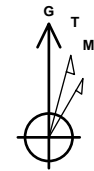




Company: B.P.
Project: La Plata County, CO NAD83
Site: Tiffany Pad 3
Well: Tiffany 3-3
Wellbore: Lateral 1
Design: Plan #4

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 #4 (Tiffany 3-3/Lateral 1)

Created By: Janie Collins Date: 10:29, August 06 2017

DESIGN TARGET DETAILS

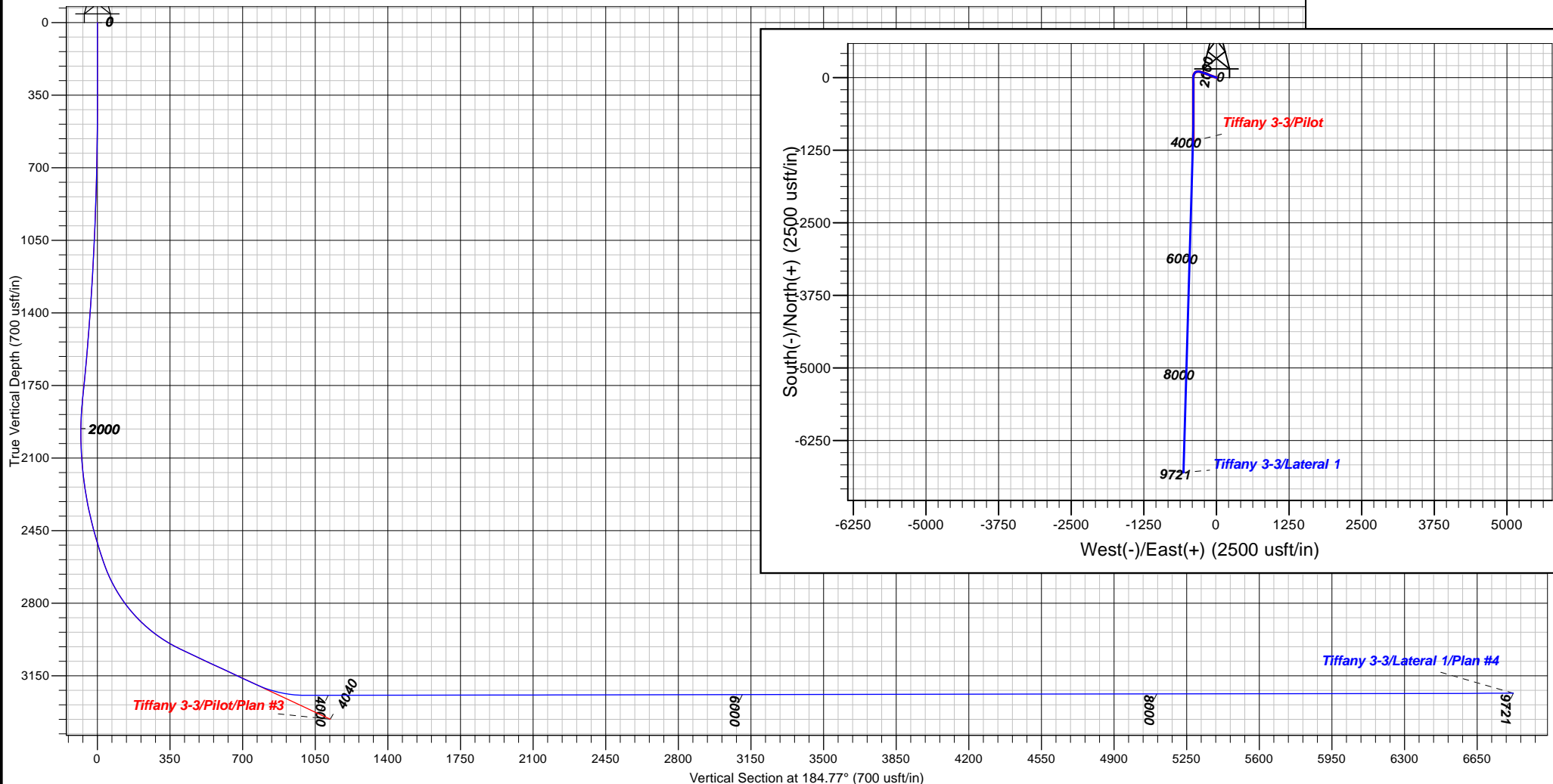
Name TVD +N/-S +E/-W Northing Easting
Tiff 3-3 Lat 1 PBHL 3234.00 -6800.73 -567.60 1152405.64 2412512.92

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
3640.14	65.00	180.00	3190.21	-730.29	-398.08	0.00	0.00	760.87	
3891.62	90.10	181.63	3244.00	-973.86	-401.72	10.00	3.84	1003.90	
9720.86	90.10	181.63	3234.00	-6800.73	-567.60	0.00	0.00	6824.38	Tiff 3-3 Lat 1 PBHL

FORMATION TOP DETAILS

No formation data is available





B.P.

La Plata County, CO NAD83

Tiffany Pad 3

Tiffany 3-3

Lateral 1

Plan: Plan #4

Standard Planning Report

06 August, 2017





Database:	Grand Junction District	Local Co-ordinate Reference:	Well Tiffany 3-3
Company:	B.P.	TVD Reference:	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
Site:	Tiffany Pad 3	North Reference:	Grid
Well:	Tiffany 3-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #4		

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 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

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

Design	Plan #4			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,640.14
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	184.77

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
3,640.14	65.00	180.00	3,190.21	-730.29	-398.08	0.00	0.00	0.00	0.00	
3,891.62	90.10	181.63	3,244.00	-973.86	-401.72	10.00	9.98	0.65	3.84	
9,720.86	90.10	181.63	3,234.00	-6,800.73	-567.60	0.00	0.00	0.00	0.00	Tiff 3-3 Lat 1 PBHL



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Tiffany 3-3
Company:	B.P.	TVD Reference:	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
Site:	Tiffany Pad 3	North Reference:	Grid
Well:	Tiffany 3-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #4		

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)
3,640.14	65.00	180.00	3,190.21	-730.29	-398.08	760.87	0.00	0.00	0.00
3,700.00	70.97	180.42	3,212.64	-785.76	-398.29	816.16	10.00	9.98	0.71
3,800.00	80.95	181.07	3,236.86	-882.64	-399.57	912.82	10.00	9.98	0.65
3,891.62	90.10	181.63	3,244.00	-973.86	-401.72	1,003.90	10.00	9.98	0.61
3,900.00	90.10	181.63	3,243.99	-982.24	-401.96	1,012.27	0.00	0.00	0.00
4,000.00	90.10	181.63	3,243.81	-1,082.20	-404.81	1,112.11	0.00	0.00	0.00
4,100.00	90.10	181.63	3,243.64	-1,182.16	-407.65	1,211.96	0.00	0.00	0.00
4,200.00	90.10	181.63	3,243.47	-1,282.11	-410.50	1,311.81	0.00	0.00	0.00
4,300.00	90.10	181.63	3,243.30	-1,382.07	-413.34	1,411.66	0.00	0.00	0.00
4,400.00	90.10	181.63	3,243.13	-1,482.03	-416.19	1,511.51	0.00	0.00	0.00
4,500.00	90.10	181.63	3,242.96	-1,581.99	-419.03	1,611.36	0.00	0.00	0.00
4,600.00	90.10	181.63	3,242.78	-1,681.95	-421.88	1,711.21	0.00	0.00	0.00
4,700.00	90.10	181.63	3,242.61	-1,781.91	-424.73	1,811.06	0.00	0.00	0.00
4,800.00	90.10	181.63	3,242.44	-1,881.87	-427.57	1,910.91	0.00	0.00	0.00
4,900.00	90.10	181.63	3,242.27	-1,981.83	-430.42	2,010.76	0.00	0.00	0.00
5,000.00	90.10	181.63	3,242.10	-2,081.79	-433.26	2,110.61	0.00	0.00	0.00
5,100.00	90.10	181.63	3,241.93	-2,181.75	-436.11	2,210.46	0.00	0.00	0.00
5,200.00	90.10	181.63	3,241.76	-2,281.71	-438.95	2,310.31	0.00	0.00	0.00
5,300.00	90.10	181.63	3,241.58	-2,381.67	-441.80	2,410.16	0.00	0.00	0.00
5,400.00	90.10	181.63	3,241.41	-2,481.63	-444.64	2,510.01	0.00	0.00	0.00
5,500.00	90.10	181.63	3,241.24	-2,581.59	-447.49	2,609.86	0.00	0.00	0.00
5,600.00	90.10	181.63	3,241.07	-2,681.55	-450.34	2,709.71	0.00	0.00	0.00
5,700.00	90.10	181.63	3,240.90	-2,781.50	-453.18	2,809.56	0.00	0.00	0.00
5,800.00	90.10	181.63	3,240.73	-2,881.46	-456.03	2,909.41	0.00	0.00	0.00
5,900.00	90.10	181.63	3,240.55	-2,981.42	-458.87	3,009.26	0.00	0.00	0.00
6,000.00	90.10	181.63	3,240.38	-3,081.38	-461.72	3,109.11	0.00	0.00	0.00
6,100.00	90.10	181.63	3,240.21	-3,181.34	-464.56	3,208.96	0.00	0.00	0.00
6,200.00	90.10	181.63	3,240.04	-3,281.30	-467.41	3,308.81	0.00	0.00	0.00
6,300.00	90.10	181.63	3,239.87	-3,381.26	-470.26	3,408.66	0.00	0.00	0.00
6,400.00	90.10	181.63	3,239.70	-3,481.22	-473.10	3,508.51	0.00	0.00	0.00
6,500.00	90.10	181.63	3,239.53	-3,581.18	-475.95	3,608.36	0.00	0.00	0.00
6,600.00	90.10	181.63	3,239.35	-3,681.14	-478.79	3,708.21	0.00	0.00	0.00
6,700.00	90.10	181.63	3,239.18	-3,781.10	-481.64	3,808.06	0.00	0.00	0.00
6,800.00	90.10	181.63	3,239.01	-3,881.06	-484.48	3,907.91	0.00	0.00	0.00
6,900.00	90.10	181.63	3,238.84	-3,981.02	-487.33	4,007.76	0.00	0.00	0.00
7,000.00	90.10	181.63	3,238.67	-4,080.98	-490.18	4,107.61	0.00	0.00	0.00
7,100.00	90.10	181.63	3,238.50	-4,180.94	-493.02	4,207.46	0.00	0.00	0.00
7,200.00	90.10	181.63	3,238.32	-4,280.90	-495.87	4,307.31	0.00	0.00	0.00
7,300.00	90.10	181.63	3,238.15	-4,380.85	-498.71	4,407.15	0.00	0.00	0.00
7,400.00	90.10	181.63	3,237.98	-4,480.81	-501.56	4,507.00	0.00	0.00	0.00
7,500.00	90.10	181.63	3,237.81	-4,580.77	-504.40	4,606.85	0.00	0.00	0.00
7,600.00	90.10	181.63	3,237.64	-4,680.73	-507.25	4,706.70	0.00	0.00	0.00
7,700.00	90.10	181.63	3,237.47	-4,780.69	-510.10	4,806.55	0.00	0.00	0.00
7,800.00	90.10	181.63	3,237.30	-4,880.65	-512.94	4,906.40	0.00	0.00	0.00
7,900.00	90.10	181.63	3,237.12	-4,980.61	-515.79	5,006.25	0.00	0.00	0.00
8,000.00	90.10	181.63	3,236.95	-5,080.57	-518.63	5,106.10	0.00	0.00	0.00
8,100.00	90.10	181.63	3,236.78	-5,180.53	-521.48	5,205.95	0.00	0.00	0.00
8,200.00	90.10	181.63	3,236.61	-5,280.49	-524.32	5,305.80	0.00	0.00	0.00
8,300.00	90.10	181.63	3,236.44	-5,380.45	-527.17	5,405.65	0.00	0.00	0.00
8,400.00	90.10	181.63	3,236.27	-5,480.41	-530.02	5,505.50	0.00	0.00	0.00
8,500.00	90.10	181.63	3,236.09	-5,580.37	-532.86	5,605.35	0.00	0.00	0.00
8,600.00	90.10	181.63	3,235.92	-5,680.33	-535.71	5,705.20	0.00	0.00	0.00



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Tiffany 3-3
Company:	B.P.	TVD Reference:	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
Project:	La Plata County, CO NAD83	MD Reference:	GL 6717.01' & RKB 17' @ 6734.01usft (Aztec 777)
Site:	Tiffany Pad 3	North Reference:	Grid
Well:	Tiffany 3-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #4		

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)
8,700.00	90.10	181.63	3,235.75	-5,780.29	-538.55	5,805.05	0.00	0.00	0.00
8,800.00	90.10	181.63	3,235.58	-5,880.24	-541.40	5,904.90	0.00	0.00	0.00
8,900.00	90.10	181.63	3,235.41	-5,980.20	-544.24	6,004.75	0.00	0.00	0.00
9,000.00	90.10	181.63	3,235.24	-6,080.16	-547.09	6,104.60	0.00	0.00	0.00
9,100.00	90.10	181.63	3,235.07	-6,180.12	-549.94	6,204.45	0.00	0.00	0.00
9,200.00	90.10	181.63	3,234.89	-6,280.08	-552.78	6,304.30	0.00	0.00	0.00
9,300.00	90.10	181.63	3,234.72	-6,380.04	-555.63	6,404.15	0.00	0.00	0.00
9,400.00	90.10	181.63	3,234.55	-6,480.00	-558.47	6,504.00	0.00	0.00	0.00
9,500.00	90.10	181.63	3,234.38	-6,579.96	-561.32	6,603.85	0.00	0.00	0.00
9,600.00	90.10	181.63	3,234.21	-6,679.92	-564.16	6,703.70	0.00	0.00	0.00
9,700.00	90.10	181.63	3,234.04	-6,779.88	-567.01	6,803.55	0.00	0.00	0.00
9,720.86	90.10	181.63	3,234.00	-6,800.73	-567.60	6,824.38	0.00	0.00	0.00
Tiff 3-3 Lat 1 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 PBHL - plan hits target center - Point	0.00	0.00	3,234.00	-6,800.73	-567.60	1,152,405.63	2,412,512.92	37.0678311	-107.5135957