



HOBBS OCD

SEP 15 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 W***Well Name:** *Black & Tan 27 Fed Com 302H***Plan:** *P1:V1*

14 March 2017

**Weatherford®**

Black & Tan 27 Fed Com 302H

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 W	Units: US ft	North Reference: Grid	Convergence Angle: 0.42	
	Position:	Northing: 560131.70 US ft	Latitude: 32.537447998	
		Easting: 781352.90 US ft	Longitude: -103.554493117	
	Elevation above MSL:3728.00 US ft			
Comment:				
Slot: Black & Tan 27 Fed Com 302H	Position (Relative to Site Centre)			
	+N/-S: 0.30 US ft	Northing: 560132.00 US ft	Latitude: 32.537448018	
	+E/-W: 40.00 US ft	Easting: 781392.90 US ft	Longitude: -103.554363321	
	Slot TVD Reference: Ground Elevation			
Elevation above MSL: 3727.00 US ft				
Comment:				
Well: Black & Tan 27 Fed Com 302H	Type:Main well		UWI:	Plan:P1:V1
	File Number:	Comment:		
	Closure Distance:4790.47US ft		Closure Azimuth:3.37°	
	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: 48262.9nT	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: 3752.00us ft	Inclination: 0.00°	Azimuth: 0.00°
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Target set: Black & Tan 27 Fed Com 302H Comment:

Target Name:	Shape:	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (USFt)	Easting (USFt)	Latitude (° ' ")	Longitude (° ' ")	Comment
PBHL 302H	Cuboid	10950.00	4782.20	281.40	564914.20	781674.30	32°33'2.11"	- 103°33'12.01"	

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	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	
1634.00	0.00	0.00	1634.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	Rustler :

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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
1967.00	0.00	0.00	1967.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	Salado :
3364.00	0.00	0.00	3364.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	Tansill :
3522.00	0.00	0.00	3522.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	Yates :
3612.00	0.00	0.00	3612.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	Seven Rivers :
5682.00	0.00	0.00	5682.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	Delaware :
8594.00	0.00	0.00	8594.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	Bone Spring :
9022.00	0.00	0.00	9022.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	Avalon :
9272.00	0.00	0.00	9272.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	1st Bone Spring Carb :
9677.00	0.00	0.00	9677.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	1st Bone Spring Sand :
9950.00	0.00	0.00	9950.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	2nd Bone Spring Carb :
10207.00	0.00	0.00	10207.00	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	2nd Bone Spring Sand :
10461.18	0.00	0.00	10461.18	0.00	0.00	0.00	32.537448 018	- 103.55436 3321	0.00	0.00	0.00	KOP
10743.10	33.83	57.68	10727.00	43.22	43.22	68.32	32.537565 439	- 103.55414 0630	12.00	0.00	12.00	3rd Bone Spring Carb :
10836.18	45.00	57.68	10798.79	74.77	74.77	118.18	32.537651 145	- 103.55397 8085	12.00	-0.00	12.00	Build/Turn
11134.83	66.31	22.09	10970.00	264.14	264.14	263.61	32.538168 711	- 103.55350 1712	7.14	-11.92	12.00	3rd Bone Spring Sand :
11409.60	91.00	359.60	11024.31	525.32	525.32	311.28	32.538885 616	- 103.55334 0821	8.99	-8.19	12.00	LP
15667.23	91.00	359.60	10950.00	4782.20	4782.20	281.40	32.550586 292	- 103.55333 6621	0.00	0.00	0.00	PBHL 302H

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	560132.00	781392.90	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	560132.00	781392.90	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
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1634.00	0.00	0.00	1634.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	Rustler :
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
1967.00	0.00	0.00	1967.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	Salado :
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3364.00	0.00	0.00	3364.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	Tansill :
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3522.00	0.00	0.00	3522.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	Yates :
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3612.00	0.00	0.00	3612.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	Seven Rivers :
3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4400.00	0.00	0.00	4400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4500.00	0.00	0.00	4500.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
4900.00	0.00	0.00	4900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5682.00	0.00	0.00	5682.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	Delaware :
5700.00	0.00	0.00	5700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
5900.00	0.00	0.00	5900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
6100.00	0.00	0.00	6100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
6200.00	0.00	0.00	6200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
6300.00	0.00	0.00	6300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
6400.00	0.00	0.00	6400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
6500.00	0.00	0.00	6500.00	0.00	0.00	0.00	560132.00	781392.90	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
6600.00	0.00	0.00	6600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
6700.00	0.00	0.00	6700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
6800.00	0.00	0.00	6800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
6900.00	0.00	0.00	6900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7100.00	0.00	0.00	7100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7200.00	0.00	0.00	7200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7300.00	0.00	0.00	7300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7400.00	0.00	0.00	7400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7500.00	0.00	0.00	7500.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7600.00	0.00	0.00	7600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7700.00	0.00	0.00	7700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7800.00	0.00	0.00	7800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
7900.00	0.00	0.00	7900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8000.00	0.00	0.00	8000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8100.00	0.00	0.00	8100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8200.00	0.00	0.00	8200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8300.00	0.00	0.00	8300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8400.00	0.00	0.00	8400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8500.00	0.00	0.00	8500.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8594.00	0.00	0.00	8594.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	Bone Spring :
8600.00	0.00	0.00	8600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8700.00	0.00	0.00	8700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8800.00	0.00	0.00	8800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
8900.00	0.00	0.00	8900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9000.00	0.00	0.00	9000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9022.00	0.00	0.00	9022.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	Avalon :
9100.00	0.00	0.00	9100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9200.00	0.00	0.00	9200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9272.00	0.00	0.00	9272.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	1st Bone Spring Carb :
9300.00	0.00	0.00	9300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9400.00	0.00	0.00	9400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9500.00	0.00	0.00	9500.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9600.00	0.00	0.00	9600.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9677.00	0.00	0.00	9677.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	1st Bone Spring Sand :
9700.00	0.00	0.00	9700.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9800.00	0.00	0.00	9800.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9900.00	0.00	0.00	9900.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
9950.00	0.00	0.00	9950.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	2nd Bone Spring Carb :
10000.00	0.00	0.00	10000.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
10100.00	0.00	0.00	10100.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
10200.00	0.00	0.00	10200.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
10207.00	0.00	0.00	10207.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	2nd Bone Spring Sand :
10300.00	0.00	0.00	10300.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
10400.00	0.00	0.00	10400.00	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	
10461.18	0.00	0.00	10461.18	0.00	0.00	0.00	560132.00	781392.90	0.00	0.00	0.00	KOP
10500.00	4.66	57.68	10499.96	0.84	0.84	1.33	560132.84	781394.23	12.00	0.00	12.00	
10600.00	16.66	57.68	10598.05	10.71	10.71	16.94	560142.71	781409.84	12.00	0.00	12.00	
10700.00	28.66	57.68	10690.17	31.27	31.27	49.43	560163.27	781442.33	12.00	-0.00	12.00	
10743.10	33.83	57.68	10727.00	43.22	43.22	68.32	560175.22	781461.22	12.00	-0.00	12.00	3rd Bone Spring Carb :
10800.00	40.66	57.68	10772.27	61.62	61.62	97.40	560193.62	781490.30	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
10836.18	45.00	57.68	10798.79	74.77	74.77	118.18	560206.77	781511.08	12.00	-0.00	12.00	Build/Turn
10900.00	48.56	48.37	10842.54	102.77	102.77	155.19	560234.77	781548.09	5.59	-14.59	12.00	
11000.00	55.43	35.85	10904.23	161.26	161.26	207.51	560293.26	781600.41	6.87	-12.52	12.00	
11100.00	63.37	25.38	10955.19	235.29	235.29	250.94	560367.29	781643.84	7.94	-10.47	12.00	
11134.83	66.31	22.09	10970.00	264.14	264.14	263.61	560396.14	781656.51	8.44	-9.43	12.00	3rd Bone Spring Sand :
11200.00	71.98	16.32	10993.21	321.62	321.62	283.57	560453.62	781676.47	8.69	-8.86	12.00	
11300.00	80.96	8.13	11016.62	416.48	416.48	303.98	560548.48	781696.88	8.98	-8.19	12.00	
11400.00	90.12	0.34	11024.40	515.73	515.73	311.29	560647.73	781704.19	9.16	-7.79	12.00	
11409.60	91.00	359.60	11024.31	525.32	525.32	311.28	560657.32	781704.18	9.18	-7.72	12.00	LP
11500.00	91.00	359.60	11022.73	615.71	615.71	310.65	560747.71	781703.55	0.00	0.00	0.00	
11600.00	91.00	359.60	11020.98	715.69	715.69	309.95	560847.69	781702.85	0.00	0.00	0.00	
11700.00	91.00	359.60	11019.24	815.67	815.67	309.24	560947.67	781702.14	0.00	0.00	0.00	
11800.00	91.00	359.60	11017.49	915.66	915.66	308.54	561047.66	781701.44	0.00	0.00	0.00	
11900.00	91.00	359.60	11015.75	1015.64	1015.64	307.84	561147.64	781700.74	0.00	0.00	0.00	
12000.00	91.00	359.60	11014.00	1115.62	1115.62	307.14	561247.62	781700.04	0.00	0.00	0.00	
12100.00	91.00	359.60	11012.26	1215.60	1215.60	306.44	561347.60	781699.34	0.00	0.00	0.00	
12200.00	91.00	359.60	11010.51	1315.59	1315.59	305.74	561447.59	781698.64	0.00	0.00	0.00	
12300.00	91.00	359.60	11008.77	1415.57	1415.57	305.03	561547.57	781697.93	0.00	0.00	0.00	
12400.00	91.00	359.60	11007.02	1515.55	1515.55	304.33	561647.55	781697.23	0.00	0.00	0.00	
12500.00	91.00	359.60	11005.28	1615.53	1615.53	303.63	561747.53	781696.53	0.00	0.00	0.00	
12600.00	91.00	359.60	11003.53	1715.51	1715.51	302.93	561847.51	781695.83	0.00	0.00	0.00	
12700.00	91.00	359.60	11001.79	1815.50	1815.50	302.23	561947.50	781695.13	0.00	0.00	0.00	
12800.00	91.00	359.60	11000.04	1915.48	1915.48	301.52	562047.48	781694.42	0.00	0.00	0.00	
12900.00	91.00	359.60	10998.29	2015.46	2015.46	300.82	562147.46	781693.72	0.00	0.00	0.00	
13000.00	91.00	359.60	10996.55	2115.44	2115.44	300.12	562247.44	781693.02	0.00	0.00	0.00	
13100.00	91.00	359.60	10994.80	2215.43	2215.43	299.42	562347.43	781692.32	0.00	0.00	0.00	
13200.00	91.00	359.60	10993.06	2315.41	2315.41	298.72	562447.41	781691.62	0.00	0.00	0.00	
13300.00	91.00	359.60	10991.31	2415.39	2415.39	298.01	562547.39	781690.91	0.00	0.00	0.00	
13400.00	91.00	359.60	10989.57	2515.37	2515.37	297.31	562647.37	781690.21	0.00	0.00	0.00	
13500.00	91.00	359.60	10987.82	2615.36	2615.36	296.61	562747.36	781689.51	0.00	0.00	0.00	
13600.00	91.00	359.60	10986.08	2715.34	2715.34	295.91	562847.34	781688.81	0.00	0.00	0.00	
13700.00	91.00	359.60	10984.33	2815.32	2815.32	295.21	562947.32	781688.11	0.00	0.00	0.00	
13800.00	91.00	359.60	10982.59	2915.30	2915.30	294.51	563047.30	781687.41	0.00	0.00	0.00	
13900.00	91.00	359.60	10980.84	3015.28	3015.28	293.80	563147.28	781686.70	0.00	0.00	0.00	
14000.00	91.00	359.60	10979.10	3115.27	3115.27	293.10	563247.27	781686.00	0.00	0.00	0.00	
14100.00	91.00	359.60	10977.35	3215.25	3215.25	292.40	563347.25	781685.30	0.00	0.00	0.00	
14200.00	91.00	359.60	10975.61	3315.23	3315.23	291.70	563447.23	781684.60	0.00	0.00	0.00	
14300.00	91.00	359.60	10973.86	3415.21	3415.21	291.00	563547.21	781683.90	0.00	0.00	0.00	
14400.00	91.00	359.60	10972.12	3515.20	3515.20	290.29	563647.20	781683.19	0.00	0.00	0.00	
14500.00	91.00	359.60	10970.37	3615.18	3615.18	289.59	563747.18	781682.49	0.00	0.00	0.00	
14600.00	91.00	359.60	10968.63	3715.16	3715.16	288.89	563847.16	781681.79	0.00	0.00	0.00	
14700.00	91.00	359.60	10966.88	3815.14	3815.14	288.19	563947.14	781681.09	0.00	0.00	0.00	
14800.00	91.00	359.60	10965.14	3915.13	3915.13	287.49	564047.13	781680.39	0.00	0.00	0.00	
14900.00	91.00	359.60	10963.39	4015.11	4015.11	286.78	564147.11	781679.68	0.00	0.00	0.00	
15000.00	91.00	359.60	10961.64	4115.09	4115.09	286.08	564247.09	781678.98	0.00	0.00	0.00	
15100.00	91.00	359.60	10959.90	4215.07	4215.07	285.38	564347.07	781678.28	0.00	0.00	0.00	
15200.00	91.00	359.60	10958.15	4315.05	4315.05	284.68	564447.05	781677.58	0.00	0.00	0.00	
15300.00	91.00	359.60	10956.41	4415.04	4415.04	283.98	564547.04	781676.88	0.00	0.00	0.00	
15400.00	91.00	359.60	10954.66	4515.02	4515.02	283.28	564647.02	781676.18	0.00	0.00	0.00	
15500.00	91.00	359.60	10952.92	4615.00	4615.00	282.57	564747.00	781675.47	0.00	0.00	0.00	
15600.00	91.00	359.60	10951.17	4714.98	4714.98	281.87	564846.98	781674.77	0.00	0.00	0.00	
15667.23	91.00	359.60	10950.00	4782.20	4782.20	281.40	564914.20	781674.30	0.00	0.00	0.00	PBHL 302H

Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)

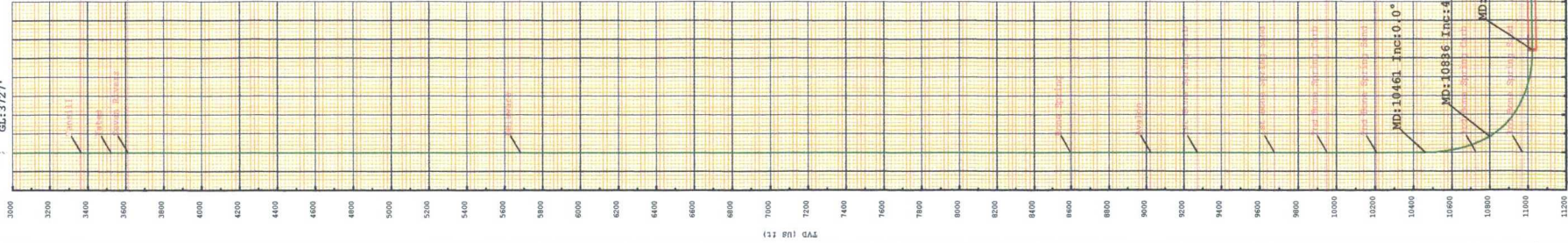
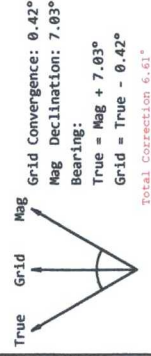
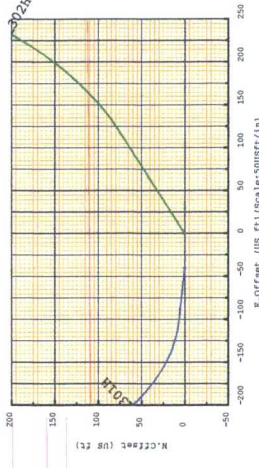
Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	N.Offset (US ft)	E.Offset (US ft)	F.Dip (°)	F.Dir (°)
Rustler	1634.00	0.00	0.00	1634.00	-2118.00	0.00	0.00	0	0

5D Plan Report

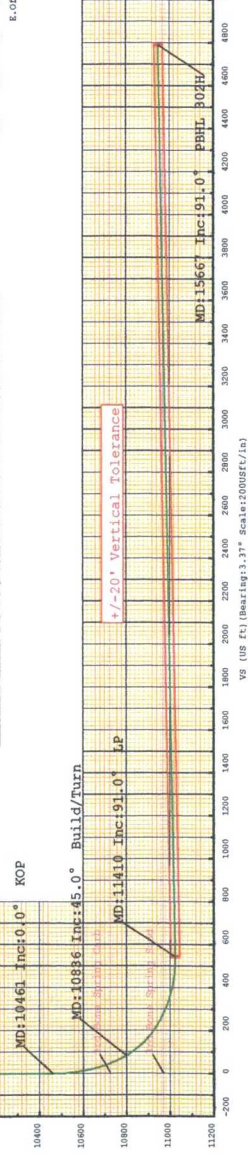
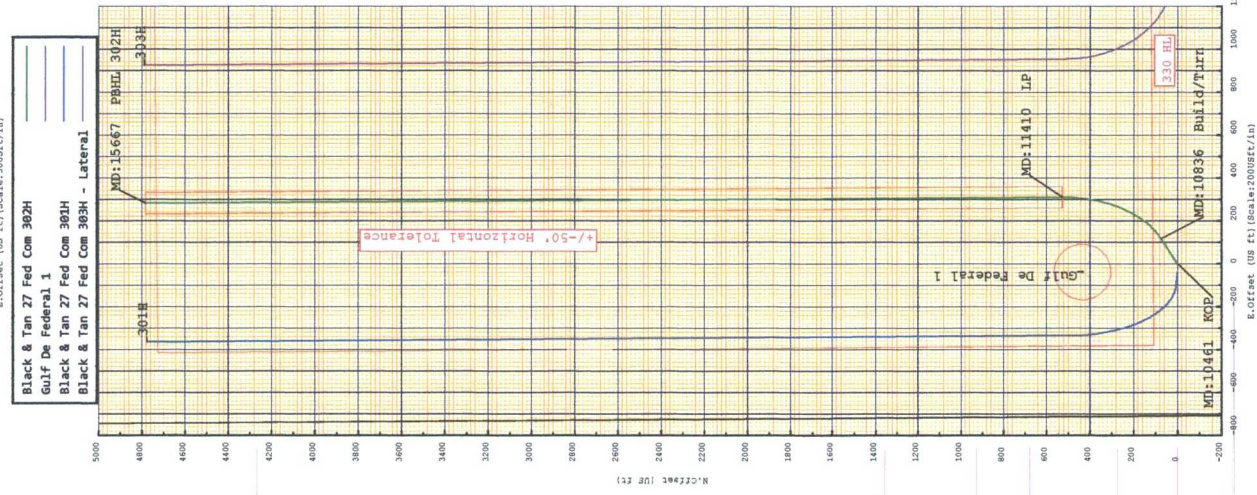
Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)									
Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	N.Offset (US ft)	E.Offset (US ft)	F.Dip (°)	F.Dir (°)
Salado	1967.00	0.00	0.00	1967.00	-1785.00	0.00	0.00	0	0
Tansill	3364.00	0.00	0.00	3364.00	-388.00	0.00	0.00	0	0
Yates	3522.00	0.00	0.00	3522.00	-230.00	0.00	0.00	0	0
Seven Rivers	3612.00	0.00	0.00	3612.00	-140.00	0.00	0.00	0	0
Delaware	5682.00	0.00	0.00	5682.00	1930.00	0.00	0.00	0	0
Bone Spring	8594.00	0.00	0.00	8594.00	4842.00	0.00	0.00	0	0
Avalon	9022.00	0.00	0.00	9022.00	5270.00	0.00	0.00	0	0
1st Bone Spring Carb	9272.00	0.00	0.00	9272.00	5520.00	0.00	0.00	0	0
1st Bone Spring Sand	9677.00	0.00	0.00	9677.00	5925.00	0.00	0.00	0	0
2nd Bone Spring Carb	9950.00	0.00	0.00	9950.00	6198.00	0.00	0.00	0	0
2nd Bone Spring Sand	10207.00	0.00	0.00	10207.00	6455.00	0.00	0.00	0	0
3rd Bone Spring Carb	10743.10	33.83	57.68	10727.00	6975.00	43.22	68.32	0	0
3rd Bone Spring Sand	11134.83	66.31	22.09	10970.00	7218.00	264.14	263.61	0	0



KB: 3752
GL: 3727

[illegible]

Total Correction 6.61°



Plan Data for Black & Tin 27 Fed Con 302H				
Formation Point Information:				
	Name	NO	SS	
		(USF)	(USF)	(USF)
	Rustler	1634.00	2118.00	1634.00
	Trinity	3362.00	1183.00	3362.00
	Waters	3521.00	218.00	3521.00
	Seven Rivers	3272.00	148.00	3272.00
	Donner	5343.00	1939.00	5343.00
	Bone Spring	8594.00	4442.00	8594.00
	Avalon	9272.00	5278.00	9272.00
1st	Bone Spring Carb	9727.00	5520.00	9727.00
1st	Bone Spring Sand	9677.00	5925.00	9677.00
2nd	Bone Spring Carb	9559.00	6108.00	9559.00
2nd	Bone Spring Sand	10267.00	6455.00	10267.00
3rd	Bone Spring Carb	10272.00	6975.00	10272.00
3rd	Bone Spring Sand	10979.00	7218.00	11134.00

Target Set Information:					
Name: Black & Tan 27 Fed Con 302H					
Position offsets from Slot centre					
Name	TVD	SS	+N/-S	+E/-W	Northing
	(USFt)	(USFt)	(USFt)	(USFt)	(USFt)
P8HL 302H	10950.00	-7198.00	4782.20	281.40	564934.20
					781674.30

Drawing By: GMR Date: 03-14-2017
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