

PICEANCE VLY NAD 83

GV 28-06S-096W

GM 11-28 Pad

GM 311-28 - Slot A4

Wellbore #1

Plan: Plan #2 07Jul14 kjs

Standard Planning Report - Geographic

28 August, 2014

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 311-28 - Slot A4
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
Project:	GV 28-06S-096W	MD Reference:	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
Site:	GM 11-28 Pad	North Reference:	True
Well:	GM 311-28	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 07Jul14 kjs		

Project	GV 28-06S-096W, 28-06S-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 11-28 Pad			
Site Position:		Northing:	1,617,299.30000 usft	Latitude: 39.49901
From: Map		Easting:	2,260,967.51000 usft	Longitude: -108.11930
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.65 °

Well	GM 311-28 - Slot A4			
Well Position	+N/-S	0.00 usft	Northing:	1,617,260.48000 usft
	+E/-W	0.00 usft	Easting:	2,260,930.81000 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	
			Ground Level:	5,604.00 usft

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

Design	Plan #2 07Jul14 kjs			
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	7.27

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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
220.00	1.00	0.00	219.99	0.87	0.00	1.00	1.00	0.00	0.00	
1,141.28	14.81	7.33	1,130.32	126.31	15.10	1.50	1.50	0.80	7.85	
4,052.27	14.81	7.33	3,944.59	864.34	110.08	0.00	0.00	0.00	0.00	
5,039.63	0.00	0.00	4,921.00	990.20	126.27	1.50	-1.50	0.00	180.00	
7,039.63	0.00	0.00	6,921.00	990.20	126.27	0.00	0.00	0.00	0.00	TD / PBHL GM 311-28

WPX
Planning Report - Geographic

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Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
Project:	GV 28-06S-096W	MD Reference:	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
Site:	GM 11-28 Pad	North Reference:	True
Well:	GM 311-28	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	1,617,260.48000	2,260,930.81000	39.49891	-108.11942	
120.00	0.00	0.00	120.00	0.00	0.00	1,617,260.48000	2,260,930.81000	39.49891	-108.11942	
Start Nudge 1.00										
200.00	0.80	0.00	200.00	0.56	0.00	1,617,261.03824	2,260,930.82610	39.49891	-108.11942	
220.00	1.00	0.00	219.99	0.87	0.00	1,617,261.35224	2,260,930.83515	39.49891	-108.11942	
Begin 1.50°/100 Build & Turn										
400.00	3.69	5.73	399.83	8.21	0.58	1,617,268.67245	2,260,931.62569	39.49893	-108.11942	
600.00	6.69	6.69	598.98	26.20	2.58	1,617,286.59379	2,260,934.14381	39.49898	-108.11942	
800.00	9.69	7.05	796.92	54.49	6.00	1,617,314.76986	2,260,938.38120	39.49905	-108.11940	
1,000.00	12.69	7.24	993.10	93.00	10.84	1,617,353.12345	2,260,944.32624	39.49916	-108.11939	
1,141.28	14.81	7.33	1,130.32	126.31	15.10	1,617,386.29536	2,260,949.54650	39.49925	-108.11937	
Hold 14.81° Inc, 7.33° Az										
1,191.28	14.81	7.33	1,178.66	138.98	16.73	1,617,398.91819	2,260,951.54234	39.49929	-108.11937	
9 5/8"										
1,200.00	14.81	7.33	1,187.09	141.19	17.02	1,617,401.11978	2,260,951.89044	39.49929	-108.11936	
1,400.00	14.81	7.33	1,380.44	191.90	23.54	1,617,451.61504	2,260,959.87442	39.49943	-108.11934	
1,600.00	14.81	7.33	1,573.80	242.61	30.07	1,617,502.11031	2,260,967.85840	39.49957	-108.11932	
1,800.00	14.81	7.33	1,767.15	293.31	36.59	1,617,552.60557	2,260,975.84239	39.49971	-108.11930	
2,000.00	14.81	7.33	1,960.51	344.02	43.12	1,617,603.10084	2,260,983.82637	39.49985	-108.11927	
2,114.29	14.81	7.33	2,071.00	373.00	46.85	1,617,631.95600	2,260,988.38876	39.49993	-108.11926	
Top of "G" Sand										
2,200.00	14.81	7.33	2,153.86	394.73	49.64	1,617,653.59609	2,260,991.81035	39.49999	-108.11925	
2,217.73	14.81	7.33	2,171.00	399.22	50.22	1,617,658.07126	2,260,992.51794	39.50000	-108.11925	
Base of "G" Sand										
2,400.00	14.81	7.33	2,347.22	445.43	56.17	1,617,704.09135	2,260,999.79434	39.50013	-108.11923	
2,600.00	14.81	7.33	2,540.57	496.14	62.69	1,617,754.58662	2,261,007.77832	39.50027	-108.11920	
2,800.00	14.81	7.33	2,733.93	546.85	69.22	1,617,805.08188	2,261,015.76230	39.50041	-108.11918	
3,000.00	14.81	7.33	2,927.29	597.55	75.74	1,617,855.57714	2,261,023.74628	39.50055	-108.11916	
3,200.00	14.81	7.33	3,120.64	648.26	82.27	1,617,906.07241	2,261,031.73027	39.50069	-108.11913	
3,400.00	14.81	7.33	3,314.00	698.97	88.79	1,617,956.56767	2,261,039.71425	39.50082	-108.11911	
3,600.00	14.81	7.33	3,507.35	749.67	95.32	1,618,007.06293	2,261,047.69823	39.50096	-108.11909	
3,800.00	14.81	7.33	3,700.71	800.38	101.84	1,618,057.55819	2,261,055.68222	39.50110	-108.11906	
3,857.19	14.81	7.33	3,756.00	814.88	103.71	1,618,071.99830	2,261,057.96539	39.50114	-108.11906	
Mesaverde										
4,000.00	14.81	7.33	3,894.06	851.09	108.37	1,618,108.05345	2,261,063.66620	39.50124	-108.11904	
4,052.27	14.81	7.33	3,944.59	864.34	110.08	1,618,121.24963	2,261,065.75269	39.50128	-108.11903	
Start Drop -1.50°/100										
4,200.00	12.59	7.33	4,088.11	899.04	114.54	1,618,155.81178	2,261,071.21743	39.50137	-108.11902	
4,400.00	9.59	7.33	4,284.35	937.21	119.45	1,618,193.81927	2,261,077.22693	39.50148	-108.11900	
4,600.00	6.59	7.33	4,482.34	965.14	123.05	1,618,221.63070	2,261,081.62430	39.50156	-108.11899	
4,800.00	3.59	7.33	4,681.52	982.75	125.31	1,618,239.16985	2,261,084.39747	39.50160	-108.11898	
5,000.00	0.59	7.33	4,881.37	990.00	126.25	1,618,246.38863	2,261,085.53886	39.50162	-108.11898	
5,039.63	0.00	0.00	4,921.00	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898	
Vertical										
5,139.63	0.00	0.00	5,021.00	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898	
Top Gas - Approx. Top Gas										
5,200.00	0.00	0.00	5,081.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898	
5,400.00	0.00	0.00	5,281.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898	
5,600.00	0.00	0.00	5,481.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898	
5,800.00	0.00	0.00	5,681.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898	
6,000.00	0.00	0.00	5,881.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898	

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Site:	GM 11-28 Pad	North Reference:	True
Well:	GM 311-28	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
6,200.00	0.00	0.00	6,081.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
6,400.00	0.00	0.00	6,281.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
6,449.63	0.00	0.00	6,331.00	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
Cameo Coals									
6,600.00	0.00	0.00	6,481.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
6,800.00	0.00	0.00	6,681.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
6,939.63	0.00	0.00	6,821.00	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
Rollins SS									
7,000.00	0.00	0.00	6,881.37	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
7,039.63	0.00	0.00	6,921.00	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
TD at 7039.63									

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) G1	0.00	0.00	5,021.00	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
- plan hits target center									
- Circle (radius 50.00)									
TD / PBHL GM 311-28	0.00	0.00	6,921.00	990.20	126.27	1,618,246.59172	2,261,085.57097	39.50162	-108.11898
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,191.28	1,178.66	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
2,114.29	2,071.00	Top of "G" Sand				
2,217.73	2,171.00	Base of "G" Sand				
3,857.19	3,756.00	Mesaverde				
5,139.63	5,021.00	Approx. Top Gas				
6,449.63	6,331.00	Cameo Coals				
6,939.63	6,821.00	Rollins SS				
7,039.63	6,921.00	TD				

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Project:	GV 28-06S-096W	MD Reference:	KELLY BUSHING @ 5630.00usft (Nabors 573 (26' RKB) mab)
Site:	GM 11-28 Pad	North Reference:	True
Well:	GM 311-28	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 07Jul14 kjs		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Nudge 1.00
220.00	219.99	0.87	0.00	Begin 1.50°/100 Build & Turn
1,141.28	1,130.32	126.31	15.10	Hold 14.81° Inc, 7.33° Az
4,052.27	3,944.59	864.34	110.08	Start Drop -1.50°/100
5,039.63	4,921.00	990.20	126.27	Vertical
5,139.63	5,021.00	990.20	126.27	Top Gas
7,039.63	6,921.00	990.20	126.27	TD at 7039.63