

PICEANCE HL NAD 83

TR 21-05S-097W

TR 32-21-597 Pad

TR 42-21-597 - Slot A09

Wellbore #1

Plan: Plan #1 31Jan16 sam

Standard Planning Report

11 March, 2016

WPX

Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well TR 42-21-597 (A09) - Slot A09
Company:	PICEANCE HL NAD 83	TVD Reference:	KB @ 8601.00usft (HP 318)
Project:	TR 21-05S-097W	MD Reference:	KB @ 8601.00usft (HP 318)
Site:	TR 32-21-597 Pad	North Reference:	True
Well:	TR 42-21-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 31Jan16 sam		

Project	TR 21-05S-097W, Garfield County, CO, TR 21-05S-097W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		TR 32-21-597 Pad			
Site Position:		Northing:	1,656,389.83 usft	Latitude:	39.602628
From:	Map	Easting:	2,216,147.65 usft	Longitude:	-108.282293
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.75 °

Well	TR 42-21-597 - Slot A09					
Well Position	+N/-S	45.17 usft	Northing:	1,656,434.10 usft	Latitude:	39.602752
	+E/-W	28.98 usft	Easting:	2,216,178.00 usft	Longitude:	-108.282190
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	8,577.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/31/2016	9.98	65.65	51,682

Design	Plan #1 31Jan16 sam			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)
	0.00	0.00	0.00	103.60

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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	
144.00	0.00	0.00	144.00	0.00	0.00	0.00	0.00	0.00	0.00	
724.32	17.41	103.60	715.43	-20.57	85.04	3.00	3.00	0.00	103.60	
5,628.69	17.41	103.60	5,395.13	-365.55	1,511.31	0.00	0.00	0.00	0.00	
6,789.34	0.00	0.00	6,538.00	-406.69	1,681.38	1.50	-1.50	0.00	180.00	
9,364.34	0.00	0.00	9,113.00	-406.69	1,681.38	0.00	0.00	0.00	0.00	

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Project:	TR 21-05S-097W	MD Reference:	KB @ 8601.00usft (HP 318)
Site:	TR 32-21-597 Pad	North Reference:	True
Well:	TR 42-21-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 31Jan16 sam		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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
144.00	0.00	0.00	144.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
500.00	10.68	103.60	497.94	-7.78	32.16	33.08	3.00	3.00	0.00
724.32	17.41	103.60	715.43	-20.57	85.04	87.49	3.00	3.00	0.00
Hold 17.41 Inclination									
1,000.00	17.41	103.60	978.48	-39.96	165.21	169.97	0.00	0.00	0.00
1,500.00	17.41	103.60	1,455.58	-75.13	310.62	319.58	0.00	0.00	0.00
2,000.00	17.41	103.60	1,932.67	-110.30	456.03	469.18	0.00	0.00	0.00
2,500.00	17.41	103.60	2,409.77	-145.47	601.43	618.78	0.00	0.00	0.00
2,742.33	17.41	103.60	2,641.00	-162.52	671.91	691.28	0.00	0.00	0.00
Wasatch									
3,000.00	17.41	103.60	2,886.86	-180.64	746.84	768.38	0.00	0.00	0.00
3,004.34	17.41	103.60	2,891.00	-180.95	748.10	769.68	0.00	0.00	0.00
9 5/8"									
3,500.00	17.41	103.60	3,363.96	-215.81	892.25	917.98	0.00	0.00	0.00
4,000.00	17.41	103.60	3,841.05	-250.98	1,037.66	1,067.58	0.00	0.00	0.00
4,500.00	17.41	103.60	4,318.15	-286.15	1,183.07	1,217.18	0.00	0.00	0.00
4,675.91	17.41	103.60	4,486.00	-298.53	1,234.22	1,269.81	0.00	0.00	0.00
Top of "G" Sand									
4,728.31	17.41	103.60	4,536.00	-302.21	1,249.46	1,285.49	0.00	0.00	0.00
Base of "G" Sand									
4,881.32	17.41	103.60	4,682.00	-312.98	1,293.96	1,331.27	0.00	0.00	0.00
Fort Union									
5,000.00	17.41	103.60	4,795.24	-321.33	1,328.47	1,366.78	0.00	0.00	0.00
5,500.00	17.41	103.60	5,272.34	-356.50	1,473.88	1,516.38	0.00	0.00	0.00
5,628.69	17.41	103.60	5,395.13	-365.55	1,511.31	1,554.89	0.00	0.00	0.00
Start Drop -1.50									
6,000.00	11.84	103.60	5,754.27	-387.58	1,602.39	1,648.60	1.50	-1.50	0.00
6,387.60	6.03	103.60	6,137.00	-401.72	1,660.87	1,708.76	1.50	-1.50	0.00
Mesaverde									
6,500.00	4.34	103.60	6,248.94	-404.11	1,670.74	1,718.92	1.50	-1.50	0.00
6,789.34	0.00	0.00	6,538.00	-406.69	1,681.38	1,729.87	1.50	-1.50	0.00
Vertical									
7,000.00	0.00	0.00	6,748.66	-406.69	1,681.38	1,729.87	0.00	0.00	0.00
7,292.34	0.00	0.00	7,041.00	-406.69	1,681.38	1,729.87	0.00	0.00	0.00
Approx. Top Gas									
7,500.00	0.00	0.00	7,248.66	-406.69	1,681.38	1,729.87	0.00	0.00	0.00
8,000.00	0.00	0.00	7,748.66	-406.69	1,681.38	1,729.87	0.00	0.00	0.00
8,500.00	0.00	0.00	8,248.66	-406.69	1,681.38	1,729.87	0.00	0.00	0.00
8,815.34	0.00	0.00	8,564.00	-406.69	1,681.38	1,729.87	0.00	0.00	0.00
Cameo Coals									
9,000.00	0.00	0.00	8,748.66	-406.69	1,681.38	1,729.87	0.00	0.00	0.00
9,214.34	0.00	0.00	8,963.00	-406.69	1,681.38	1,729.87	0.00	0.00	0.00
Rollins SS									
9,364.34	0.00	0.00	9,113.00	-406.69	1,681.38	1,729.87	0.00	0.00	0.00
TD at 9364.34 - TD									

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Site:	TR 32-21-597 Pad	North Reference:	True
Well:	TR 42-21-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 31Jan16 sam		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(bearing)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
TR 42-21-597 MVRD 50	0.00	0.00	6,138.00	-406.43	1,680.43	1,655,976.40	2,217,845.20	39.601636	-108.276227
- plan misses target center by 19.91usft at 6390.41usft MD (6139.80 TVD, -401.79 N, 1661.15 E)									
- Circle (radius 50.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
3,004.34	2,891.00	9 5/8"		9.625	13.500

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(bearing)
2,742.33	2,641.00	Wasatch		0.00	
4,675.91	4,486.00	Top of "G" Sand		0.00	
4,728.31	4,536.00	Base of "G" Sand		0.00	
4,881.32	4,682.00	Fort Union		0.00	
6,387.60	6,137.00	Mesaverde		0.00	
7,292.34	7,041.00	Approx. Top Gas		0.00	
8,815.34	8,564.00	Cameo Coals		0.00	
9,214.34	8,963.00	Rollins SS		0.00	
9,364.34	9,113.00	TD		0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
(usft)	(usft)	(usft)	(usft)		
144.00	144.00	0.00	0.00	Start Build 3.00	
724.32	715.43	-20.57	85.04	Hold 17.41 Inclination	
5,628.69	5,395.13	-365.55	1,511.31	Start Drop -1.50	
6,789.34	6,538.00	-406.69	1,681.38	Vertical	
9,364.34	9,113.00	-406.69	1,681.38	TD at 9364.34	