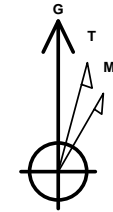




Company: B.P.
Project: La Plata County, CO NAD83
Site: Tiffany Pad 2
Well: Tiffany 2-5
Wellbore: Lateral 1 ST1
Design: Plan #1

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: 50251.2snT
Dip Angle: 63.65°
Date: 4/6/2016
Model: HDGM

WELL DETAILS: Tiffany 2-5

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	1163176.21	2408748.36	37.0971807	-107.5272956	Tiffany 2-5

Plan: Plan #1 (Tiffany 2-5/Lateral 1 ST1)

Created By: Janie Collins Date: 15:07, April 07 2016

DESIGN TARGET DETAILS

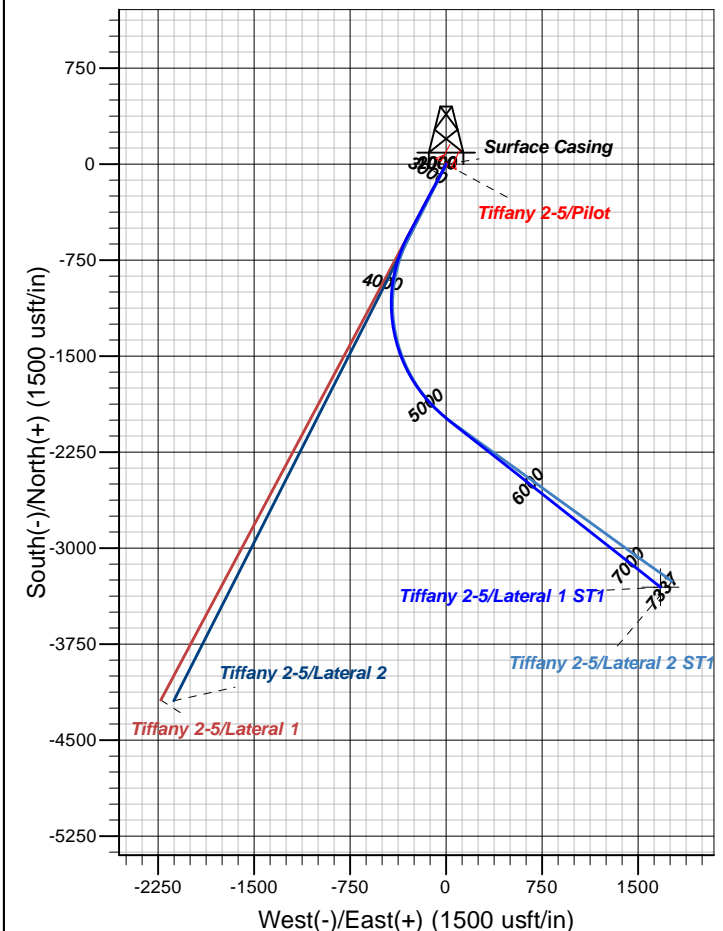
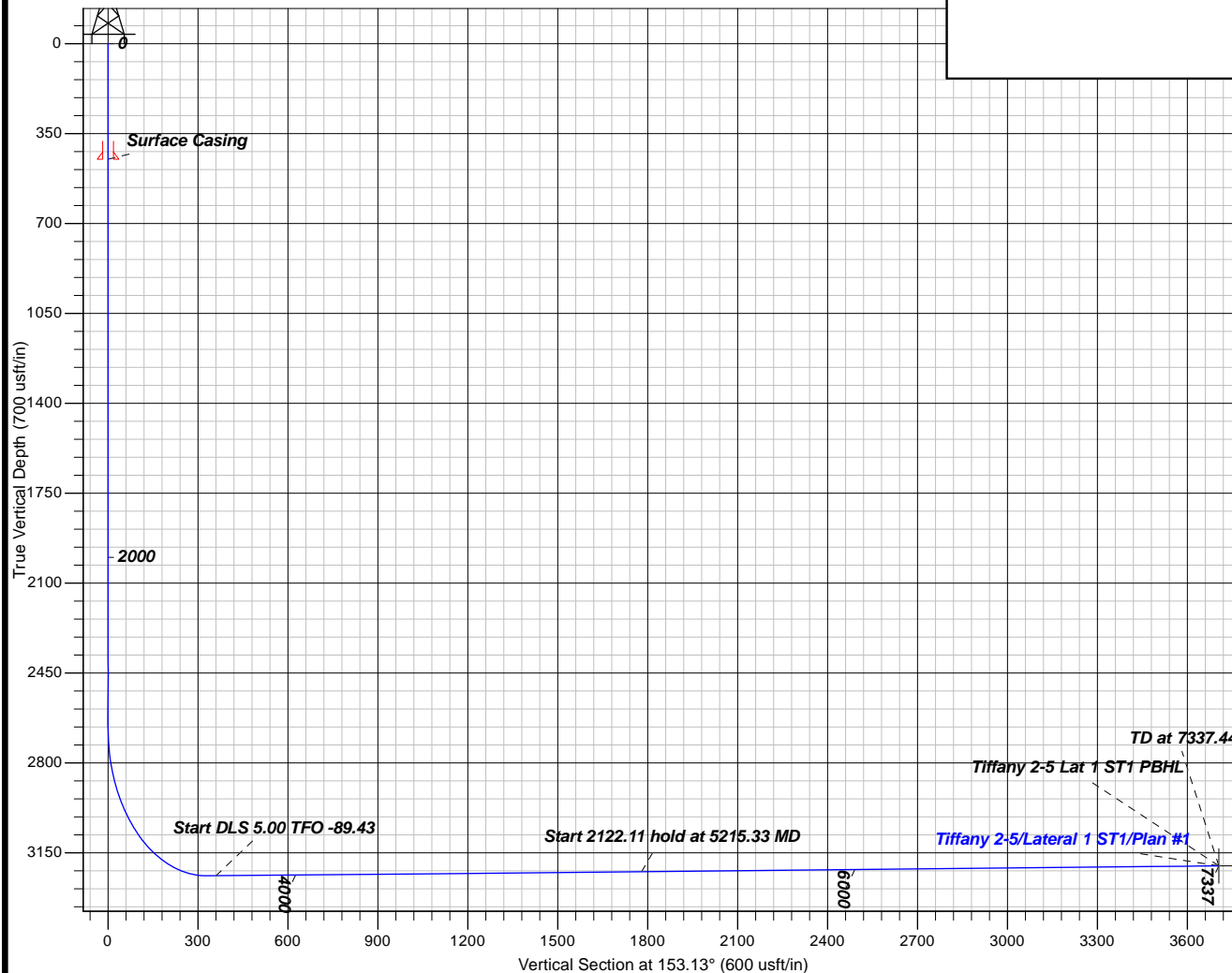
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Tiffany 2-5 Lat 1 ST1 PBHL	3201.00	-3304.42	1674.39	1159871.79	2410422.75	37.0882073	-107.5213110

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
3620.00	90.33	208.02	3239.71	-552.53	-294.05	0.00	0.00	359.96	
5215.33	90.62	128.25	3223.87	-1990.64	8.01	5.00	-89.43	1779.31	
7337.44	90.62	128.25	3201.00	-3304.42	1674.39	0.00	0.00	3704.43	Tiffany 2-5 Lat 1 ST1 PBHL

FORMATION TOP DETAILS

No formation data is available





B.P.

La Plata County, CO NAD83

Tiffany Pad 2

Tiffany 2-5 - Slot Tiffany 2-5

Lateral 1 ST1

Plan: Plan #1

Standard Planning Report

07 April, 2016





Database:	Grand Junction District	Local Co-ordinate Reference:	Well Tiffany 2-5 - Slot Tiffany 2-5
Company:	B.P.	TVD Reference:	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
Site:	Tiffany Pad 2	North Reference:	Grid
Well:	Tiffany 2-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	Plan #1		

Project	La Plata County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 2-5 - Slot Tiffany 2-5					
Well Position	+N/-S	-81.01 usft	Northing:	1,163,176.21 usft	Latitude:	37.0971807
	+E/-W	98.45 usft	Easting:	2,408,748.36 usft	Longitude:	-107.5272956
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,669.66 usft

Wellbore	Lateral 1 ST1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/6/2016	9.28	63.65	50,251

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	3,620.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	153.13	

Plan Sections										
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
3,620.00	90.33	208.02	3,239.71	-552.53	-294.05	0.00	0.00	0.00	0.00	
5,215.33	90.62	128.25	3,223.87	-1,990.64	8.01	5.00	0.02	-5.00	-89.43	
7,337.44	90.62	128.25	3,201.00	-3,304.42	1,674.39	0.00	0.00	0.00	0.00	Tiffany 2-5 Lat 1 ST1



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Tiffany 2-5 - Slot Tiffany 2-5
Company:	B.P.	TVD Reference:	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
Site:	Tiffany Pad 2	North Reference:	Grid
Well:	Tiffany 2-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	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)
3,620.00	90.33	208.02	3,239.71	-552.53	-294.05	359.96	0.00	0.00	0.00
3,700.00	90.37	204.02	3,239.22	-624.41	-329.14	408.21	5.00	0.05	-5.00
3,800.00	90.41	199.02	3,238.54	-717.40	-365.81	474.59	5.00	0.05	-5.00
3,900.00	90.46	194.02	3,237.78	-813.24	-394.24	547.23	5.00	0.04	-5.00
4,000.00	90.50	189.02	3,236.94	-911.19	-414.21	625.58	5.00	0.04	-5.00
4,100.00	90.53	184.02	3,236.04	-1,010.51	-425.56	709.04	5.00	0.04	-5.00
4,200.00	90.56	179.02	3,235.09	-1,110.44	-428.22	796.98	5.00	0.03	-5.00
4,300.00	90.59	174.02	3,234.08	-1,210.22	-422.15	888.72	5.00	0.03	-5.00
4,400.00	90.61	169.02	3,233.03	-1,309.09	-407.41	983.58	5.00	0.02	-5.00
4,500.00	90.63	164.02	3,231.94	-1,406.30	-384.11	1,080.82	5.00	0.02	-5.00
4,600.00	90.65	159.02	3,230.82	-1,501.10	-352.43	1,179.72	5.00	0.01	-5.00
4,700.00	90.65	154.02	3,229.69	-1,592.79	-312.60	1,279.50	5.00	0.01	-5.00
4,800.00	90.66	149.02	3,228.54	-1,680.65	-264.94	1,379.43	5.00	0.00	-5.00
4,900.00	90.66	144.02	3,227.40	-1,764.03	-209.79	1,478.72	5.00	0.00	-5.00
5,000.00	90.65	139.02	3,226.26	-1,842.28	-147.59	1,576.64	5.00	-0.01	-5.00
5,100.00	90.64	134.02	3,225.14	-1,914.81	-78.81	1,672.43	5.00	-0.01	-5.00
5,200.00	90.62	129.02	3,224.04	-1,981.08	-3.96	1,765.37	5.00	-0.02	-5.00
5,215.33	90.62	128.25	3,223.87	-1,990.64	8.01	1,779.31	5.00	-0.02	-5.00
5,300.00	90.62	128.25	3,222.96	-2,043.06	74.50	1,856.13	0.00	0.00	0.00
5,400.00	90.62	128.25	3,221.88	-2,104.97	153.02	1,946.84	0.00	0.00	0.00
5,500.00	90.62	128.25	3,220.81	-2,166.88	231.55	2,037.56	0.00	0.00	0.00
5,600.00	90.62	128.25	3,219.73	-2,228.79	310.07	2,128.28	0.00	0.00	0.00
5,700.00	90.62	128.25	3,218.65	-2,290.70	388.60	2,218.99	0.00	0.00	0.00
5,800.00	90.62	128.25	3,217.57	-2,352.61	467.12	2,309.71	0.00	0.00	0.00
5,900.00	90.62	128.25	3,216.49	-2,414.52	545.65	2,400.43	0.00	0.00	0.00
6,000.00	90.62	128.25	3,215.42	-2,476.43	624.17	2,491.15	0.00	0.00	0.00
6,100.00	90.62	128.25	3,214.34	-2,538.34	702.70	2,581.86	0.00	0.00	0.00
6,200.00	90.62	128.25	3,213.26	-2,600.25	781.22	2,672.58	0.00	0.00	0.00
6,300.00	90.62	128.25	3,212.18	-2,662.15	859.75	2,763.30	0.00	0.00	0.00
6,400.00	90.62	128.25	3,211.10	-2,724.06	938.27	2,854.01	0.00	0.00	0.00
6,500.00	90.62	128.25	3,210.03	-2,785.97	1,016.80	2,944.73	0.00	0.00	0.00
6,600.00	90.62	128.25	3,208.95	-2,847.88	1,095.32	3,035.45	0.00	0.00	0.00
6,700.00	90.62	128.25	3,207.87	-2,909.79	1,173.85	3,126.16	0.00	0.00	0.00
6,800.00	90.62	128.25	3,206.79	-2,971.70	1,252.37	3,216.88	0.00	0.00	0.00
6,900.00	90.62	128.25	3,205.72	-3,033.61	1,330.89	3,307.60	0.00	0.00	0.00
7,000.00	90.62	128.25	3,204.64	-3,095.52	1,409.42	3,398.31	0.00	0.00	0.00
7,100.00	90.62	128.25	3,203.56	-3,157.43	1,487.94	3,489.03	0.00	0.00	0.00
7,200.00	90.62	128.25	3,202.48	-3,219.33	1,566.47	3,579.75	0.00	0.00	0.00
7,300.00	90.62	128.25	3,201.40	-3,281.24	1,644.99	3,670.47	0.00	0.00	0.00
7,337.44	90.62	128.25	3,201.00	-3,304.42	1,674.39	3,704.43	0.00	0.00	0.00
Tiffany 2-5 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 2-5 Lat 1 ST1 PB	0.00	360.00	3,201.00	-3,304.42	1,674.39	1,159,871.79	2,410,422.75	37.0882072	-107.5213111
- plan hits target center									
- Point									



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Tiffany 2-5 - Slot Tiffany 2-5
Company:	B.P.	TVD Reference:	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6669.66' & RKB 11' @ 6680.66usft (Aztec 507)
Site:	Tiffany Pad 2	North Reference:	Grid
Well:	Tiffany 2-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	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