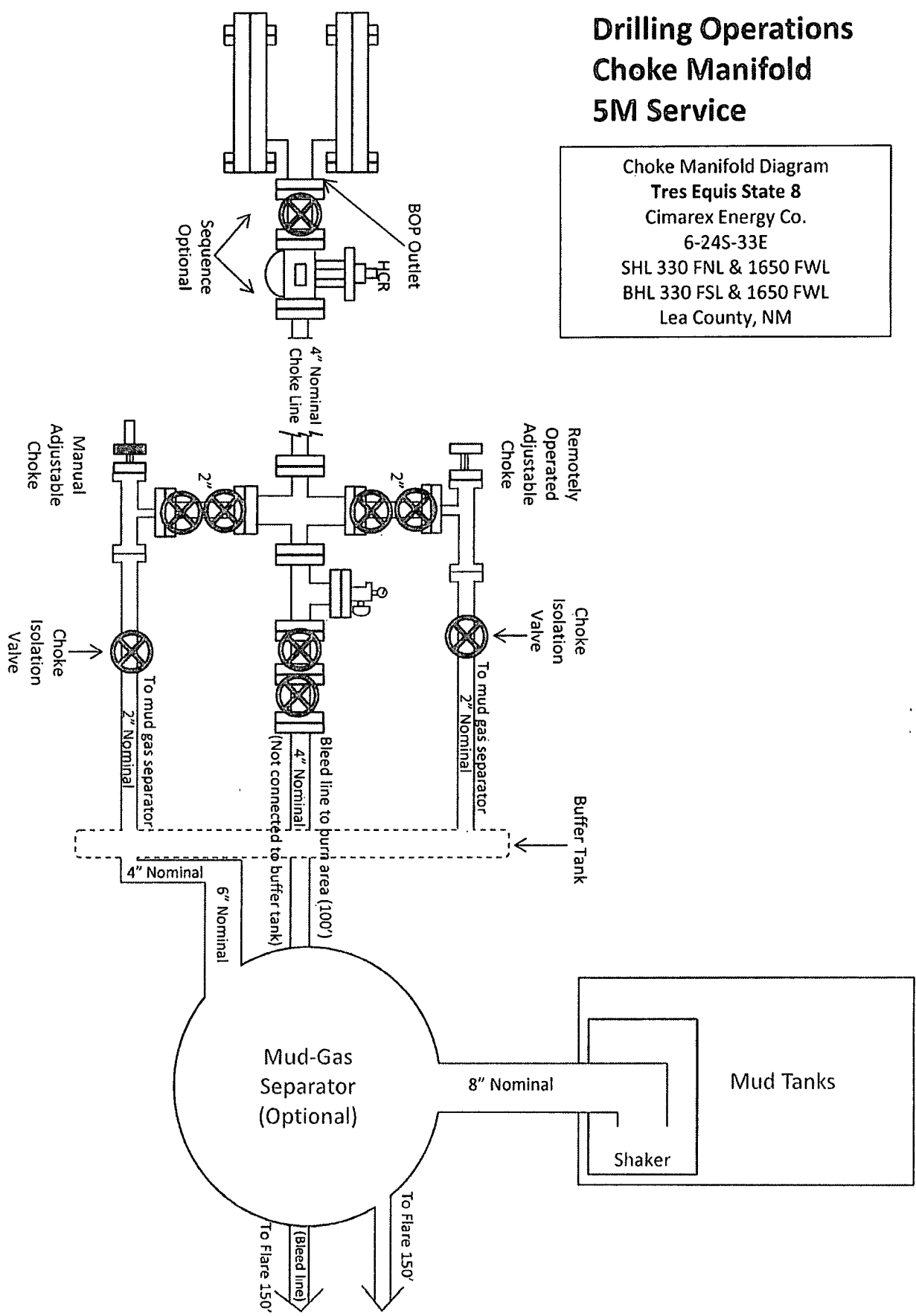


5000# BOP
 Tres Equis State 8
 Cimarex Energy Co.
 6-24S-33E
 SHL 330 FNL & 1650 FWL
 BHL 330 FSL & 1650 FWL
 Lea County, NM

JUL 02 2012

**Drilling Operations
Choke Manifold
5M Service**

Choke Manifold Diagram
Tres Equis State 8
Cimarex Energy Co.
6-24S-33E
SHL 330 FNL & 1650 FWL
BHL 330 FSL & 1650 FWL
Lea County, NM





Cimarex Energy Co.

Location: Lea County, NM
Field: (Tres Equis) Sec 6, T24S, R33E
Facility: Tres Equis State No. 8

Slot: No. 8 SHL
Well: No. 8
Wellbore: No. 8 PWB



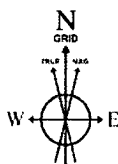
JUN 29 2012

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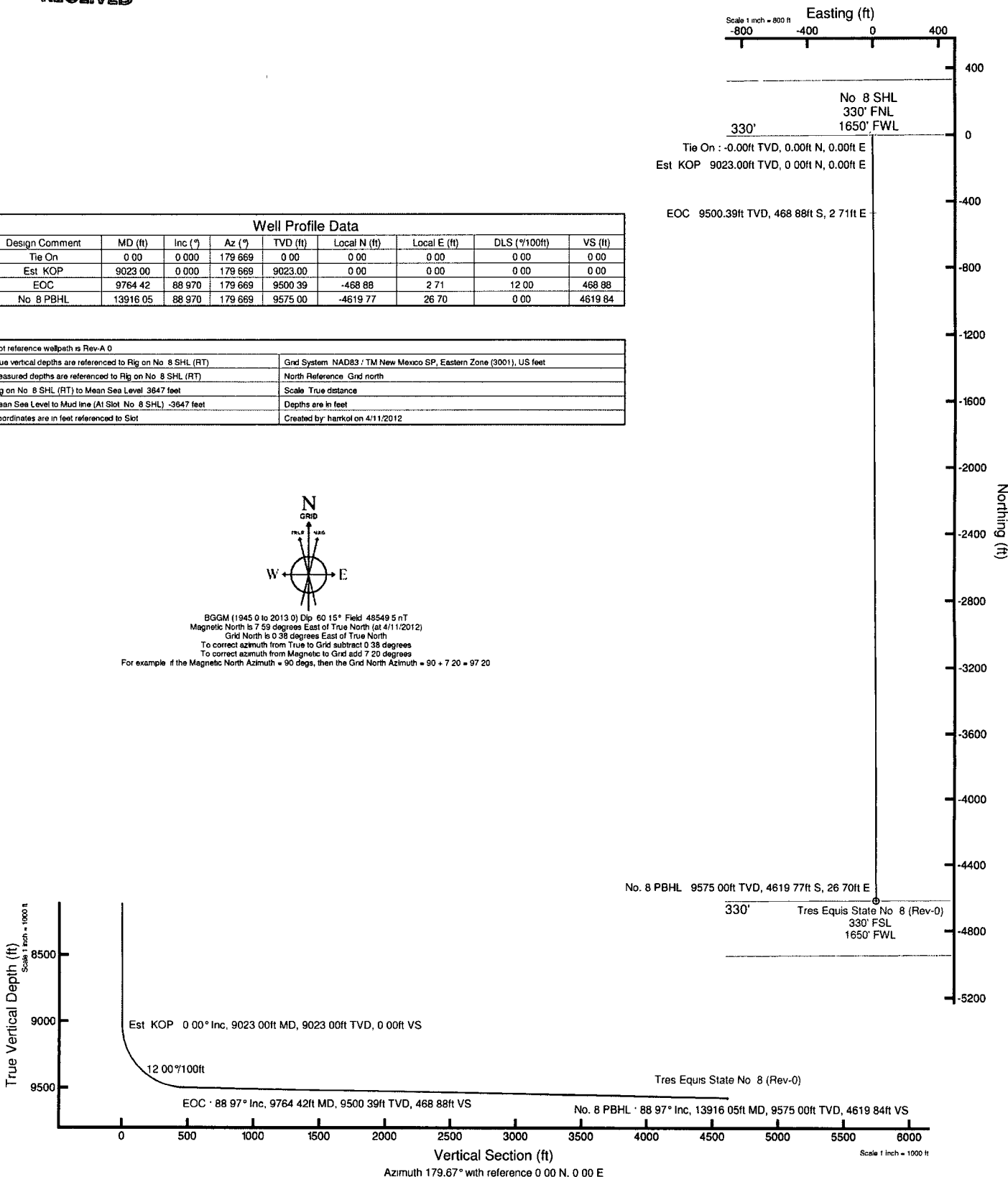
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	179.669	0.00	0.00	0.00	0.00	0.00
Est KOP	9023.00	0.000	179.669	9023.00	0.00	0.00	0.00	0.00
EOC	9764.42	88.970	179.669	9500.39	-468.88	2.71	12.00	468.88
No. 8 PBHL	13916.05	88.970	179.669	9575.00	-4619.77	26.70	0.00	4619.84

Plot reference wellpath is Rev-A 0	
True vertical depths are referenced to Rig on No. 8 SHL (RT)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 8 SHL (RT)	North Reference: Grid north
Rig on No. 8 SHL (RT) to Mean Sea Level: 3647 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot No. 8 SHL): -3647 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: harkol on 4/11/2012



BGGM (1945.0 to 2013.0) Dip: 60.15° Field: 48549.5 nT
Magnetic North is 7.59 degrees East of True North (at 4/11/2012)
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. 8 SHL
Area	Lea County, NM	Well	No. 8
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 8 PWB
Facility	Tres Equis State No. 8		

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 10:00:04 AM
Convergence at slot	0.38° East	Database/Source file	WA Midland/No. 8_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	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W
Facility Reference Pt			763582.00	456553.20	32°15'11.140"N	103°36'51.892"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. 8 SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Slot	Rig on No. 8 SHL (RT) to Mean Sea Level	3647.00ft
Vertical Reference Pt	Rig on No. 8 SHL (RT)	Rig on No. 8 SHL (RT) to Mud Line at Slot (No. 8 SHL)	0.00ft
MD Reference Pt	Rig on No. 8 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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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 8 SHL
Area	Lea County, NM	Well	No. 8
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 8 PWB
Facility	Tres Equis State No. 8		

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	179.669	0.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	Tie On
100.00†	0.000	179.669	100.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
200.00†	0.000	179.669	200.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
300.00†	0.000	179.669	300.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
400.00†	0.000	179.669	400.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
500.00†	0.000	179.669	500.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
600.00†	0.000	179.669	600.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
700.00†	0.000	179.669	700.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
800.00†	0.000	179.669	800.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
900.00†	0.000	179.669	900.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
1000.00†	0.000	179.669	1000.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
1100.00†	0.000	179.669	1100.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
1200.00†	0.000	179.669	1200.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	Rustler
1300.00†	0.000	179.669	1300.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
1400.00†	0.000	179.669	1400.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
1420.00†	0.000	179.669	1420.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	Salt
1500.00†	0.000	179.669	1500.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
1600.00†	0.000	179.669	1600.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
1700.00†	0.000	179.669	1700.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
1800.00†	0.000	179.669	1800.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
1900.00†	0.000	179.669	1900.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2000.00†	0.000	179.669	2000.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2100.00†	0.000	179.669	2100.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2200.00†	0.000	179.669	2200.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2300.00†	0.000	179.669	2300.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2400.00†	0.000	179.669	2400.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2500.00†	0.000	179.669	2500.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2600.00†	0.000	179.669	2600.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2700.00†	0.000	179.669	2700.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2800.00†	0.000	179.669	2800.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
2900.00†	0.000	179.669	2900.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
3000.00†	0.000	179.669	3000.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
3100.00†	0.000	179.669	3100.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
3200.00†	0.000	179.669	3200.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
3300.00†	0.000	179.669	3300.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	Castille
3400.00†	0.000	179.669	3400.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
3500.00†	0.000	179.669	3500.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
3600.00†	0.000	179.669	3600.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
3700.00†	0.000	179.669	3700.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
3800.00†	0.000	179.669	3800.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
3900.00†	0.000	179.669	3900.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
4000.00†	0.000	179.669	4000.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
4100.00†	0.000	179.669	4100.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
4200.00†	0.000	179.669	4200.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
4300.00†	0.000	179.669	4300.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 8 SHL
Area	Lea County, NM	Well	No. 8
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 8 PWB
Facility	Tres Equis State No. 8		

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	179.669	4400.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
4500.00†	0.000	179.669	4500.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
4600.00†	0.000	179.669	4600.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
4700.00†	0.000	179.669	4700.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
4800.00†	0.000	179.669	4800.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
4900.00†	0.000	179.669	4900.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
5000.00†	0.000	179.669	5000.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	Delaware
5100.00†	0.000	179.669	5100.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
5200.00†	0.000	179.669	5200.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
5300.00†	0.000	179.669	5300.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
5400.00†	0.000	179.669	5400.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
5500.00†	0.000	179.669	5500.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
5600.00†	0.000	179.669	5600.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
5700.00†	0.000	179.669	5700.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
5800.00†	0.000	179.669	5800.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
5900.00†	0.000	179.669	5900.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6000.00†	0.000	179.669	6000.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6100.00†	0.000	179.669	6100.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6200.00†	0.000	179.669	6200.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6300.00†	0.000	179.669	6300.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6400.00†	0.000	179.669	6400.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6500.00†	0.000	179.669	6500.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6600.00†	0.000	179.669	6600.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6700.00†	0.000	179.669	6700.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6800.00†	0.000	179.669	6800.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
6900.00†	0.000	179.669	6900.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7000.00†	0.000	179.669	7000.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7100.00†	0.000	179.669	7100.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7200.00†	0.000	179.669	7200.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7300.00†	0.000	179.669	7300.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7400.00†	0.000	179.669	7400.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7500.00†	0.000	179.669	7500.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7600.00†	0.000	179.669	7600.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7700.00†	0.000	179.669	7700.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7800.00†	0.000	179.669	7800.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
7900.00†	0.000	179.669	7900.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
8000.00†	0.000	179.669	8000.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
8100.00†	0.000	179.669	8100.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
8200.00†	0.000	179.669	8200.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
8300.00†	0.000	179.669	8300.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
8400.00†	0.000	179.669	8400.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
8500.00†	0.000	179.669	8500.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
8575.00†	0.000	179.669	8575.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	Basal Brushy Canyon
8600.00†	0.000	179.669	8600.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
8700.00†	0.000	179.669	8700.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	



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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 8 SHL
Area	Lea County, NM	Well	No. 8
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 8 PWB
Facility	Tres Equis State No. 8		

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	179.669	8800.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
8900.00†	0.000	179.669	8900.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	Bone Spring
9000.00†	0.000	179.669	9000.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	
9023.00	0.000	179.669	9023.00	0.00	0.00	0.00	763582.00	456553.20	32°15'11.140"N	103°36'51.892"W	0.00	Est. KOP
9100.00†	9.240	179.669	9099.67	6.20	-6.20	0.04	763582.04	456547.00	32°15'11.079"N	103°36'51.892"W	12.00	
9200.00†	21.240	179.669	9195.97	32.43	-32.43	0.19	763582.19	456520.77	32°15'10.819"N	103°36'51.892"W	12.00	
9300.00†	33.240	179.669	9284.72	78.12	-78.12	0.45	763582.45	456475.08	32°15'10.367"N	103°36'51.892"W	12.00	
9318.51†	35.461	179.669	9300.00	88.56	-88.56	0.51	763582.51	456464.64	32°15'10.264"N	103°36'51.892"W	12.00	Upper Bone Spring Shale
9400.00†	45.240	179.669	9362.03	141.26	-141.26	0.82	763582.82	456411.94	32°15'09.743"N	103°36'51.893"W	12.00	
9500.00†	57.240	179.669	9424.52	219.10	-219.09	1.27	763583.27	456334.11	32°15'08.972"N	103°36'51.894"W	12.00	
9600.00†	69.240	179.669	9469.46	308.23	-308.22	1.78	763583.78	456244.99	32°15'08.090"N	103°36'51.895"W	12.00	
9700.00†	81.240	179.669	9494.90	404.75	-404.74	2.34	763584.34	456148.47	32°15'07.135"N	103°36'51.896"W	12.00	
9764.42	88.970	179.669	9500.39	468.88	-468.88	2.71	763584.71	456084.34	32°15'06.501"N	103°36'51.897"W	12.00	EOC
9800.00†	88.970	179.669	9501.03	504.46	-504.45	2.92	763584.92	456048.77	32°15'06.149"N	103°36'51.897"W	0.00	
9900.00†	88.970	179.669	9502.82	604.44	-604.43	3.49	763585.49	455948.79	32°15'05.159"N	103°36'51.898"W	0.00	
10000.00†	88.970	179.669	9504.62	704.43	-704.42	4.07	763586.07	455848.81	32°15'04.170"N	103°36'51.899"W	0.00	
10100.00†	88.970	179.669	9506.42	804.41	-804.40	4.65	763586.65	455748.83	32°15'03.181"N	103°36'51.900"W	0.00	
10200.00†	88.970	179.669	9508.22	904.39	-904.38	5.23	763587.23	455648.85	32°15'02.191"N	103°36'51.901"W	0.00	
10300.00†	88.970	179.669	9510.01	1004.38	-1004.36	5.80	763587.80	455548.87	32°15'01.202"N	103°36'51.902"W	0.00	
10400.00†	88.970	179.669	9511.81	1104.36	-1104.34	6.38	763588.38	455448.90	32°15'00.213"N	103°36'51.903"W	0.00	
10500.00†	88.970	179.669	9513.61	1204.35	-1204.33	6.96	763588.96	455348.92	32°14'59.223"N	103°36'51.904"W	0.00	
10600.00†	88.970	179.669	9515.40	1304.33	-1304.31	7.54	763589.54	455248.94	32°14'58.234"N	103°36'51.905"W	0.00	
10700.00†	88.970	179.669	9517.20	1404.31	-1404.29	8.12	763590.12	455148.96	32°14'57.245"N	103°36'51.907"W	0.00	
10800.00†	88.970	179.669	9519.00	1504.30	-1504.27	8.69	763590.69	455048.98	32°14'56.255"N	103°36'51.908"W	0.00	
10900.00†	88.970	179.669	9520.80	1604.28	-1604.26	9.27	763591.27	454949.00	32°14'55.266"N	103°36'51.909"W	0.00	
11000.00†	88.970	179.669	9522.59	1704.27	-1704.24	9.85	763591.85	454849.02	32°14'54.277"N	103°36'51.910"W	0.00	
11100.00†	88.970	179.669	9524.39	1804.25	-1804.22	10.43	763592.43	454749.05	32°14'53.287"N	103°36'51.911"W	0.00	
11200.00†	88.970	179.669	9526.19	1904.23	-1904.20	11.01	763593.01	454649.07	32°14'52.298"N	103°36'51.912"W	0.00	
11300.00†	88.970	179.669	9527.98	2004.22	-2004.18	11.58	763593.58	454549.09	32°14'51.308"N	103°36'51.913"W	0.00	
11400.00†	88.970	179.669	9529.78	2104.20	-2104.17	12.16	763594.16	454449.11	32°14'50.319"N	103°36'51.914"W	0.00	
11500.00†	88.970	179.669	9531.58	2204.18	-2204.15	12.74	763594.74	454349.13	32°14'49.330"N	103°36'51.915"W	0.00	
11600.00†	88.970	179.669	9533.38	2304.17	-2304.13	13.32	763595.32	454249.15	32°14'48.340"N	103°36'51.916"W	0.00	
11700.00†	88.970	179.669	9535.17	2404.15	-2404.11	13.90	763595.89	454149.17	32°14'47.351"N	103°36'51.917"W	0.00	
11800.00†	88.970	179.669	9536.97	2504.14	-2504.09	14.47	763596.47	454049.20	32°14'46.362"N	103°36'51.918"W	0.00	
11900.00†	88.970	179.669	9538.77	2604.12	-2604.08	15.05	763597.05	453949.22	32°14'45.372"N	103°36'51.919"W	0.00	
12000.00†	88.970	179.669	9540.57	2704.10	-2704.06	15.63	763597.63	453849.24	32°14'44.383"N	103°36'51.920"W	0.00	
12100.00†	88.970	179.669	9542.36	2804.09	-2804.04	16.21	763598.21	453749.26	32°14'43.394"N	103°36'51.921"W	0.00	
12200.00†	88.970	179.669	9544.16	2904.07	-2904.02	16.78	763598.78	453649.28	32°14'42.404"N	103°36'51.922"W	0.00	
12300.00†	88.970	179.669	9545.96	3004.06	-3004.01	17.36	763599.36	453549.30	32°14'41.415"N	103°36'51.924"W	0.00	
12400.00†	88.970	179.669	9547.75	3104.04	-3103.99	17.94	763599.94	453449.32	32°14'40.426"N	103°36'51.925"W	0.00	
12500.00†	88.970	179.669	9549.55	3204.02	-3203.97	18.52	763600.52	453349.35	32°14'39.436"N	103°36'51.926"W	0.00	
12600.00†	88.970	179.669	9551.35	3304.01	-3303.95	19.10	763601.10	453249.37	32°14'38.447"N	103°36'51.927"W	0.00	
12700.00†	88.970	179.669	9553.15	3403.99	-3403.93	19.67	763601.67	453149.39	32°14'37.458"N	103°36'51.928"W	0.00	
12800.00†	88.970	179.669	9554.94	3503.98	-3503.92	20.25	763602.25	453049.41	32°14'36.468"N	103°36'51.929"W	0.00	
12900.00†	88.970	179.669	9556.74	3603.96	-3603.90	20.83	763602.83	452949.43	32°14'35.479"N	103°36'51.930"W	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 8 SHL
Area	Lea County, NM	Well	No. 8
Field	(Tres Equis) Sec 6, T24S, R33E	Wellbore	No. 8 PWB
Facility	Tres Equis State No. 8		

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	179.669	9558.54	3703.94	-3703.88	21.41	763603.41	452849.45	32°14'34.489"N	103°36'51.931"W	0.00	
13100.00†	88.970	179.669	9560.33	3803.93	-3803.86	21.99	763603.98	452749.48	32°14'33.500"N	103°36'51.932"W	0.00	
13200.00†	88.970	179.669	9562.13	3903.91	-3903.85	22.56	763604.56	452649.50	32°14'32.511"N	103°36'51.933"W	0.00	
13300.00†	88.970	179.669	9563.93	4003.89	-4003.83	23.14	763605.14	452549.52	32°14'31.521"N	103°36'51.934"W	0.00	
13400.00†	88.970	179.669	9565.73	4103.88	-4103.81	23.72	763605.72	452449.54	32°14'30.532"N	103°36'51.935"W	0.00	
13500.00†	88.970	179.669	9567.52	4203.86	-4203.79	24.30	763606.30	452349.56	32°14'29.543"N	103°36'51.936"W	0.00	
13600.00†	88.970	179.669	9569.32	4303.85	-4303.77	24.87	763606.87	452249.58	32°14'28.553"N	103°36'51.937"W	0.00	
13700.00†	88.970	179.669	9571.12	4403.83	-4403.76	25.45	763607.45	452149.60	32°14'27.564"N	103°36'51.938"W	0.00	
13800.00†	88.970	179.669	9572.91	4503.81	-4503.74	26.03	763608.03	452049.63	32°14'26.575"N	103°36'51.940"W	0.00	
13900.00†	88.970	179.669	9574.71	4603.80	-4603.72	26.61	763608.61	451949.65	32°14'25.585"N	103°36'51.941"W	0.00	
13916.05	88.970	179.669	9575.00†	4619.84	-4619.77	26.70	763608.70	451933.60	32°14'25.427"N	103°36'51.941"W	0.00	No. 8 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. 8 (Rev-0)	13916.05	9575.00	-4619.77	26.70	763608.70	451933.60	32°14'25.427"N	103°36'51.941"W	point

SURVEY PROGRAM - Ref Wellbore: No. 8 PWB Ref Wellpath: Rev-A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	13916.05	NaviTrak (Standard)		No. 8 PWB