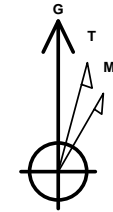




Company: B.P.  
Project: La Plata County, CO NAD83  
Site: Tiffany Pad 2  
Well: Tiffany 2-1  
Wellbore: Lateral 1 ST1  
Design: Plan #1

**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: 1.24°  
Magnetic North: 10.53°

**Magnetic Field**  
Strength: 50250.9snT  
Dip Angle: 63.65°  
Date: 4/6/2016  
Model: HDGM

**WELL DETAILS: Tiffany 2-1**

GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1163257.22	2408649.91	37.0973973	-107.5276390

Tiffany 2-1

Plan: Plan #1 (Tiffany 2-1/Lateral 1 ST1)

Created By: Janie Collins Date: 11:19, April 07 2016

**DESIGN TARGET DETAILS**

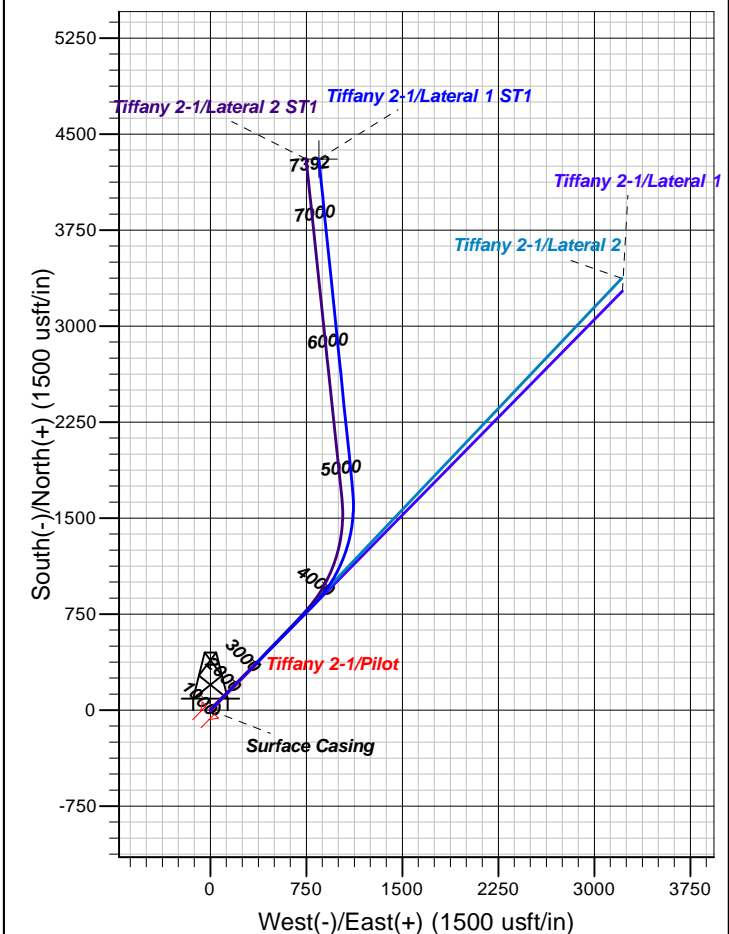
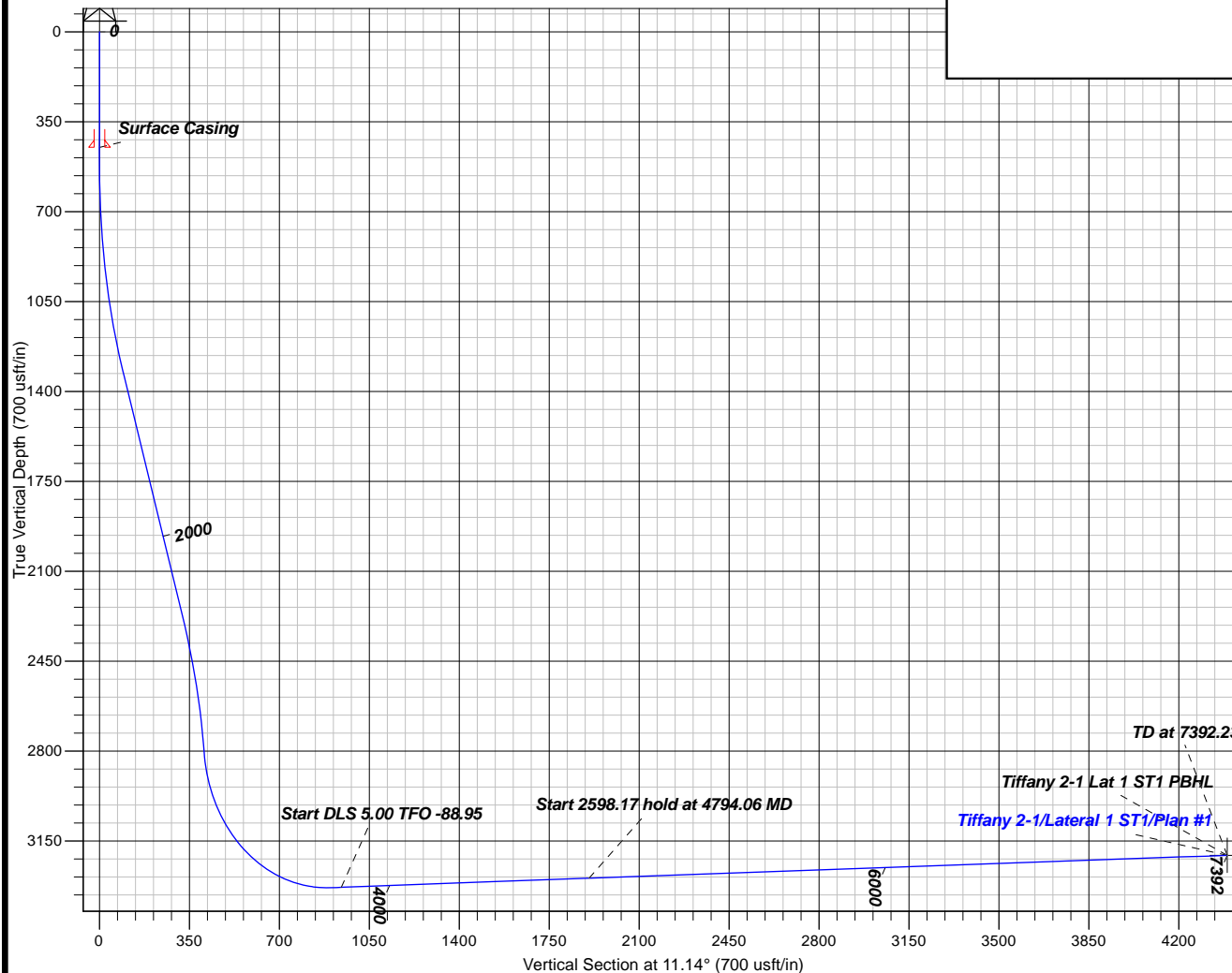
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Tiffany 2-1 Lat 1 ST1 PBHL	3206.00	4305.38	847.67	1167562.60	2409497.58	37.1092692	-107.5250534

**SECTION DETAILS**

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
3787.00	91.81	44.53	3330.43	802.93	789.82	0.00	0.00	940.38	
4794.06	91.96	354.15	3294.99	1722.27	1112.47	5.00	-88.95	1904.73	
7392.23	91.96	354.15	3206.00	4305.38	847.67	0.00	0.00	4388.00	Tiffany 2-1 Lat 1 ST1 PBHL

**FORMATION TOP DETAILS**

No formation data is available





**B.P.**

La Plata County, CO NAD83

Tiffany Pad 2

Tiffany 2-1 - Slot Tiffany 2-1

Lateral 1 ST1

Plan: Plan #1

## **Standard Planning Report**

07 April, 2016





<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Tiffany 2-1 - Slot Tiffany 2-1
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
<b>Project:</b>	La Plata County, CO NAD83	<b>MD Reference:</b>	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
<b>Site:</b>	Tiffany Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Tiffany 2-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral 1 ST1		
<b>Design:</b>	Plan #1		

<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 2			
Site Position:		Northing:	1,163,257.22 usft	Latitude:	37.0973972
From:	Map	Easting:	2,408,649.91 usft	Longitude:	-107.5276391
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-1.24 °

Well	Tiffany 2-1 - Slot Tiffany 2-1					
Well Position	+N/-S	0.00 usft	Northing:	1,163,257.22 usft	Latitude:	37.0973972
	+E/-W	0.00 usft	Easting:	2,408,649.91 usft	Longitude:	-107.5276391
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,669.66 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	4/6/2016	9.28	63.65	50,251

<b>Design</b>	Plan #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN		<b>Tie On Depth:</b>	3,787.00
<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	11.14	

<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
3,787.00	91.81	44.53	3,330.43	802.93	789.82	0.00	0.00	0.00	0.00	
4,794.06	91.96	354.15	3,294.99	1,722.27	1,112.47	5.00	0.02	-5.00	-88.95	
7,392.23	91.96	354.15	3,206.00	4,305.38	847.67	0.00	0.00	0.00	0.00	Tiffany 2-1 Lat 1 ST1



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Tiffany 2-1 - Slot Tiffany 2-1
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
<b>Project:</b>	La Plata County, CO NAD83	<b>MD Reference:</b>	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
<b>Site:</b>	Tiffany Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Tiffany 2-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral 1 ST1		
<b>Design:</b>	Plan #1		

**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)
3,787.00	91.81	44.53	3,330.43	802.93	789.82	940.38	0.00	0.00	0.00
3,800.00	91.82	43.88	3,330.02	812.24	798.88	951.27	5.00	0.09	-5.00
3,900.00	91.90	38.88	3,326.77	887.21	864.93	1,037.59	5.00	0.08	-5.00
4,000.00	91.97	33.87	3,323.39	967.66	924.18	1,127.96	5.00	0.07	-5.00
4,100.00	92.02	28.87	3,319.90	1,052.96	976.19	1,221.70	5.00	0.05	-5.00
4,200.00	92.06	23.87	3,316.33	1,142.47	1,020.57	1,318.10	5.00	0.04	-5.00
4,300.00	92.09	18.87	3,312.71	1,235.50	1,056.96	1,416.41	5.00	0.02	-5.00
4,400.00	92.09	13.86	3,309.06	1,331.36	1,085.11	1,515.90	5.00	0.01	-5.00
4,500.00	92.08	8.86	3,305.42	1,429.30	1,104.79	1,615.80	5.00	-0.01	-5.00
4,600.00	92.06	3.86	3,301.81	1,528.59	1,115.85	1,715.36	5.00	-0.03	-5.00
4,700.00	92.02	358.85	3,298.25	1,628.47	1,118.21	1,813.81	5.00	-0.04	-5.00
4,794.06	91.96	354.15	3,294.99	1,722.27	1,112.47	1,904.73	5.00	-0.06	-5.00
4,800.00	91.96	354.15	3,294.78	1,728.18	1,111.87	1,910.41	0.00	0.00	0.00
4,900.00	91.96	354.15	3,291.36	1,827.60	1,101.67	2,005.99	0.00	0.00	0.00
5,000.00	91.96	354.15	3,287.93	1,927.02	1,091.48	2,101.57	0.00	0.00	0.00
5,100.00	91.96	354.15	3,284.51	2,026.44	1,081.29	2,197.15	0.00	0.00	0.00
5,200.00	91.96	354.15	3,281.08	2,125.86	1,071.10	2,292.73	0.00	0.00	0.00
5,300.00	91.96	354.15	3,277.66	2,225.28	1,060.91	2,388.30	0.00	0.00	0.00
5,400.00	91.96	354.15	3,274.23	2,324.70	1,050.71	2,483.88	0.00	0.00	0.00
5,500.00	91.96	354.15	3,270.81	2,424.12	1,040.52	2,579.46	0.00	0.00	0.00
5,600.00	91.96	354.15	3,267.38	2,523.54	1,030.33	2,675.04	0.00	0.00	0.00
5,700.00	91.96	354.15	3,263.96	2,622.96	1,020.14	2,770.62	0.00	0.00	0.00
5,800.00	91.96	354.15	3,260.53	2,722.38	1,009.95	2,866.20	0.00	0.00	0.00
5,900.00	91.96	354.15	3,257.11	2,821.80	999.76	2,961.78	0.00	0.00	0.00
6,000.00	91.96	354.15	3,253.68	2,921.22	989.56	3,057.36	0.00	0.00	0.00
6,100.00	91.96	354.15	3,250.26	3,020.64	979.37	3,152.93	0.00	0.00	0.00
6,200.00	91.96	354.15	3,246.83	3,120.06	969.18	3,248.51	0.00	0.00	0.00
6,300.00	91.96	354.15	3,243.41	3,219.48	958.99	3,344.09	0.00	0.00	0.00
6,400.00	91.96	354.15	3,239.98	3,318.90	948.80	3,439.67	0.00	0.00	0.00
6,500.00	91.96	354.15	3,236.56	3,418.32	938.60	3,535.25	0.00	0.00	0.00
6,600.00	91.96	354.15	3,233.13	3,517.74	928.41	3,630.83	0.00	0.00	0.00
6,700.00	91.96	354.15	3,229.71	3,617.16	918.22	3,726.41	0.00	0.00	0.00
6,800.00	91.96	354.15	3,226.28	3,716.58	908.03	3,821.99	0.00	0.00	0.00
6,900.00	91.96	354.15	3,222.86	3,816.00	897.84	3,917.56	0.00	0.00	0.00
7,000.00	91.96	354.15	3,219.43	3,915.42	887.65	4,013.14	0.00	0.00	0.00
7,100.00	91.96	354.15	3,216.01	4,014.84	877.45	4,108.72	0.00	0.00	0.00
7,200.00	91.96	354.15	3,212.58	4,114.26	867.26	4,204.30	0.00	0.00	0.00
7,300.00	91.96	354.15	3,209.16	4,213.68	857.07	4,299.88	0.00	0.00	0.00
7,392.23	91.96	354.15	3,206.00	4,305.38	847.67	4,388.03	0.00	0.00	0.00
Tiffany 2-1 Lat 1 ST1 PBHL									

**Design Targets**

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Tiffany 2-1 Lat 1 ST1 PB	0.00	360.00	3,206.00	4,305.38	847.67	1,167,562.60	2,409,497.58	37.1092692	-107.5250535
- plan hits target center									
- Point									



<b>Database:</b>	Grand Junction District	<b>Local Co-ordinate Reference:</b>	Well Tiffany 2-1 - Slot Tiffany 2-1
<b>Company:</b>	B.P.	<b>TVD Reference:</b>	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
<b>Project:</b>	La Plata County, CO NAD83	<b>MD Reference:</b>	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
<b>Site:</b>	Tiffany Pad 2	<b>North Reference:</b>	Grid
<b>Well:</b>	Tiffany 2-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral 1 ST1		
<b>Design:</b>	Plan #1		

Casing Points					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
	450.00	450.00	Surface Casing	8.62	12.25