



B.P.

La Plata County, CO NAD83

Tiffany Pad 2

Tiffany 2-5 - Slot Tiffany 2-5

Pilot

Plan: Plan #1

Standard Planning Report

21 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:	Pilot		
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	Pilot				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	3/17/2016	9.28	63.65	50,257

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

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,465.00	0.00	0.00	3,465.00	0.00	0.00	0.00	0.00	0.00	0.00	Tiffany 2-5 PBHL



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Wellbore:	Pilot		
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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00
Animas									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
450.00	0.00	0.00	450.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,956.00	0.00	0.00	1,956.00	0.00	0.00	0.00	0.00	0.00	0.00
Lwr. Animas									
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,243.00	0.00	0.00	2,243.00	0.00	0.00	0.00	0.00	0.00	0.00
Kirtland Sh									
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,421.00	0.00	0.00	2,421.00	0.00	0.00	0.00	0.00	0.00	0.00
Farmington Ss									
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,681.00	0.00	0.00	2,681.00	0.00	0.00	0.00	0.00	0.00	0.00
Lwr. Kirtland Sh									
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,068.00	0.00	0.00	3,068.00	0.00	0.00	0.00	0.00	0.00	0.00
Fruitland Coal									
3,096.00	0.00	0.00	3,096.00	0.00	0.00	0.00	0.00	0.00	0.00
Lemon Seam									
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,191.00	0.00	0.00	3,191.00	0.00	0.00	0.00	0.00	0.00	0.00
Lwr Lemon Seam									
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00



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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:	Pilot		
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)	
3,220.00	0.00	0.00	3,220.00	0.00	0.00	0.00	0.00	0.00	0.00	
Ignacio Seam										
3,265.00	0.00	0.00	3,265.00	0.00	0.00	0.00	0.00	0.00	0.00	
Pictured Cliffs Ss										
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,465.00	0.00	0.00	3,465.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tiffany 2-5 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 PBHL	0.00	0.00	3,465.00	0.00	0.00	1,163,176.21	2,408,748.36	37.0971807	-107.5272956	
- plan hits target center										
- Circle (radius 25.00)										

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	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
11.00	11.00	Animas		0.00	0.00	
1,956.00	1,956.00	Lwr. Animas		0.00	0.00	
2,243.00	2,243.00	Kirtland Sh		0.00	0.00	
2,421.00	2,421.00	Farmington Ss		0.00	0.00	
2,681.00	2,681.00	Lwr. Kirtland Sh		0.00	0.00	
3,068.00	3,068.00	Fruitland Coal		0.00	0.00	
3,096.00	3,096.00	Lemon Seam		0.00	0.00	
3,191.00	3,191.00	Lwr Lemon Seam		0.00	0.00	
3,220.00	3,220.00	Ignacio Seam		0.00	0.00	
3,265.00	3,265.00	Pictured Cliffs Ss		0.00	0.00	