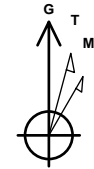




Company: B.P.  
Project: La Plata County, CO NAD83  
Site: Tiffany Pad 3  
Well: Tiffany 3-3  
Wellbore: Lateral 1 ST1  
Design: Plan #5

PROJECT DETAILS: La Plata County, CO NAD83

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Southern Zone  
System Datum: Mean Sea Level  
Local North: Grid



Azimuths to Grid North  
True North: 1.23°  
Magnetic North: 10.40°

Magnetic Field  
Strength: 50124.8snT  
Dip Angle: 63.63°  
Date: 6/9/2017  
Model: HDGM

WELL DETAILS: Tiffany 3-3

GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)  
+N/-S +E/-W Northing Easting Latitude Longitude  
0.00 0.00 1159206.37 2413080.52 37.0865378 -107.5121528

Plan: Plan #5 (Tiffany 3-3/Lateral 1 ST1)

Created By: Janie Collins Date: 14:41, August 09 2017

DESIGN TARGET DETAILS

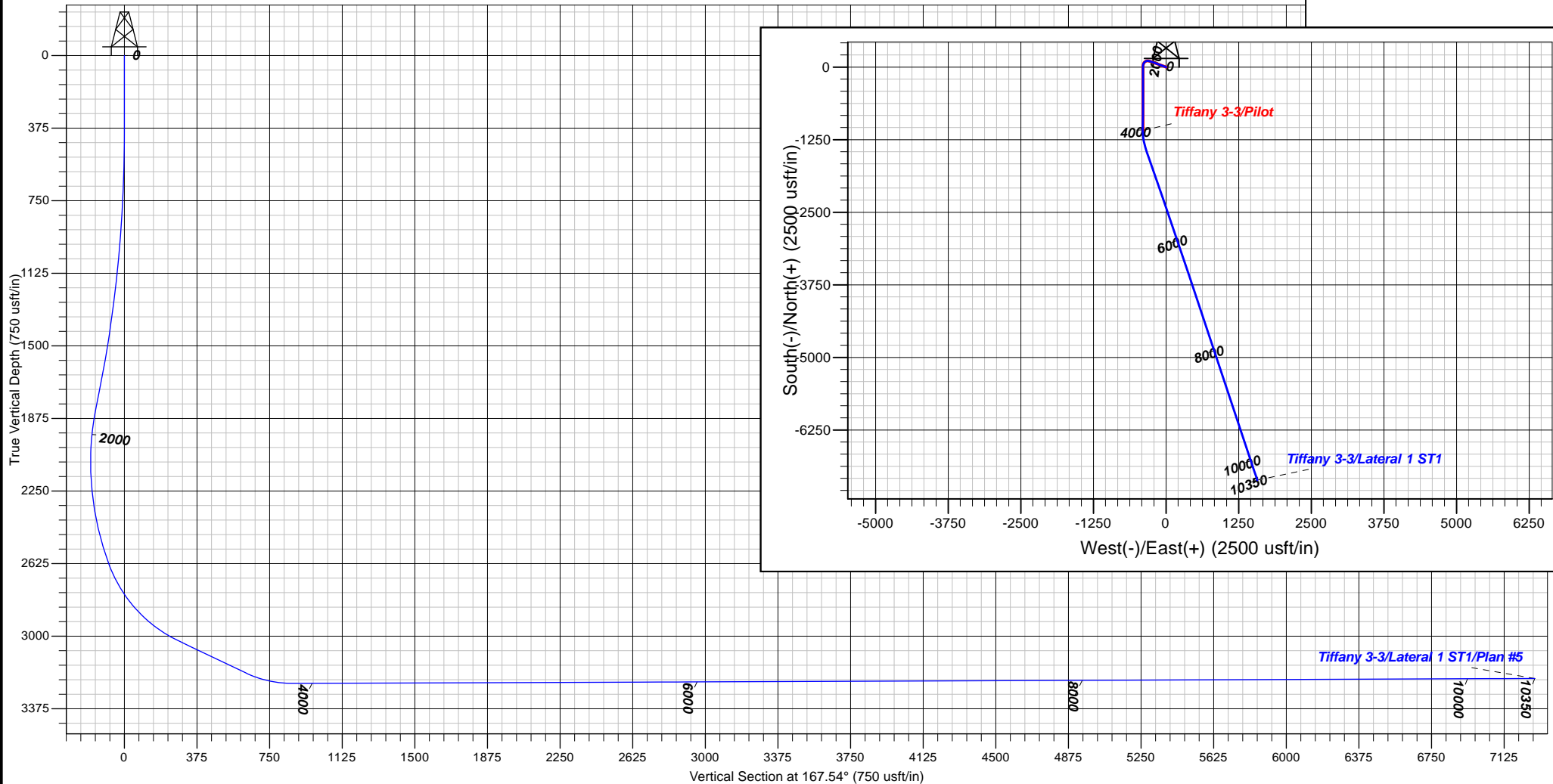
Name TVD +N/-S +E/-W Northing Easting  
Tiff 3-3 Lat 1 ST1 PBHL 3219.00 -7112.27 1571.54 1152094.10 2414652.06

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
3941.00	90.10	181.63	3243.92	-1023.22	-403.13	0.00	0.00	912.14	
4353.62	90.22	161.00	3242.76	-1428.91	-341.16	5.00	-89.64	1321.64	
5953.62	90.22	161.00	3236.61	-2941.72	179.75	0.00	0.00	2911.22	
5964.54	90.23	161.55	3236.57	-2952.06	183.25	5.00	89.00	2922.07	
10350.30	90.23	161.55	3219.00	-7112.27	1571.54	0.00	0.00	7283.82	Tiff 3-3 Lat 1 ST1 PBHL

FORMATION TOP DETAILS

No formation data is available





**B.P.**

**La Plata County, CO NAD83**

**Tiffany Pad 3**

**Tiffany 3-3**

**Lateral 1 ST1**

**Plan: Plan #5**

## **Standard Planning Report**

**09 August, 2017**





<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Tiffany 3-3
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
<b>Project:</b>	La Plata County, CO NAD83	<b>MD Reference:</b>	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
<b>Site:</b>	Tiffany Pad 3	<b>North Reference:</b>	Grid
<b>Well:</b>	Tiffany 3-3	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral 1 ST1		
<b>Design:</b>	Plan #5		

<b>Project</b>	La Plata County, CO NAD83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Southern Zone		

Site	Tiffany Pad 3					
Site Position:		Northing:	1,159,281.94 usft	Latitude:	37.0867476	
From:	Map	Easting:	2,413,119.43 usft	Longitude:	-107.5120251	
Position Uncertainty:		0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.23 °

Well	Tiffany 3-3					
Well Position	+N/-S	-75.57 usft	Northing:	1,159,206.37 usft	Latitude:	37.0865378
	+E/-W	-38.91 usft	Easting:	2,413,080.52 usft	Longitude:	-107.5121528
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,717.01 usft

<b>Wellbore</b>	Lateral 1 ST1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	6/9/2017	9.17	63.63	50,125

<b>Design</b>	Plan #5				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN		<b>Tie On Depth:</b>	3,941.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	167.54	

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
3,941.00	90.10	181.63	3,243.92	-1,023.22	-403.13	0.00	0.00	0.00	0.00	
4,353.62	90.22	161.00	3,242.76	-1,428.91	-341.16	5.00	0.03	-5.00	-89.64	
5,953.62	90.22	161.00	3,236.61	-2,941.72	179.75	0.00	0.00	0.00	0.00	
5,964.54	90.23	161.55	3,236.57	-2,952.06	183.25	5.00	0.09	5.00	89.00	
10,350.30	90.23	161.55	3,219.00	-7,112.27	1,571.54	0.00	0.00	0.00	0.00	Tiff 3-3 Lat 1 ST1 PBI



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Tiffany 3-3
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
<b>Project:</b>	La Plata County, CO NAD83	<b>MD Reference:</b>	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
<b>Site:</b>	Tiffany Pad 3	<b>North Reference:</b>	Grid
<b>Well:</b>	Tiffany 3-3	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral 1 ST1		
<b>Design:</b>	Plan #5		

## Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,941.00	90.10	181.63	3,243.92	-1,023.22	-403.13	912.14	0.00	0.00	0.00
4,000.00	90.12	178.68	3,243.80	-1,082.21	-403.29	969.71	5.00	0.03	-5.00
4,100.00	90.15	173.68	3,243.57	-1,181.96	-396.63	1,068.54	5.00	0.03	-5.00
4,200.00	90.18	168.68	3,243.29	-1,280.74	-381.30	1,168.31	5.00	0.03	-5.00
4,300.00	90.21	163.68	3,242.96	-1,377.82	-357.42	1,268.25	5.00	0.03	-5.00
4,353.62	90.22	161.00	3,242.76	-1,428.91	-341.16	1,321.64	5.00	0.03	-5.00
4,400.00	90.22	161.00	3,242.58	-1,472.76	-326.06	1,367.72	0.00	0.00	0.00
4,500.00	90.22	161.00	3,242.19	-1,567.31	-293.50	1,467.07	0.00	0.00	0.00
4,600.00	90.22	161.00	3,241.81	-1,661.86	-260.95	1,566.42	0.00	0.00	0.00
4,700.00	90.22	161.00	3,241.43	-1,756.41	-228.39	1,665.77	0.00	0.00	0.00
4,800.00	90.22	161.00	3,241.04	-1,850.96	-195.83	1,765.12	0.00	0.00	0.00
4,900.00	90.22	161.00	3,240.66	-1,945.52	-163.28	1,864.46	0.00	0.00	0.00
5,000.00	90.22	161.00	3,240.27	-2,040.07	-130.72	1,963.81	0.00	0.00	0.00
5,100.00	90.22	161.00	3,239.89	-2,134.62	-98.16	2,063.16	0.00	0.00	0.00
5,200.00	90.22	161.00	3,239.51	-2,229.17	-65.61	2,162.51	0.00	0.00	0.00
5,300.00	90.22	161.00	3,239.12	-2,323.72	-33.05	2,261.86	0.00	0.00	0.00
5,400.00	90.22	161.00	3,238.74	-2,418.27	-0.49	2,361.21	0.00	0.00	0.00
5,500.00	90.22	161.00	3,238.35	-2,512.82	32.06	2,460.56	0.00	0.00	0.00
5,600.00	90.22	161.00	3,237.97	-2,607.37	64.62	2,559.90	0.00	0.00	0.00
5,700.00	90.22	161.00	3,237.59	-2,701.93	97.18	2,659.25	0.00	0.00	0.00
5,800.00	90.22	161.00	3,237.20	-2,796.48	129.73	2,758.60	0.00	0.00	0.00
5,900.00	90.22	161.00	3,236.82	-2,891.03	162.29	2,857.95	0.00	0.00	0.00
5,953.62	90.22	161.00	3,236.61	-2,941.72	179.75	2,911.22	0.00	0.00	0.00
5,964.54	90.23	161.55	3,236.57	-2,952.06	183.25	2,922.07	5.00	0.09	5.00
6,000.00	90.23	161.55	3,236.43	-2,985.70	194.48	2,957.34	0.00	0.00	0.00
6,100.00	90.23	161.55	3,236.03	-3,080.56	226.13	3,056.79	0.00	0.00	0.00
6,200.00	90.23	161.55	3,235.63	-3,175.42	257.79	3,156.25	0.00	0.00	0.00
6,300.00	90.23	161.55	3,235.23	-3,270.27	289.44	3,255.70	0.00	0.00	0.00
6,400.00	90.23	161.55	3,234.83	-3,365.13	321.10	3,355.15	0.00	0.00	0.00
6,500.00	90.23	161.55	3,234.42	-3,459.99	352.75	3,454.60	0.00	0.00	0.00
6,600.00	90.23	161.55	3,234.02	-3,554.85	384.40	3,554.06	0.00	0.00	0.00
6,700.00	90.23	161.55	3,233.62	-3,649.70	416.06	3,653.51	0.00	0.00	0.00
6,800.00	90.23	161.55	3,233.22	-3,744.56	447.71	3,752.96	0.00	0.00	0.00
6,900.00	90.23	161.55	3,232.82	-3,839.42	479.37	3,852.41	0.00	0.00	0.00
7,000.00	90.23	161.55	3,232.42	-3,934.27	511.02	3,951.87	0.00	0.00	0.00
7,100.00	90.23	161.55	3,232.02	-4,029.13	542.68	4,051.32	0.00	0.00	0.00
7,200.00	90.23	161.55	3,231.62	-4,123.99	574.33	4,150.77	0.00	0.00	0.00
7,300.00	90.23	161.55	3,231.22	-4,218.84	605.99	4,250.22	0.00	0.00	0.00
7,400.00	90.23	161.55	3,230.82	-4,313.70	637.64	4,349.68	0.00	0.00	0.00
7,500.00	90.23	161.55	3,230.42	-4,408.56	669.29	4,449.13	0.00	0.00	0.00
7,600.00	90.23	161.55	3,230.02	-4,503.41	700.95	4,548.58	0.00	0.00	0.00
7,700.00	90.23	161.55	3,229.62	-4,598.27	732.60	4,648.03	0.00	0.00	0.00
7,800.00	90.23	161.55	3,229.22	-4,693.13	764.26	4,747.49	0.00	0.00	0.00
7,900.00	90.23	161.55	3,228.82	-4,787.99	795.91	4,846.94	0.00	0.00	0.00
8,000.00	90.23	161.55	3,228.42	-4,882.84	827.57	4,946.39	0.00	0.00	0.00
8,100.00	90.23	161.55	3,228.02	-4,977.70	859.22	5,045.84	0.00	0.00	0.00
8,200.00	90.23	161.55	3,227.61	-5,072.56	890.88	5,145.29	0.00	0.00	0.00
8,300.00	90.23	161.55	3,227.21	-5,167.41	922.53	5,244.75	0.00	0.00	0.00
8,400.00	90.23	161.55	3,226.81	-5,262.27	954.18	5,344.20	0.00	0.00	0.00
8,500.00	90.23	161.55	3,226.41	-5,357.13	985.84	5,443.65	0.00	0.00	0.00
8,600.00	90.23	161.55	3,226.01	-5,451.98	1,017.49	5,543.10	0.00	0.00	0.00
8,700.00	90.23	161.55	3,225.61	-5,546.84	1,049.15	5,642.56	0.00	0.00	0.00



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Tiffany 3-3
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
<b>Project:</b>	La Plata County, CO NAD83	<b>MD Reference:</b>	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
<b>Site:</b>	Tiffany Pad 3	<b>North Reference:</b>	Grid
<b>Well:</b>	Tiffany 3-3	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral 1 ST1		
<b>Design:</b>	Plan #5		

**Planned Survey**

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,800.00	90.23	161.55	3,225.21	-5,641.70	1,080.80	5,742.01	0.00	0.00	0.00
8,900.00	90.23	161.55	3,224.81	-5,736.55	1,112.46	5,841.46	0.00	0.00	0.00
9,000.00	90.23	161.55	3,224.41	-5,831.41	1,144.11	5,940.91	0.00	0.00	0.00
9,100.00	90.23	161.55	3,224.01	-5,926.27	1,175.77	6,040.37	0.00	0.00	0.00
9,200.00	90.23	161.55	3,223.61	-6,021.13	1,207.42	6,139.82	0.00	0.00	0.00
9,300.00	90.23	161.55	3,223.21	-6,115.98	1,239.08	6,239.27	0.00	0.00	0.00
9,400.00	90.23	161.55	3,222.81	-6,210.84	1,270.73	6,338.72	0.00	0.00	0.00
9,500.00	90.23	161.55	3,222.41	-6,305.70	1,302.38	6,438.18	0.00	0.00	0.00
9,600.00	90.23	161.55	3,222.01	-6,400.55	1,334.04	6,537.63	0.00	0.00	0.00
9,700.00	90.23	161.55	3,221.61	-6,495.41	1,365.69	6,637.08	0.00	0.00	0.00
9,800.00	90.23	161.55	3,221.20	-6,590.27	1,397.35	6,736.53	0.00	0.00	0.00
9,900.00	90.23	161.55	3,220.80	-6,685.12	1,429.00	6,835.99	0.00	0.00	0.00
10,000.00	90.23	161.55	3,220.40	-6,779.98	1,460.66	6,935.44	0.00	0.00	0.00
10,100.00	90.23	161.55	3,220.00	-6,874.84	1,492.31	7,034.89	0.00	0.00	0.00
10,200.00	90.23	161.55	3,219.60	-6,969.69	1,523.97	7,134.34	0.00	0.00	0.00
10,300.00	90.23	161.55	3,219.20	-7,064.55	1,555.62	7,233.80	0.00	0.00	0.00
10,350.30	90.23	161.55	3,219.00	-7,112.27	1,571.54	7,283.82	0.00	0.00	0.00
Tiff 3-3 Lat 1 ST1 PBHL									

**Design Targets**

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Tiff 3-3 Lat 1 ST1 PBHL - plan hits target center - Point	0.00	360.00	3,219.00	-7,112.27	1,571.54	1,152,094.10	2,414,652.07	37.0671021	-107.5062431