

PICEANCE VLY NAD 83

GV 14-07S-096W

GM 34-14 Pad

GM 523-14 - Slot B09

Wellbore #1

Plan: Design #2 02May14 mab

Standard Planning Report - Geographic

30 May, 2014

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 523-14 - Slot B09
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5199.00usft (Nabors 574 rig (26' RKB) kjs)
Project:	GV 14-07S-096W	MD Reference:	KELLY BUSHING @ 5199.00usft (Nabors 574 rig (26' RKB) kjs)
Site:	GM 34-14 Pad	North Reference:	True
Well:	GM 523-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 02May14 mab		

Project	GV 14-07S-096W, Garfield County, CO, 14-07S-096W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		Using geodetic scale factor

Site	GM 34-14 Pad		
Site Position:		Northing:	1,592,854.30000 usft
From:	Map	Easting:	2,272,852.10000 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	39.43286
		Longitude:	-108.07474
		Grid Convergence:	-1.62 °

Well	GM 523-14 - Slot B09		
Well Position	+N/-S	0.00 usft	Northing: 1,592,874.50000 usft
	+E/-W	0.00 usft	Easting: 2,272,794.70000 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Latitude: 39.43291
			Longitude: -108.07495
			Ground Level: 5,173.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	4/23/2013	10.11	65.64	52,065

Design	Design #2 02May14 mab			
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	284.33

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	
160.00	0.00	0.00	160.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,739.89	55.30	284.33	1,505.81	174.48	-683.08	3.50	3.50	0.00	284.33	
2,690.28	55.30	284.33	2,046.89	367.84	-1,440.09	0.00	0.00	0.00	0.00	
4,755.09	14.00	284.33	3,709.00	652.11	-2,553.03	2.00	-2.00	0.00	180.00	Top Gas (50' Radius)
5,455.09	0.00	0.00	4,402.06	673.17	-2,635.48	2.00	-2.00	0.00	180.00	
6,662.04	0.00	0.00	5,609.00	673.17	-2,635.48	0.00	0.00	0.00	0.00	

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 523-14 - Slot B09
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5199.00usft (Nabors 574 rig (26' RKB) kjs)
Project:	GV 14-07S-096W	MD Reference:	KELLY BUSHING @ 5199.00usft (Nabors 574 rig (26' RKB) kjs)
Site:	GM 34-14 Pad	North Reference:	True
Well:	GM 523-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 02May14 mab		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	1,592,874.50000	2,272,794.70000	39.43291	-108.07495	
160.00	0.00	0.00	160.00	0.00	0.00	1,592,874.50000	2,272,794.70000	39.43291	-108.07495	
Start Build 3.50										
200.00	1.40	284.33	200.00	0.12	-0.47	1,592,874.63430	2,272,794.23017	39.43291	-108.07495	
400.00	8.40	284.33	399.14	4.35	-17.02	1,592,879.32637	2,272,777.81566	39.43292	-108.07501	
600.00	15.40	284.33	594.72	14.55	-56.95	1,592,890.65345	2,272,738.18956	39.43295	-108.07515	
800.00	22.40	284.33	783.82	30.57	-119.68	1,592,908.44669	2,272,675.94258	39.43300	-108.07537	
937.95	27.23	284.33	909.00	44.89	-175.76	1,592,924.35333	2,272,620.29558	39.43304	-108.07557	
Top of "G" Sand										
1,000.00	29.40	284.33	963.62	52.18	-204.27	1,592,932.44083	2,272,592.00270	39.43306	-108.07567	
1,052.57	31.24	284.33	1,009.00	58.74	-229.98	1,592,939.73448	2,272,566.48694	39.43307	-108.07576	
Base of "G" Sand										
1,200.00	36.40	284.33	1,131.44	79.04	-309.46	1,592,962.27816	2,272,487.62126	39.43313	-108.07605	
1,400.00	43.40	284.33	1,284.78	110.77	-433.68	1,592,997.51389	2,272,364.35435	39.43322	-108.07649	
1,600.00	50.40	284.33	1,421.35	146.89	-575.08	1,593,037.62272	2,272,224.03959	39.43332	-108.07699	
1,739.89	55.30	284.33	1,505.81	174.48	-683.08	1,593,068.25679	2,272,116.87090	39.43339	-108.07737	
Hold 55.30° Inc, 284.33° Az										
1,789.89	55.30	284.33	1,534.27	184.65	-722.90	1,593,079.55292	2,272,077.35308	39.43342	-108.07751	
9 5/8"										
1,800.00	55.30	284.33	1,540.03	186.71	-730.96	1,593,081.83715	2,272,069.36204	39.43343	-108.07754	
2,000.00	55.30	284.33	1,653.89	227.40	-890.26	1,593,127.02472	2,271,911.28005	39.43354	-108.07810	
2,200.00	55.30	284.33	1,767.76	268.09	-1,049.57	1,593,172.21231	2,271,753.19806	39.43365	-108.07867	
2,400.00	55.30	284.33	1,881.63	308.78	-1,208.88	1,593,217.39989	2,271,595.11606	39.43376	-108.07923	
2,600.00	55.30	284.33	1,995.49	349.47	-1,368.18	1,593,262.58747	2,271,437.03408	39.43387	-108.07979	
2,690.28	55.30	284.33	2,046.89	367.84	-1,440.09	1,593,282.98445	2,271,365.67832	39.43392	-108.08005	
Begin Drop -2.00°/100										
2,800.00	53.10	284.33	2,111.07	389.86	-1,526.31	1,593,307.44026	2,271,280.12332	39.43398	-108.08035	
3,000.00	49.10	284.33	2,236.64	428.37	-1,677.09	1,593,350.20925	2,271,130.50244	39.43409	-108.08089	
3,200.00	45.10	284.33	2,372.75	464.63	-1,819.02	1,593,390.46689	2,270,989.66709	39.43419	-108.08139	
3,400.00	41.10	284.33	2,518.75	498.44	-1,951.40	1,593,428.01707	2,270,858.30342	39.43428	-108.08186	
3,581.25	37.48	284.33	2,659.00	526.84	-2,062.58	1,593,459.55445	2,270,747.97461	39.43436	-108.08225	
Mesaverde										
3,600.00	37.10	284.33	2,673.92	529.65	-2,073.59	1,593,462.67683	2,270,737.05143	39.43437	-108.08229	
3,800.00	33.10	284.33	2,837.51	558.11	-2,185.00	1,593,494.27732	2,270,626.50183	39.43444	-108.08269	
4,000.00	29.10	284.33	3,008.73	583.67	-2,285.07	1,593,522.66459	2,270,527.19321	39.43451	-108.08304	
4,200.00	25.10	284.33	3,186.73	606.21	-2,373.34	1,593,547.70034	2,270,439.60939	39.43458	-108.08335	
4,400.00	21.10	284.33	3,370.66	625.63	-2,449.35	1,593,569.26259	2,270,364.17710	39.43463	-108.08362	
4,600.00	17.10	284.33	3,559.61	641.83	-2,512.75	1,593,587.24630	2,270,301.26379	39.43467	-108.08385	
4,755.09	14.00	284.33	3,709.00	652.11	-2,553.03	1,593,598.67193	2,270,261.29292	39.43470	-108.08399	
Top Gas - Approx. Top Gas										
4,800.00	13.10	284.33	3,752.66	654.72	-2,563.23	1,593,601.56384	2,270,251.17600	39.43471	-108.08402	
5,000.00	9.10	284.33	3,948.88	664.25	-2,600.53	1,593,612.14548	2,270,214.15774	39.43474	-108.08416	
5,200.00	5.10	284.33	4,147.30	670.37	-2,624.49	1,593,618.93964	2,270,190.38936	39.43475	-108.08424	
5,400.00	1.10	284.33	4,346.97	673.04	-2,634.97	1,593,621.91325	2,270,179.98666	39.43476	-108.08428	
5,455.09	0.00	0.00	4,402.06	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428	
Vertical										
5,600.00	0.00	0.00	4,546.96	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428	
5,800.00	0.00	0.00	4,746.96	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428	
6,000.00	0.00	0.00	4,946.96	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428	
6,072.04	0.00	0.00	5,019.00	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428	
Cameo Coals										

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 523-14 - Slot B09
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5199.00usft (Nabors 574 rig (26' RKB) kjs)
Project:	GV 14-07S-096W	MD Reference:	KELLY BUSHING @ 5199.00usft (Nabors 574 rig (26' RKB) kjs)
Site:	GM 34-14 Pad	North Reference:	True
Well:	GM 523-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 02May14 mab		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,200.00	0.00	0.00	5,146.96	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428
6,400.00	0.00	0.00	5,346.96	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428
6,562.04	0.00	0.00	5,509.00	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428
Rollins SS									
6,600.00	0.00	0.00	5,546.96	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428
6,662.04	0.00	0.00	5,609.00	673.17	-2,635.48	1,593,622.05882	2,270,179.47740	39.43476	-108.08428
TD at 6662.04 - TD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Top Gas (50' Radius) GM	0.00	0.00	3,709.00	663.40	-2,597.07	1,593,611.20000	2,270,217.60000	39.43473	-108.08414
- plan misses target center by 44.13usft at 4765.74usft MD (3719.34 TVD, 652.75 N, -2555.51 E)									
- Circle (radius 50.00)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,789.89	1,534.27	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
937.95	909.00	Top of "G" Sand				
1,052.57	1,009.00	Base of "G" Sand				
3,581.25	2,659.00	Mesaverde				
4,755.09	3,709.00	Approx. Top Gas				
6,072.04	5,019.00	Cameo Coals				
6,562.04	5,509.00	Rollins SS				
6,662.04	5,609.00	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
160.00	160.00	0.00	0.00	Start Build 3.50	
1,739.89	1,505.81	174.48	-683.08	Hold 55.30° Inc, 284.33° Az	
2,690.28	2,046.89	367.84	-1,440.09	Begin Drop -2.00°/100	
4,755.09	3,709.00	652.11	-2,553.03	Top Gas	
5,455.09	4,402.06	673.17	-2,635.48	Vertical	
6,662.04	5,609.00	673.17	-2,635.48	TD at 6662.04	