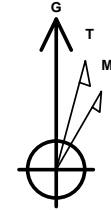




Company: B.P.
Project: La Plata County, CO NAD83
Site: Tiffany Pad 2
Well: Tiffany 2-3
Wellbore: Lateral 1
Design: Plan #2

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: 50251.6snT
Dip Angle: 63.65°
Date: 4/6/2016
Model: HDGM

WELL DETAILS: Tiffany 2-3

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1163311.22	2408584.27	37.0975416	-107.5278681

Tiffany 2-3

Plan: Plan #2 (Tiffany 2-3/Lateral 1)

Created By: Janie Collins Date: 16:18, April 21 2016

DESIGN TARGET DETAILS

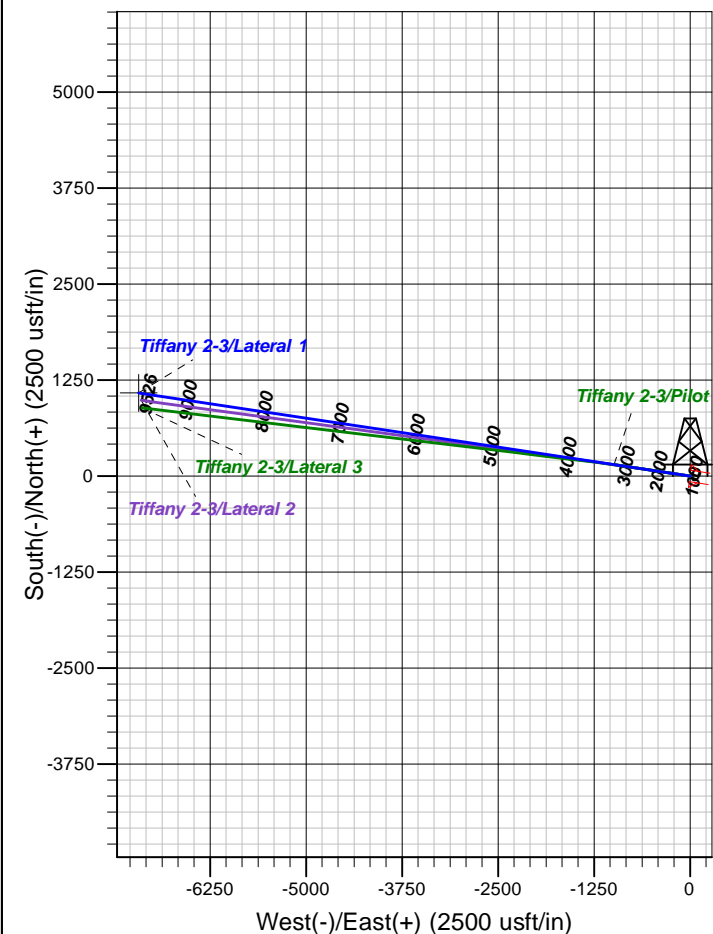
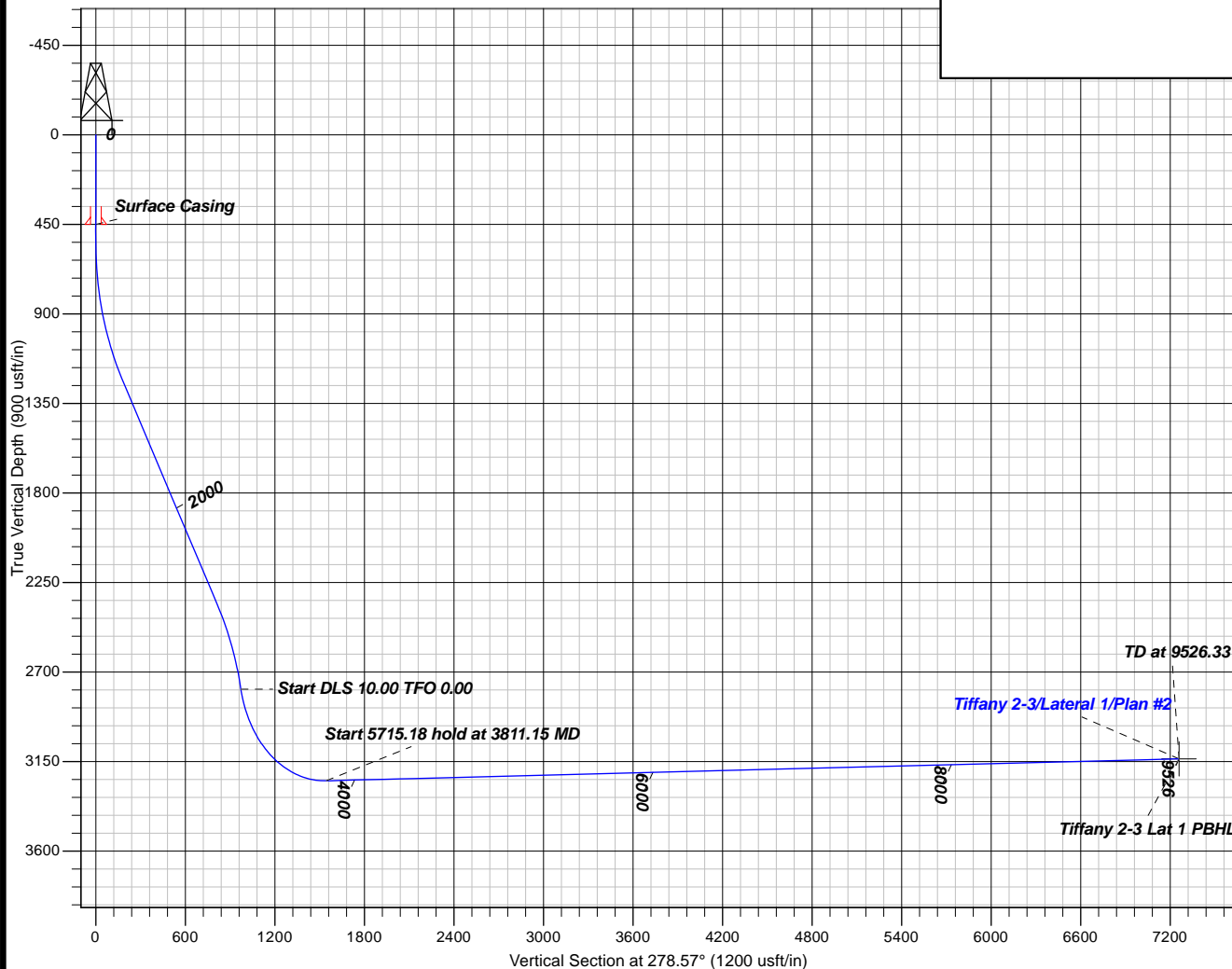
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Tiffany 2-3 Lat 1 PBHL	3136.00	1082.12	-7178.22	1164393.34	2401406.05	37.1000823	-107.5525546

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
3013.00	11.29	278.57	2785.57	144.94	-961.42	0.00	0.00	972.28	
3811.15	91.11	278.57	3246.25	230.34	-1527.94	10.00	0.00	1545.21	
9526.33	91.11	278.57	3136.00	1082.12	-7178.22	0.00	0.00	7259.33	Tiffany 2-3 Lat 1 PBHL

FORMATION TOP DETAILS

No formation data is available





B.P.

La Plata County, CO NAD83

Tiffany Pad 2

Tiffany 2-3 - Slot Tiffany 2-3

Lateral 1

Plan: Plan #2

Standard Planning Report

21 April, 2016





Database:	Grand Junction District	Local Co-ordinate Reference	Well Tiffany 2-3 - Slot Tiffany 2-3
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 2-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #2		

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 2-3 - Slot Tiffany 2-3					
Well Position	+N/-S	54.00 usft	Northing:	1,163,311.22 usft	Latitude:	37.0975416
	+E/-W	-65.64 usft	Easting:	2,408,584.27 usft	Longitude:	-107.5278681
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,669.66 usft

Wellbore	Lateral 1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	4/6/2016	9.28	63.65	50,252

Design	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	3,013.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	278.57	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
3,013.00	11.29	278.57	2,785.57	144.94	-961.42	0.00	0.00	0.00	0.00	
3,811.15	91.11	278.57	3,246.25	230.34	-1,527.94	10.00	10.00	0.00	0.00	
9,526.34	91.11	278.57	3,136.00	1,082.12	-7,178.22	0.00	0.00	0.00	0.00	Tiffany 2-3 Lat 1 PBH



Database:	Grand Junction District	Local Co-ordinate Reference	Well Tiffany 2-3 - Slot Tiffany 2-3
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 2-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #2		

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)
3,013.00	11.29	278.57	2,785.57	144.94	-961.42	972.28	0.00	0.00	0.00
3,100.00	19.99	278.57	2,869.27	148.43	-984.59	995.72	10.00	10.00	0.00
3,200.00	29.99	278.57	2,959.79	154.72	-1,026.31	1,037.91	10.00	10.00	0.00
3,300.00	39.99	278.57	3,041.61	163.26	-1,082.94	1,095.18	10.00	10.00	0.00
3,400.00	49.99	278.57	3,112.24	173.78	-1,152.76	1,165.79	10.00	10.00	0.00
3,500.00	59.99	278.57	3,169.54	185.98	-1,233.65	1,247.59	10.00	10.00	0.00
3,600.00	69.99	278.57	3,211.77	199.47	-1,323.15	1,338.10	10.00	10.00	0.00
3,700.00	79.99	278.57	3,237.63	213.85	-1,418.54	1,434.56	10.00	10.00	0.00
3,800.00	89.99	278.57	3,246.35	228.68	-1,516.92	1,534.06	10.00	10.00	0.00
3,811.15	91.11	278.57	3,246.25	230.34	-1,527.94	1,545.21	10.00	10.00	0.00
3,900.00	91.11	278.57	3,244.53	243.58	-1,615.78	1,634.04	0.00	0.00	0.00
4,000.00	91.11	278.57	3,242.60	258.49	-1,714.65	1,734.02	0.00	0.00	0.00
4,100.00	91.11	278.57	3,240.67	273.39	-1,813.51	1,834.00	0.00	0.00	0.00
4,200.00	91.11	278.57	3,238.74	288.29	-1,912.37	1,933.98	0.00	0.00	0.00
4,300.00	91.11	278.57	3,236.82	303.20	-2,011.24	2,033.96	0.00	0.00	0.00
4,400.00	91.11	278.57	3,234.89	318.10	-2,110.10	2,133.95	0.00	0.00	0.00
4,500.00	91.11	278.57	3,232.96	333.01	-2,208.97	2,233.93	0.00	0.00	0.00
4,600.00	91.11	278.57	3,231.03	347.91	-2,307.83	2,333.91	0.00	0.00	0.00
4,700.00	91.11	278.57	3,229.10	362.81	-2,406.70	2,433.89	0.00	0.00	0.00
4,800.00	91.11	278.57	3,227.17	377.72	-2,505.56	2,533.87	0.00	0.00	0.00
4,900.00	91.11	278.57	3,225.24	392.62	-2,604.42	2,633.85	0.00	0.00	0.00
5,000.00	91.11	278.57	3,223.31	407.52	-2,703.29	2,733.83	0.00	0.00	0.00
5,100.00	91.11	278.57	3,221.38	422.43	-2,802.15	2,833.82	0.00	0.00	0.00
5,200.00	91.11	278.57	3,219.45	437.33	-2,901.02	2,933.80	0.00	0.00	0.00
5,300.00	91.11	278.57	3,217.53	452.24	-2,999.88	3,033.78	0.00	0.00	0.00
5,400.00	91.11	278.57	3,215.60	467.14	-3,098.75	3,133.76	0.00	0.00	0.00
5,500.00	91.11	278.57	3,213.67	482.04	-3,197.61	3,233.74	0.00	0.00	0.00
5,600.00	91.11	278.57	3,211.74	496.95	-3,296.48	3,333.72	0.00	0.00	0.00
5,700.00	91.11	278.57	3,209.81	511.85	-3,395.34	3,433.70	0.00	0.00	0.00
5,800.00	91.11	278.57	3,207.88	526.76	-3,494.20	3,533.69	0.00	0.00	0.00
5,900.00	91.11	278.57	3,205.95	541.66	-3,593.07	3,633.67	0.00	0.00	0.00
6,000.00	91.11	278.57	3,204.02	556.56	-3,691.93	3,733.65	0.00	0.00	0.00
6,100.00	91.11	278.57	3,202.09	571.47	-3,790.80	3,833.63	0.00	0.00	0.00
6,200.00	91.11	278.57	3,200.16	586.37	-3,889.66	3,933.61	0.00	0.00	0.00
6,300.00	91.11	278.57	3,198.24	601.27	-3,988.53	4,033.59	0.00	0.00	0.00
6,400.00	91.11	278.57	3,196.31	616.18	-4,087.39	4,133.57	0.00	0.00	0.00
6,500.00	91.11	278.57	3,194.38	631.08	-4,186.25	4,233.56	0.00	0.00	0.00
6,600.00	91.11	278.57	3,192.45	645.99	-4,285.12	4,333.54	0.00	0.00	0.00
6,700.00	91.11	278.57	3,190.52	660.89	-4,383.98	4,433.52	0.00	0.00	0.00
6,800.00	91.11	278.57	3,188.59	675.79	-4,482.85	4,533.50	0.00	0.00	0.00
6,900.00	91.11	278.57	3,186.66	690.70	-4,581.71	4,633.48	0.00	0.00	0.00
7,000.00	91.11	278.57	3,184.73	705.60	-4,680.58	4,733.46	0.00	0.00	0.00
7,100.00	91.11	278.57	3,182.80	720.50	-4,779.44	4,833.44	0.00	0.00	0.00
7,200.00	91.11	278.57	3,180.87	735.41	-4,878.30	4,933.42	0.00	0.00	0.00
7,300.00	91.11	278.57	3,178.95	750.31	-4,977.17	5,033.41	0.00	0.00	0.00
7,400.00	91.11	278.57	3,177.02	765.22	-5,076.03	5,133.39	0.00	0.00	0.00
7,500.00	91.11	278.57	3,175.09	780.12	-5,174.90	5,233.37	0.00	0.00	0.00
7,600.00	91.11	278.57	3,173.16	795.02	-5,273.76	5,333.35	0.00	0.00	0.00
7,700.00	91.11	278.57	3,171.23	809.93	-5,372.63	5,433.33	0.00	0.00	0.00
7,800.00	91.11	278.57	3,169.30	824.83	-5,471.49	5,533.31	0.00	0.00	0.00
7,900.00	91.11	278.57	3,167.37	839.73	-5,570.35	5,633.29	0.00	0.00	0.00



Database:	Grand Junction District	Local Co-ordinate Reference	Well Tiffany 2-3 - Slot Tiffany 2-3
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 2-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #2		

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)
8,000.00	91.11	278.57	3,165.44	854.64	-5,669.22	5,733.28	0.00	0.00	0.00
8,100.00	91.11	278.57	3,163.51	869.54	-5,768.08	5,833.26	0.00	0.00	0.00
8,200.00	91.11	278.57	3,161.58	884.45	-5,866.95	5,933.24	0.00	0.00	0.00
8,300.00	91.11	278.57	3,159.66	899.35	-5,965.81	6,033.22	0.00	0.00	0.00
8,400.00	91.11	278.57	3,157.73	914.25	-6,064.68	6,133.20	0.00	0.00	0.00
8,500.00	91.11	278.57	3,155.80	929.16	-6,163.54	6,233.18	0.00	0.00	0.00
8,600.00	91.11	278.57	3,153.87	944.06	-6,262.41	6,333.16	0.00	0.00	0.00
8,700.00	91.11	278.57	3,151.94	958.96	-6,361.27	6,433.15	0.00	0.00	0.00
8,800.00	91.11	278.57	3,150.01	973.87	-6,460.13	6,533.13	0.00	0.00	0.00
8,900.00	91.11	278.57	3,148.08	988.77	-6,559.00	6,633.11	0.00	0.00	0.00
9,000.00	91.11	278.57	3,146.15	1,003.68	-6,657.86	6,733.09	0.00	0.00	0.00
9,100.00	91.11	278.57	3,144.22	1,018.58	-6,756.73	6,833.07	0.00	0.00	0.00
9,200.00	91.11	278.57	3,142.30	1,033.48	-6,855.59	6,933.05	0.00	0.00	0.00
9,300.00	91.11	278.57	3,140.37	1,048.39	-6,954.46	7,033.03	0.00	0.00	0.00
9,400.00	91.11	278.57	3,138.44	1,063.29	-7,053.32	7,133.02	0.00	0.00	0.00
9,500.00	91.11	278.57	3,136.51	1,078.20	-7,152.18	7,233.00	0.00	0.00	0.00
9,526.34	91.11	278.57	3,136.00	1,082.12	-7,178.22	7,259.33	0.00	0.00	0.00
Tiffany 2-3 Lat 1 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 2-3 Lat 1 PBHL	0.00	360.00	3,136.00	1,082.12	-7,178.22	1,164,393.34	2,401,406.05	37.1000822	-107.5525547
- plan hits target center									
- Point									

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