

AUG 14 2017

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5D Plan Report

Apache Corporation

Field Name: *Apache Lea Co, NM (Nad 83 NME)*
Site Name: *Black & Tan 27 Fed Com MW*
Well Name: *Black & Tan 27 Fed Com 303H - Pilot*
Plan: *P1:V1*

14 March 2017



Black & Tan 27 Fed Com 303H - Pilot

Field Name: Apache Lea Co, NM (Nad 83 NME)	Map Units: US ft		Company Name: Apache Corporation	
	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)			
	Comment:			
Site: Black & Tan 27 Fed Com MW	Units: US ft	North Reference: Grid	Convergence Angle: 0.42	
	Position:	Northing: 560138.30 US ft	Latitude: 32.537436108	
		Easting: 782842.60 US ft	Longitude: -103.549659332	
	Elevation above MSL: 3715.00 US ft		Comment:	
Slot: Black & Tan 27 Fed Com 303H	Position (Relative to Site Centre)			
	+N/-S: 0.00 US ft	Northing: 560138.30 US ft	Latitude: 32.537436108	
	+E/-W: 0.00 US ft	Easting: 782842.60 US ft	Longitude: -103.549659332	
	Slot TVD Reference: Ground Elevation			
	Elevation above MSL: 3715.00 US ft			
Well: Black & Tan 27 Fed Com 303H - Pilot	Type: Main well		UWI:	Plan: P1:V1
	File Number:	Comment:		
	Closure Distance: 0US ft		Closure Azimuth: 0.00°	
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: 0.00 US ft	+E/-W: 0.00 US ft	Az: 0.00°	
	Magnetic Parameters:			
	Model: bggm2016	Field Strength: 48263.3nT	Declination: 7.03°	Dip: 60.38°
				Date: 13/Mar/2017

Drill floor: Plan: P1:V1

Rig Height (Drill Floor): 25.00us ft	Elevation above MSL: 3740.00us ft	Inclination: 0.00°	Azimuth: 0.00°
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Target set: Black & Tan 27 Fed Com 303H Comment:

Target Name:	Shape:	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (USFt)	Easting (USFt)	Latitude (° ' ")	Longitude (° ' ")	Comment
PBHL 303H- Lateral	Cuboid	11030.00	4781.50	-523.50	564919.80	782319.10	32°33'2.12"	-103°33'4.48"	

Wellpath created using minimum curvature.**Tie Point:**

MD: 0.00USFt	Inclination: 0.00°	Azimuth: 0.00°	TVD: 0.00USFt	North Offset: 0.00USFt	East Offset: 0.00USFt
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Salient Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	B.Rate (%/100US ft)	T.Rate (%/100US ft)	DLS (%/100US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	
1625.00	0.00	0.00	1625.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Rustler :

5D Plan Report

Salient Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	B.Rate (%/100US ft)	T.Rate (%/100US ft)	DLS (%/100US ft)	Comment
1960.00	0.00	0.00	1960.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Salado :
3362.00	0.00	0.00	3362.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Tansill :
3520.00	0.00	0.00	3520.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Yates :
3620.00	0.00	0.00	3620.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Seven Rivers :
5670.00	0.00	0.00	5670.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Delaware :
8580.00	0.00	0.00	8580.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Bone Spring :
9015.00	0.00	0.00	9015.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Avalon :
9270.00	0.00	0.00	9270.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	1st Bone Spring Carb :
9675.00	0.00	0.00	9675.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	1st Bone Spring Sand :
9950.00	0.00	0.00	9950.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	2nd Bone Spring Carb :
10210.00	0.00	0.00	10210.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	2nd Bone Spring Sand :
10730.00	0.00	0.00	10730.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	3rd Bone Spring Carb :
10970.00	0.00	0.00	10970.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	3rd Bone Spring Sand :
12000.00	0.00	0.00	12000.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	PBHL 303H-Pilot

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	B.Rate (%/100US ft)	T.Rate (%/100US ft)	DLS (%/100US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1625.00	0.00	0.00	1625.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Rustler :
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1960.00	0.00	0.00	1960.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Salado :

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Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3362.00	0.00	0.00	3362.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Tansill :
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3520.00	0.00	0.00	3520.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Yates :
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3620.00	0.00	0.00	3620.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Seven Rivers :
3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4400.00	0.00	0.00	4400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4500.00	0.00	0.00	4500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4900.00	0.00	0.00	4900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5670.00	0.00	0.00	5670.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Delaware :
5700.00	0.00	0.00	5700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5900.00	0.00	0.00	5900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6100.00	0.00	0.00	6100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6200.00	0.00	0.00	6200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6300.00	0.00	0.00	6300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6400.00	0.00	0.00	6400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6500.00	0.00	0.00	6500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6600.00	0.00	0.00	6600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6700.00	0.00	0.00	6700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6800.00	0.00	0.00	6800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6900.00	0.00	0.00	6900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7100.00	0.00	0.00	7100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7200.00	0.00	0.00	7200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	

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Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
7300.00	0.00	0.00	7300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7400.00	0.00	0.00	7400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7500.00	0.00	0.00	7500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7600.00	0.00	0.00	7600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7700.00	0.00	0.00	7700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7800.00	0.00	0.00	7800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7900.00	0.00	0.00	7900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8000.00	0.00	0.00	8000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8100.00	0.00	0.00	8100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8200.00	0.00	0.00	8200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8300.00	0.00	0.00	8300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8400.00	0.00	0.00	8400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8500.00	0.00	0.00	8500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8580.00	0.00	0.00	8580.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Bone Spring :
8600.00	0.00	0.00	8600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8700.00	0.00	0.00	8700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8800.00	0.00	0.00	8800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8900.00	0.00	0.00	8900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9000.00	0.00	0.00	9000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9015.00	0.00	0.00	9015.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Avalon :
9100.00	0.00	0.00	9100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9200.00	0.00	0.00	9200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9270.00	0.00	0.00	9270.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	1st Bone Spring Carb :
9300.00	0.00	0.00	9300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9400.00	0.00	0.00	9400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9500.00	0.00	0.00	9500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9600.00	0.00	0.00	9600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9675.00	0.00	0.00	9675.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	1st Bone Spring Sand :
9700.00	0.00	0.00	9700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9800.00	0.00	0.00	9800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9900.00	0.00	0.00	9900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9950.00	0.00	0.00	9950.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	2nd Bone Spring Carb :
10000.00	0.00	0.00	10000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10100.00	0.00	0.00	10100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10200.00	0.00	0.00	10200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10210.00	0.00	0.00	10210.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	2nd Bone Spring Sand :
10300.00	0.00	0.00	10300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10400.00	0.00	0.00	10400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10500.00	0.00	0.00	10500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10600.00	0.00	0.00	10600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10700.00	0.00	0.00	10700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10730.00	0.00	0.00	10730.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	3rd Bone Spring Carb :
10800.00	0.00	0.00	10800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10900.00	0.00	0.00	10900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10970.00	0.00	0.00	10970.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	3rd Bone Spring Sand :
11000.00	0.00	0.00	11000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
11100.00	0.00	0.00	11100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
11200.00	0.00	0.00	11200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
11300.00	0.00	0.00	11300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
11400.00	0.00	0.00	11400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
11500.00	0.00	0.00	11500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
11600.00	0.00	0.00	11600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
11700.00	0.00	0.00	11700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
11800.00	0.00	0.00	11800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
11900.00	0.00	0.00	11900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
12000.00	0.00	0.00	12000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	PBHL 303H-Pilot

Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	N.Offset (US ft)	E.Offset (US ft)	F.Dip (°)	F.Dir (°)	
Rustler	1625.00	0.00	0.00	1625.00	-2115.00	0.00	0.00	0	0	
Salado	1960.00	0.00	0.00	1960.00	-1780.00	0.00	0.00	0	0	
Tansill	3362.00	0.00	0.00	3362.00	-378.00	0.00	0.00	0	0	
Yates	3520.00	0.00	0.00	3520.00	-220.00	0.00	0.00	0	0	
Seven Rivers	3620.00	0.00	0.00	3620.00	-120.00	0.00	0.00	0	0	
Delaware	5670.00	0.00	0.00	5670.00	1930.00	0.00	0.00	0	0	
Bone Spring	8580.00	0.00	0.00	8580.00	4840.00	0.00	0.00	0	0	
Avalon	9015.00	0.00	0.00	9015.00	5275.00	0.00	0.00	0	0	
1st Bone Spring Carb	9270.00	0.00	0.00	9270.00	5530.00	0.00	0.00	0	0	
1st Bone Spring Sand	9675.00	0.00	0.00	9675.00	5935.00	0.00	0.00	0	0	
2nd Bone Spring Carb	9950.00	0.00	0.00	9950.00	6210.00	0.00	0.00	0	0	
2nd Bone Spring Sand	10210.00	0.00	0.00	10210.00	6470.00	0.00	0.00	0	0	
3rd Bone Spring Carb	10730.00	0.00	0.00	10730.00	6990.00	0.00	0.00	0	0	
3rd Bone Spring Sand	10970.00	0.00	0.00	10970.00	7230.00	0.00	0.00	0	0	

5D Plan Report

HOBBS OCD

AUG 14 2017

RECEIVED

5D Plan Report

Apache Corporation

Field Name: *Apache Lea Co, NM (Nad 83 NME)*
Site Name: *Black & Tan 27 Fed Com MW*
Well Name: *Black & Tan 27 Fed Com 303H - Lateral*
Plan: *P1:V1*

14 March 2017



**5D Plan Report**

Apache Corporation

Field Name: *Apache Lea Co, NM (Nad 83 NME)*
Site Name: *Black & Tan 27 Fed Com MW*
Well Name: *Black & Tan 27 Fed Com 303H - Lateral*
Plan: *P1:V1*

14 March 2017



Black & Tan 27 Fed Com 303H - Lateral

Field Name: Apache Lea Co, NM (Nad 83 NME)	Map Units: US ft		Company Name: Apache Corporation	
	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)			
	Comment:			
Site: Black & Tan 27 Fed Com MW	Units: US ft	North Reference: Grid	Convergence Angle: 0.42	
	Position:	Northing: 560138.30 US ft	Latitude: 32.537436108	
		Easting: 782842.60 US ft	Longitude: -103.549659332	
	Elevation above MSL: 3715.00 US ft			
Comment:				
Slot: Black & Tan 27 Fed Com 303H	Position (Relative to Site Centre)			
	+N/-S: 0.00 US ft	Northing: 560138.30 US ft	Latitude: 32.537436108	
	+E/-W: 0.00 US ft	Easting: 782842.60 US ft	Longitude: -103.549659332	
	Slot TVD Reference: Ground Elevation			
	Elevation above MSL: 3715.00 US ft			
Comment:				
Well: Black & Tan 27 Fed Com 303H - Lateral	Type: Sidetrack	UWI:	Plan: P1:V1	
	Parent: Black & Tan 27 Fed Com 303H - Pilot	Tie Point Method: MD	Tie Point: 10472.73 US ft	
	File Number:	Comment:		
	Closure Distance: 4810.07 US ft	Closure Azimuth: 353.75°		
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: 0.00 US ft	+E/-W: 0.00 US ft	Az: 0.00°	
	Magnetic Parameters:			
	Model: bggm2016	Field Strength: 48263.3nT	Declination: 7.03°	Dip: 60.38° Date: 13/Mar/2017

Drill floor: Plan: P1:V1

Rig Height (Drill Floor): 25.00us ft	Elevation above MSL: 3740.00us ft	Inclination: 0.00°	Azimuth: 0.00°
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Target set: Black & Tan 27 Fed Com 303H Comment:

Target Name:	Shape:	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (USft)	Easting (USft)	Latitude (° ' ")	Longitude (° ' ")	Comment
PBHL 303H- Lateral	Cuboid	11030.00	4781.50	-523.50	564919.80	782319.10	32°33'2.12"	-103°33'4.48"	

Wellpath created using minimum curvature.

Tie Point:

MD: 10472.73USft	Inclination: 0.00°	Azimuth: 0.00°	TVD: 10472.73USft	North Offset: 0.00USft	East Offset: 0.00USft
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Salient Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.537436 108	-103.54965 9332	0.00	0.00	0.00	

5D Plan Report

Salient Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (° ' ")	Longitude (° ' ")	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
1625.00	0.00	0.00	1625.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Rustler :
1960.00	0.00	0.00	1960.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Salado :
3362.00	0.00	0.00	3362.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Tansill :
3520.00	0.00	0.00	3520.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Yates :
3620.00	0.00	0.00	3620.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Seven Rivers :
5670.00	0.00	0.00	5670.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Delaware :
8580.00	0.00	0.00	8580.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Bone Spring :
9015.00	0.00	0.00	9015.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	Avalon :
9270.00	0.00	0.00	9270.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	1st Bone Spring Carb :
9675.00	0.00	0.00	9675.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	1st Bone Spring Sand :
9950.00	0.00	0.00	9950.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	2nd Bone Spring Carb :
10210.00	0.00	0.00	10210.00	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	2nd Bone Spring Sand :
10472.73	0.00	0.00	10472.73	0.00	0.00	0.00	32.537436 108	- 103.54965 9332	0.00	0.00	0.00	KOP
10744.43	32.60	279.03	10730.00	11.81	11.81	-74.31	32.537470 073	- 103.54990 0157	12.00	0.00	12.00	3rd Bone Spring Carb :
10889.39	50.00	279.03	10838.49	26.77	26.77	-168.44	32.537513 100	- 103.55020 5235	12.00	0.00	12.00	Build/Turn
11108.66	57.61	310.44	10970.00	101.32	101.32	-324.60	32.537721 160	- 103.55071 0146	3.47	14.32	12.00	3rd Bone Spring Sand :
11584.69	91.00	359.60	11104.67	503.56	503.56	-493.47	32.538830 108	- 103.55124 8495	7.01	10.33	12.00	LP
15863.39	91.00	359.60	11030.00	4781.50	4781.50	-523.50	32.550588 684	- 103.55124 4000	0.00	0.00	0.00	PBHL 303H- Lateral

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1625.00	0.00	0.00	1625.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Rustler :
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
1960.00	0.00	0.00	1960.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Salado :
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3362.00	0.00	0.00	3362.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Tansill :
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3520.00	0.00	0.00	3520.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Yates :
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3620.00	0.00	0.00	3620.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Seven Rivers :
3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4400.00	0.00	0.00	4400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4500.00	0.00	0.00	4500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
4900.00	0.00	0.00	4900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5670.00	0.00	0.00	5670.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Delaware :
5700.00	0.00	0.00	5700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
5900.00	0.00	0.00	5900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6100.00	0.00	0.00	6100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6200.00	0.00	0.00	6200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6300.00	0.00	0.00	6300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
6400.00	0.00	0.00	6400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6500.00	0.00	0.00	6500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6600.00	0.00	0.00	6600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6700.00	0.00	0.00	6700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6800.00	0.00	0.00	6800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
6900.00	0.00	0.00	6900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7100.00	0.00	0.00	7100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7200.00	0.00	0.00	7200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7300.00	0.00	0.00	7300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7400.00	0.00	0.00	7400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7500.00	0.00	0.00	7500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7600.00	0.00	0.00	7600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7700.00	0.00	0.00	7700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7800.00	0.00	0.00	7800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
7900.00	0.00	0.00	7900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8000.00	0.00	0.00	8000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8100.00	0.00	0.00	8100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8200.00	0.00	0.00	8200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8300.00	0.00	0.00	8300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8400.00	0.00	0.00	8400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8500.00	0.00	0.00	8500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8580.00	0.00	0.00	8580.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Bone Spring :
8600.00	0.00	0.00	8600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8700.00	0.00	0.00	8700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8800.00	0.00	0.00	8800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
8900.00	0.00	0.00	8900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9000.00	0.00	0.00	9000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9015.00	0.00	0.00	9015.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	Avalon :
9100.00	0.00	0.00	9100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9200.00	0.00	0.00	9200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9270.00	0.00	0.00	9270.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	1st Bone Spring Carb :
9300.00	0.00	0.00	9300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9400.00	0.00	0.00	9400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9500.00	0.00	0.00	9500.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9600.00	0.00	0.00	9600.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9675.00	0.00	0.00	9675.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	1st Bone Spring Sand :
9700.00	0.00	0.00	9700.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9800.00	0.00	0.00	9800.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9900.00	0.00	0.00	9900.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
9950.00	0.00	0.00	9950.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	2nd Bone Spring Carb :
10000.00	0.00	0.00	10000.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10100.00	0.00	0.00	10100.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10200.00	0.00	0.00	10200.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10210.00	0.00	0.00	10210.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	2nd Bone Spring Sand :
10300.00	0.00	0.00	10300.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10400.00	0.00	0.00	10400.00	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	
10472.73	0.00	0.00	10472.73	0.00	0.00	0.00	560138.30	782842.60	0.00	0.00	0.00	KOP
10500.00	3.27	279.03	10499.99	0.12	0.12	-0.77	560138.42	782841.83	12.00	0.00	12.00	
10600.00	15.27	279.03	10598.50	2.65	2.65	-16.65	560140.95	782825.95	12.00	-0.00	12.00	
10700.00	27.27	279.03	10691.51	8.33	8.33	-52.42	560146.63	782790.18	12.00	-0.00	12.00	
10744.43	32.60	279.03	10730.00	11.81	11.81	-74.31	560150.11	782768.29	12.00	-0.00	12.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
10800.00	39.27	279.03	10774.97	16.93	16.93	-106.50	560155.23	782736.10	12.00	0.00	12.00	3rd Bone Spring Carb :
10889.39	50.00	279.03	10838.49	26.77	26.77	-168.44	560165.07	782674.16	12.00	-0.00	12.00	Build/Turn
10900.00	50.16	280.68	10845.29	28.17	28.17	-176.46	560166.47	782666.14	1.54	15.52	12.00	
11000.00	52.80	295.66	10907.78	52.61	52.61	-250.35	560190.91	782592.25	2.64	14.98	12.00	
11100.00	57.17	309.33	10965.33	96.65	96.65	-319.00	560234.95	782523.60	4.37	13.67	12.00	
11108.66	57.61	310.44	10970.00	101.32	101.32	-324.60	560239.62	782518.00	5.16	12.86	12.00	3rd Bone Spring Sand :
11200.00	62.87	321.53	11015.43	158.34	158.34	-379.40	560296.64	782463.20	5.75	12.15	12.00	
11300.00	69.51	332.47	11055.88	234.99	234.99	-428.91	560373.29	782413.69	6.65	10.93	12.00	
11400.00	76.78	342.45	11084.92	323.26	323.26	-465.37	560461.56	782377.23	7.27	9.99	12.00	
11500.00	84.41	351.85	11101.28	419.28	419.28	-487.18	560557.58	782355.42	7.63	9.39	12.00	
11584.69	91.00	359.60	11104.67	503.56	503.56	-493.47	560641.86	782349.13	7.78	9.15	12.00	LP
11600.00	91.00	359.60	11104.41	518.86	518.86	-493.58	560657.16	782349.02	0.00	0.00	0.00	
11700.00	91.00	359.60	11102.66	618.85	618.85	-494.28	560757.15	782348.32	0.00	0.00	0.00	
11800.00	91.00	359.60	11100.92	718.83	718.83	-494.98	560857.13	782347.62	0.00	0.00	0.00	
11900.00	91.00	359.60	11099.17	818.81	818.81	-495.68	560957.11	782346.92	0.00	0.00	0.00	
12000.00	91.00	359.60	11097.43	918.79	918.79	-496.38	561057.09	782346.22	0.00	0.00	0.00	
12100.00	91.00	359.60	11095.68	1018.78	1018.78	-497.09	561157.08	782345.51	0.00	0.00	0.00	
12200.00	91.00	359.60	11093.93	1118.76	1118.76	-497.79	561257.06	782344.81	0.00	0.00	0.00	
12300.00	91.00	359.60	11092.19	1218.74	1218.74	-498.49	561357.04	782344.11	0.00	0.00	0.00	
12400.00	91.00	359.60	11090.44	1318.72	1318.72	-499.19	561457.02	782343.41	0.00	0.00	0.00	
12500.00	91.00	359.60	11088.70	1418.70	1418.70	-499.89	561557.00	782342.71	0.00	0.00	0.00	
12600.00	91.00	359.60	11086.95	1518.69	1518.69	-500.60	561656.99	782342.00	0.00	0.00	0.00	
12700.00	91.00	359.60	11085.21	1618.67	1618.67	-501.30	561756.97	782341.30	0.00	0.00	0.00	
12800.00	91.00	359.60	11083.46	1718.65	1718.65	-502.00	561856.95	782340.60	0.00	0.00	0.00	
12900.00	91.00	359.60	11081.72	1818.63	1818.63	-502.70	561956.93	782339.90	0.00	0.00	0.00	
13000.00	91.00	359.60	11079.97	1918.62	1918.62	-503.40	562056.92	782339.20	0.00	0.00	0.00	
13100.00	91.00	359.60	11078.23	2018.60	2018.60	-504.10	562156.90	782338.50	0.00	0.00	0.00	
13200.00	91.00	359.60	11076.48	2118.58	2118.58	-504.81	562256.88	782337.79	0.00	0.00	0.00	
13300.00	91.00	359.60	11074.74	2218.56	2218.56	-505.51	562356.86	782337.09	0.00	0.00	0.00	
13400.00	91.00	359.60	11072.99	2318.55	2318.55	-506.21	562456.85	782336.39	0.00	0.00	0.00	
13500.00	91.00	359.60	11071.25	2418.53	2418.53	-506.91	562556.83	782335.69	0.00	0.00	0.00	
13600.00	91.00	359.60	11069.50	2518.51	2518.51	-507.61	562656.81	782334.99	0.00	0.00	0.00	
13700.00	91.00	359.60	11067.76	2618.49	2618.49	-508.32	562756.79	782334.28	0.00	0.00	0.00	
13800.00	91.00	359.60	11066.01	2718.47	2718.47	-509.02	562856.77	782333.58	0.00	0.00	0.00	
13900.00	91.00	359.60	11064.27	2818.46	2818.46	-509.72	562956.76	782332.88	0.00	0.00	0.00	
14000.00	91.00	359.60	11062.52	2918.44	2918.44	-510.42	563056.74	782332.18	0.00	0.00	0.00	
14100.00	91.00	359.60	11060.78	3018.42	3018.42	-511.12	563156.72	782331.48	0.00	0.00	0.00	
14200.00	91.00	359.60	11059.03	3118.40	3118.40	-511.83	563256.70	782330.77	0.00	0.00	0.00	
14300.00	91.00	359.60	11057.28	3218.39	3218.39	-512.53	563356.69	782330.07	0.00	0.00	0.00	
14400.00	91.00	359.60	11055.54	3318.37	3318.37	-513.23	563456.67	782329.37	0.00	0.00	0.00	
14500.00	91.00	359.60	11053.79	3418.35	3418.35	-513.93	563556.65	782328.67	0.00	0.00	0.00	
14600.00	91.00	359.60	11052.05	3518.33	3518.33	-514.63	563656.63	782327.97	0.00	0.00	0.00	
14700.00	91.00	359.60	11050.30	3618.32	3618.32	-515.33	563756.62	782327.27	0.00	0.00	0.00	
14800.00	91.00	359.60	11048.56	3718.30	3718.30	-516.04	563856.60	782326.56	0.00	0.00	0.00	
14900.00	91.00	359.60	11046.81	3818.28	3818.28	-516.74	563956.58	782325.86	0.00	0.00	0.00	
15000.00	91.00	359.60	11045.07	3918.26	3918.26	-517.44	564056.56	782325.16	0.00	0.00	0.00	
15100.00	91.00	359.60	11043.32	4018.24	4018.24	-518.14	564156.54	782324.46	0.00	0.00	0.00	
15200.00	91.00	359.60	11041.58	4118.23	4118.23	-518.84	564256.53	782323.76	0.00	0.00	0.00	
15300.00	91.00	359.60	11039.83	4218.21	4218.21	-519.55	564356.51	782323.05	0.00	0.00	0.00	
15400.00	91.00	359.60	11038.09	4318.19	4318.19	-520.25	564456.49	782322.35	0.00	0.00	0.00	
15500.00	91.00	359.60	11036.34	4418.17	4418.17	-520.95	564556.47	782321.65	0.00	0.00	0.00	
15600.00	91.00	359.60	11034.60	4518.16	4518.16	-521.65	564656.46	782320.95	0.00	0.00	0.00	
15700.00	91.00	359.60	11032.85	4618.14	4618.14	-522.35	564756.44	782320.25	0.00	0.00	0.00	
15800.00	91.00	359.60	11031.11	4718.12	4718.12	-523.06	564856.42	782319.54	0.00	0.00	0.00	

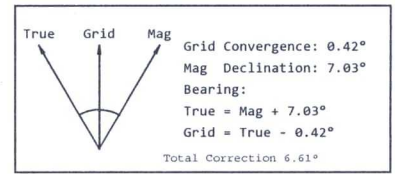
5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)												
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
15863.39	91.00	359.60	11030.00	4781.50	4781.50	-523.50	564919.80	782319.10	0.00	0.00	0.00	PBHL 303H- Lateral

Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	N.Offset (US ft)	E.Offset (US ft)	F.Dip (°)	F.Dir (°)	
Rustler	N/A	N/A	N/A	1625.00	-2115.00	N/A	N/A	0	0	
Salado	N/A	N/A	N/A	1960.00	-1780.00	N/A	N/A	0	0	
Tansill	N/A	N/A	N/A	3362.00	-378.00	N/A	N/A	0	0	
Yates	N/A	N/A	N/A	3520.00	-220.00	N/A	N/A	0	0	
Seven Rivers	N/A	N/A	N/A	3620.00	-120.00	N/A	N/A	0	0	
Delaware	N/A	N/A	N/A	5670.00	1930.00	N/A	N/A	0	0	
Bone Spring	N/A	N/A	N/A	8580.00	4840.00	N/A	N/A	0	0	
Avalon	N/A	N/A	N/A	9015.00	5275.00	N/A	N/A	0	0	
1st Bone Spring Carb	N/A	N/A	N/A	9270.00	5530.00	N/A	N/A	0	0	
1st Bone Spring Sand	N/A	N/A	N/A	9675.00	5935.00	N/A	N/A	0	0	
2nd Bone Spring Carb	N/A	N/A	N/A	9950.00	6210.00	N/A	N/A	0	0	
2nd Bone Spring Sand	N/A	N/A	N/A	10210.00	6470.00	N/A	N/A	0	0	
3rd Bone Spring Carb	N/A	N/A	N/A	10730.00	6990.00	N/A	N/A	0	0	
3rd Bone Spring Sand	N/A	N/A	N/A	10970.00	7230.00	N/A	N/A	0	0	

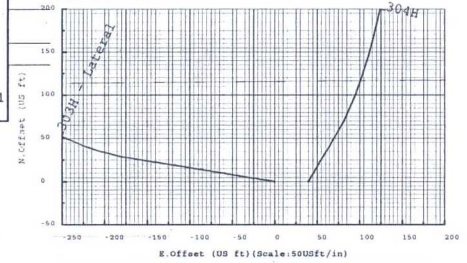


Apache
Black & Tan 27 Fed Com 303H
Lea Co, NM



Plan Data for Black & Tan 27 Fed Com 303H - Lateral

Plan Point Information:									
Dogleg Severity Unit: %/100.00ft Position offsets from Slot centre									
MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS Comments
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)
0.00	0.00	0.00	0.00	-0.00	-0.00	560138.30	782842.60	-0.00	0.00
10472.73	0.00	0.00	10472.73	-0.00	-0.00	560138.30	782842.60	-0.00	0.00 KOP
10889.39	50.00	279.03	10838.49	26.77	-168.44	560165.07	782674.16	44.95	12.00 Build/Turn
11584.69	91.00	359.60	11104.67	503.56	-493.47	560641.86	782349.13	554.27	12.00 LP
15863.39	91.00	359.60	11030.00	4781.50	-523.50	564919.80	782319.10	4810.07	0.00 PBHL 303H-Lateral



Plan Data for Black & Tan 27 Fed Com 303H - Lateral

Field: Apache Lea Co, NM (Nad 83 NME)
Map Unit: USFT Vertical Reference Datum (VRD): Mean Sea Level
Projected Coordinate System: NAD83 / New Mexico East (ftUS)

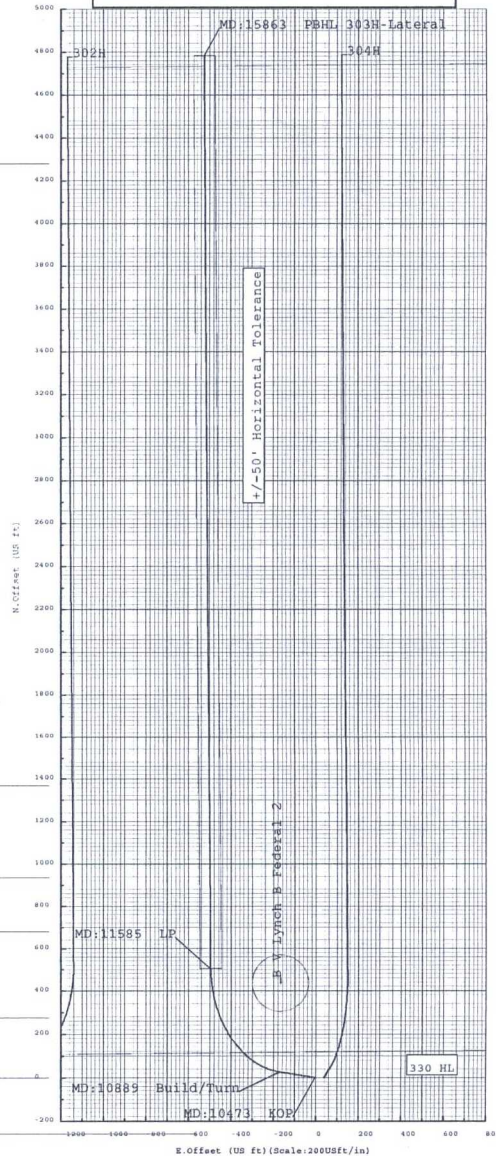
Site: Black & Tan 27 Fed Com MW
Unit: USFeet TVD Reference:
Company Name: Apache Corporation
Position: Northing: 560138.30USft Latitude: 32.537436°
Easting: 782842.60USft Longitude: -103.549659°
North Reference: Grid Grid Convergence: 0.42°
Elevation Above VRD: 3715.00USft

Slot: Black & Tan 27 Fed Com 303H
Position:
Offset is from Site centre
+N/-S: 0.00USft Northing: 560138.30USft Latitude: 32.537436°
+E/-W: 0.00USft Easting: 782842.60USft Longitude: -103.549659°
Elevation Above VRD: 3715.00USft

Well: Black & Tan 27 Fed Com 303H - Lateral

Type: Side-Track
File Number:
Plan Folder: P1 Plan: P1:V1
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 353.75°
+E/-W: 0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
bgm2016 48263(nT) 7.03° 60.38° 2017-03-13

Black & Tan 27 Fed Com 303H - Lateral
B V Lynch B Federal 2
Black & Tan 27 Fed Com 304H
Black & Tan 27 Fed Com 302H

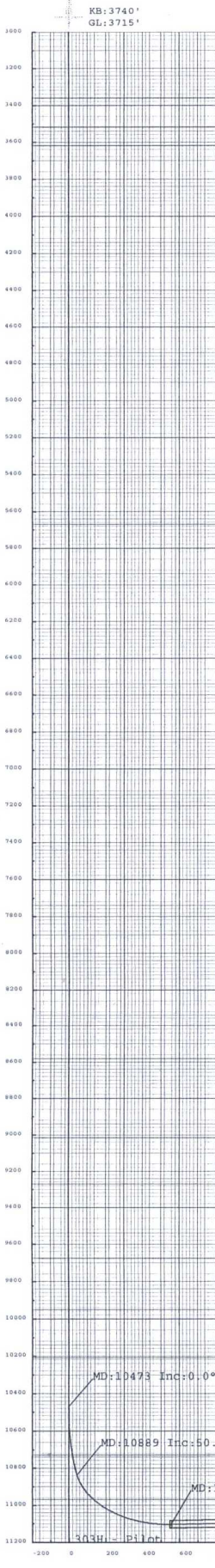


Plan Data for Black & Tan 27 Fed Com 303H

Formation Point Information:			
Name	TVD	SS	MD
	(USft)	(USft)	(USft)
Rustler	1625.00	2115.00	1625.00
Salado	1960.00	1780.00	1960.00
Tansill	3362.00	378.00	3362.00
Yates	3520.00	220.00	3520.00
Seven Rivers	3620.00	120.00	3620.00
Delaware	5670.00	-1930.00	5670.00
Bone Spring	8500.00	-4840.00	8500.00
Avalon	9015.00	-5275.00	9015.00
1st Bone Spring Carb	9270.00	-5530.00	9270.00
1st Bone Spring Sand	9675.00	-5935.00	9675.00
2nd Bone Spring Carb	9950.00	-6210.00	9950.00
2nd Bone Spring Sand	10210.00	-6470.00	10210.00
3rd Bone Spring Carb	10730.00	-6990.00	10730.00
3rd Bone Spring Sand	10970.00	-7230.00	10970.00

Plan Data for Black & Tan 27 Fed Com 303H - Lateral

Target Set Information:
Name: Black & Tan 27 Fed Com 303H
Position offsets from Slot centre
Name TVD SS +N/-S +E/-W Northing Easting
(USft) (USft) (USft) (USft) (USft) (USft)
PBHL 303H-Lateral 11030.00 -7290.00 4781.50 -523.50 564919.80 782319.10



HOBBS OCD

AUG 14 2017

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Drawing By: GWR Date: 03-14-2017
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