



# **PICEANCE VLY NAD 83**

**GV 28-06S-096W**

**GM 11-28 Pad**

**GM 314-21 - Slot B03**

**Wellbore #1**

**Plan: Plan #2 07Jul14 kjs**

## **Standard Planning Report - Geographic**

**28 August, 2014**

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well GM 314-21 - Slot B03
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
<b>Project:</b>	GV 28-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
<b>Site:</b>	GM 11-28 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 314-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 07Jul14 kjs		

<b>Project</b>	GV 28-06S-096W, 28-06S-096W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		Using geodetic scale factor

<b>Site</b>	GM 11-28 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,617,299.30000 usft	<b>Latitude:</b> 39.49901
<b>From:</b> Map		<b>Easting:</b>	2,260,967.51000 usft	<b>Longitude:</b> -108.11930
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.65 °

<b>Well</b>	GM 314-21 - Slot B03			
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,617,264.20000 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	2,260,918.88000 usft
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	
			<b>Ground Level:</b>	5,604.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	6/14/2013	10.15	65.66	52,037

<b>Design</b>	Plan #2 07Jul14 kjs			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (bearing)</b>
	0.00	0.00	0.00	8.32

<b>Plan Sections</b>										
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	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,533.82	31.14	8.32	1,466.71	362.97	53.10	2.25	2.25	0.00	8.32	
3,983.74	31.14	8.32	3,563.71	1,616.42	236.45	0.00	0.00	0.00	0.00	
5,540.54	0.00	0.00	5,045.00	2,024.76	296.18	2.00	-2.00	0.00	180.00	Top Gas (50' Radius)
7,440.54	0.00	0.00	6,945.00	2,024.76	296.18	0.00	0.00	0.00	0.00	

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Planning Report - Geographic

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<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
<b>Project:</b>	GV 28-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
<b>Site:</b>	GM 11-28 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 314-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 07Jul14 kjs		

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	1,617,264.20000	2,260,918.88000	39.49891	-108.11947
150.00	0.00	0.00	150.00	0.00	0.00	1,617,264.20000	2,260,918.88000	39.49891	-108.11947
Start Build 2.25									
200.00	1.13	8.32	200.00	0.49	0.07	1,617,264.68342	2,260,918.96501	39.49892	-108.11947
400.00	5.63	8.32	399.60	12.13	1.77	1,617,276.27617	2,260,921.00377	39.49895	-108.11946
600.00	10.13	8.32	597.66	39.24	5.74	1,617,303.25645	2,260,925.74864	39.49902	-108.11945
800.00	14.63	8.32	792.96	81.64	11.94	1,617,345.45791	2,260,933.17039	39.49914	-108.11943
1,000.00	19.13	8.32	984.30	139.07	20.34	1,617,402.62036	2,260,943.22324	39.49930	-108.11940
1,200.00	23.63	8.32	1,170.50	211.18	30.89	1,617,474.39138	2,260,955.84523	39.49949	-108.11936
1,400.00	28.13	8.32	1,350.40	297.52	43.52	1,617,560.32848	2,260,970.95852	39.49973	-108.11931
1,533.82	31.14	8.32	1,466.71	362.97	53.10	1,617,625.47744	2,260,982.41592	39.49991	-108.11928
Hold 31.14° Inc, 8.32° Az									
1,583.82	31.14	8.32	1,509.51	388.56	56.84	1,617,650.94123	2,260,986.89410	39.49998	-108.11927
9 5/8"									
1,600.00	31.14	8.32	1,523.36	396.83	58.05	1,617,659.18063	2,260,988.34312	39.50000	-108.11926
1,800.00	31.14	8.32	1,694.54	499.16	73.02	1,617,761.02732	2,261,006.25435	39.50029	-108.11921
2,000.00	31.14	8.32	1,865.73	601.48	87.99	1,617,862.87402	2,261,024.16559	39.50057	-108.11916
2,200.00	31.14	8.32	2,036.92	703.81	102.95	1,617,964.72072	2,261,042.07682	39.50085	-108.11910
2,251.50	31.14	8.32	2,081.00	730.16	106.81	1,617,990.94455	2,261,046.68866	39.50092	-108.11909
Top of "G" Sand									
2,368.33	31.14	8.32	2,181.00	789.93	115.55	1,618,050.43835	2,261,057.15152	39.50108	-108.11906
Base of "G" Sand									
2,400.00	31.14	8.32	2,208.11	806.13	117.92	1,618,066.56740	2,261,059.98805	39.50113	-108.11905
2,600.00	31.14	8.32	2,379.30	908.46	132.89	1,618,168.41410	2,261,077.89928	39.50141	-108.11900
2,800.00	31.14	8.32	2,550.49	1,010.78	147.86	1,618,270.26080	2,261,095.81051	39.50169	-108.11894
3,000.00	31.14	8.32	2,721.68	1,113.11	162.83	1,618,372.10749	2,261,113.72175	39.50197	-108.11889
3,200.00	31.14	8.32	2,892.87	1,215.43	177.79	1,618,473.95418	2,261,131.63298	39.50225	-108.11884
3,400.00	31.14	8.32	3,064.05	1,317.76	192.76	1,618,575.80087	2,261,149.54421	39.50253	-108.11878
3,600.00	31.14	8.32	3,235.24	1,420.08	207.73	1,618,677.64757	2,261,167.45544	39.50281	-108.11873
3,800.00	31.14	8.32	3,406.43	1,522.41	222.70	1,618,779.49427	2,261,185.36668	39.50309	-108.11868
3,983.74	31.14	8.32	3,563.71	1,616.42	236.45	1,618,873.06287	2,261,201.82209	39.50335	-108.11863
Start Drop -2.00°/100									
4,000.00	30.81	8.32	3,577.64	1,624.69	237.66	1,618,881.30203	2,261,203.27106	39.50337	-108.11863
4,200.00	26.81	8.32	3,752.85	1,720.04	251.61	1,618,976.20575	2,261,219.96127	39.50364	-108.11858
4,235.91	26.09	8.32	3,785.00	1,735.87	253.92	1,618,991.95801	2,261,222.73154	39.50368	-108.11857
Mesaverde									
4,400.00	22.81	8.32	3,934.35	1,803.07	263.75	1,619,058.84162	2,261,234.49400	39.50386	-108.11853
4,600.00	18.81	8.32	4,121.27	1,873.36	274.04	1,619,128.80706	2,261,246.79844	39.50406	-108.11850
4,800.00	14.81	8.32	4,312.68	1,930.58	282.41	1,619,185.76119	2,261,256.81466	39.50421	-108.11847
5,000.00	10.81	8.32	4,507.66	1,974.45	288.82	1,619,229.42654	2,261,264.49385	39.50434	-108.11844
5,200.00	6.81	8.32	4,705.26	2,004.76	293.26	1,619,259.59039	2,261,269.79861	39.50442	-108.11843
5,400.00	2.81	8.32	4,904.52	2,021.35	295.68	1,619,276.10578	2,261,272.70308	39.50446	-108.11842
5,540.54	0.00	0.00	5,045.00	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
Top Gas - Approx. Top Gas									
5,600.00	0.00	0.00	5,104.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
5,800.00	0.00	0.00	5,304.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
6,000.00	0.00	0.00	5,504.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
6,200.00	0.00	0.00	5,704.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
6,400.00	0.00	0.00	5,904.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
6,600.00	0.00	0.00	6,104.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
6,800.00	0.00	0.00	6,304.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842

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<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
<b>Project:</b>	GV 28-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
<b>Site:</b>	GM 11-28 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 314-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 07Jul14 kjs		

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
6,871.54	0.00	0.00	6,376.00	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
<b>Cameo Coals</b>									
7,000.00	0.00	0.00	6,504.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
7,200.00	0.00	0.00	6,704.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
7,340.54	0.00	0.00	6,845.00	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
<b>Rollins SS</b>									
7,400.00	0.00	0.00	6,904.46	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
7,440.54	0.00	0.00	6,945.00	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
<b>TD at 7440.54 - TD</b>									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Top Gas (50' Radius) GM - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,045.00	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842
TD / PBHL GM 314-21 - plan hits target center - Point	0.00	0.00	6,945.00	2,024.76	296.18	1,619,279.50000	2,261,273.30000	39.50447	-108.11842

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,583.82	1,509.51	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
2,251.50	2,081.00	Top of "G" Sand				
2,368.33	2,181.00	Base of "G" Sand				
4,235.91	3,785.00	Mesaverde				
5,540.54	5,045.00	Approx. Top Gas				
6,871.54	6,376.00	Cameo Coals				
7,340.54	6,845.00	Rollins SS				
7,440.54	6,945.00	TD				

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<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well GM 314-21 - Slot B03
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
<b>Project:</b>	GV 28-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
<b>Site:</b>	GM 11-28 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 314-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 07Jul14 kjs		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
150.00	150.00	0.00	0.00	Start Build 2.25
1,533.82	1,466.71	362.97	53.10	Hold 31.14° Inc, 8.32° Az
3,983.74	3,563.71	1,616.42	236.45	Start Drop -2.00°/100
5,540.54	5,045.00	2,024.76	296.18	Top Gas
7,440.54	6,945.00	2,024.76	296.18	TD at 7440.54