

PICEANCE VLY NAD 83

GV 12-07S-096W

GM 24-12 Pad

GM 543-12 - Slot A01

Wellbore #1

Plan: Design #1 03Mar14 kjs

Standard Planning Report - Geographic

11 March, 2014

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 543-12 - Slot A01
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5165.00usft (H&P 318 (24' RKB) kjs)
Project:	GV 12-07S-096W	MD Reference:	KELLY BUSHING @ 5165.00usft (H&P 318 (24' RKB) kjs)
Site:	GM 24-12 Pad	North Reference:	True
Well:	GM 543-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 03Mar14 kjs		

Project	GV 12-07S-096W, Garfield County CO, GV 12-07W-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 24-12 Pad			
Site Position:		Northing:	1,597,443.66 usft	Latitude: 39.44569
From: Map		Easting:	2,275,817.52 usft	Longitude: -108.06471
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.618 °

Well	GM 543-12 - Slot A01			
Well Position	+N/-S	0.00 usft	Northing:	1,597,407.18 usft
	+E/-W	0.00 usft	Easting:	2,275,907.93 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	5,141.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/3/2014	10.028	65.611	51,947

Design	Design #1 03Mar14 kjs			
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	70.22

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	0.000	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,620.32	60.01	70.22	1,360.65	242.43	674.21	4.00	4.00	0.00	70.223	
3,512.08	60.01	70.22	2,306.16	796.85	2,216.09	0.00	0.00	0.00	0.000	
6,012.72	10.00	70.22	4,290.00	1,266.99	3,523.56	2.00	-2.00	0.00	180.000	Top Gas (50' Radius)
6,512.72	0.00	0.00	4,787.47	1,281.72	3,564.52	2.00	-2.00	-14.04	180.000	
7,915.26	0.00	0.00	6,190.00	1,281.72	3,564.52	0.00	0.00	0.00	0.000	

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Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5165.00usft (H&P 318 (24' RKB) kjs)
Project:	GV 12-07S-096W	MD Reference:	KELLY BUSHING @ 5165.00usft (H&P 318 (24' RKB) kjs)
Site:	GM 24-12 Pad	North Reference:	True
Well:	GM 543-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 03Mar14 kjs		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	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	1,597,407.18	2,275,907.93	39.44559	-108.06439
100.00	0.00	0.00	100.00	0.00	0.00	1,597,407.18	2,275,907.93	39.44559	-108.06439
120.00	0.00	0.00	120.00	0.00	0.00	1,597,407.18	2,275,907.93	39.44559	-108.06439
Start Build 4.00									
200.00	3.20	70.22	199.96	0.76	2.10	1,597,407.88	2,275,910.05	39.44560	-108.06438
300.00	7.20	70.22	299.53	3.82	10.63	1,597,410.70	2,275,918.66	39.44560	-108.06435
400.00	11.20	70.22	398.22	9.23	25.67	1,597,415.68	2,275,933.85	39.44562	-108.06429
500.00	15.20	70.22	495.56	16.96	47.15	1,597,422.80	2,275,955.54	39.44564	-108.06422
600.00	19.20	70.22	591.07	26.96	74.98	1,597,432.01	2,275,983.63	39.44567	-108.06412
700.00	23.20	70.22	684.28	39.19	109.00	1,597,443.28	2,276,017.98	39.44570	-108.06400
800.00	27.20	70.22	774.74	53.60	149.06	1,597,456.55	2,276,058.43	39.44574	-108.06386
900.00	31.20	70.22	862.02	70.10	194.96	1,597,471.75	2,276,104.77	39.44579	-108.06370
1,000.00	35.20	70.22	945.68	88.63	246.47	1,597,488.81	2,276,156.79	39.44584	-108.06351
1,100.00	39.20	70.22	1,025.32	109.08	303.35	1,597,507.65	2,276,214.22	39.44589	-108.06331
1,185.61	42.62	70.22	1,090.00	128.05	356.10	1,597,525.12	2,276,267.48	39.44595	-108.06312
Top of "G" Sand									
1,200.00	43.20	70.22	1,100.54	131.36	365.32	1,597,528.18	2,276,276.80	39.44595	-108.06309
1,300.00	47.20	70.22	1,170.99	155.37	432.08	1,597,550.29	2,276,344.20	39.44602	-108.06286
1,328.28	48.33	70.22	1,190.00	162.45	451.79	1,597,556.81	2,276,364.10	39.44604	-108.06279
Base of "G" Sand									
1,400.00	51.20	70.22	1,236.32	180.98	503.30	1,597,573.87	2,276,416.11	39.44609	-108.06260
1,500.00	55.20	70.22	1,296.21	208.06	578.64	1,597,598.82	2,276,492.18	39.44617	-108.06234
1,600.00	59.20	70.22	1,350.37	236.50	657.72	1,597,625.02	2,276,572.03	39.44624	-108.06206
1,620.32	60.01	70.22	1,360.65	242.43	674.21	1,597,630.48	2,276,588.68	39.44626	-108.06200
Hold 60.01 Inclination									
1,700.00	60.01	70.22	1,400.47	265.78	739.16	1,597,651.99	2,276,654.25	39.44632	-108.06177
1,720.00	60.01	70.22	1,410.47	271.64	755.46	1,597,657.39	2,276,670.71	39.44634	-108.06171
9 5/8"									
1,800.00	60.01	70.22	1,450.46	295.09	820.66	1,597,678.98	2,276,736.55	39.44640	-108.06148
1,900.00	60.01	70.22	1,500.44	324.40	902.17	1,597,705.97	2,276,818.85	39.44648	-108.06119
2,000.00	60.01	70.22	1,550.42	353.71	983.67	1,597,732.97	2,276,901.14	39.44657	-108.06090
2,100.00	60.01	70.22	1,600.40	383.01	1,065.17	1,597,759.96	2,276,983.44	39.44665	-108.06061
2,200.00	60.01	70.22	1,650.38	412.32	1,146.68	1,597,786.96	2,277,065.73	39.44673	-108.06033
2,300.00	60.01	70.22	1,700.36	441.63	1,228.18	1,597,813.95	2,277,148.03	39.44681	-108.06004
2,400.00	60.01	70.22	1,750.34	470.93	1,309.69	1,597,840.94	2,277,230.32	39.44689	-108.05975
2,500.00	60.01	70.22	1,800.32	500.24	1,391.19	1,597,867.94	2,277,312.62	39.44697	-108.05946
2,600.00	60.01	70.22	1,850.30	529.55	1,472.70	1,597,894.93	2,277,394.92	39.44705	-108.05917
2,700.00	60.01	70.22	1,900.28	558.86	1,554.20	1,597,921.93	2,277,477.21	39.44713	-108.05888
2,800.00	60.01	70.22	1,950.26	588.16	1,635.71	1,597,948.92	2,277,559.51	39.44721	-108.05859
2,900.00	60.01	70.22	2,000.24	617.47	1,717.21	1,597,975.91	2,277,641.80	39.44729	-108.05830
3,000.00	60.01	70.22	2,050.22	646.78	1,798.72	1,598,002.91	2,277,724.10	39.44737	-108.05802
3,100.00	60.01	70.22	2,100.20	676.08	1,880.22	1,598,029.90	2,277,806.39	39.44745	-108.05773
3,200.00	60.01	70.22	2,150.18	705.39	1,961.73	1,598,056.90	2,277,888.69	39.44753	-108.05744
3,300.00	60.01	70.22	2,200.16	734.70	2,043.23	1,598,083.89	2,277,970.99	39.44761	-108.05715
3,400.00	60.01	70.22	2,250.15	764.01	2,124.74	1,598,110.88	2,278,053.28	39.44769	-108.05686
3,500.00	60.01	70.22	2,300.13	793.31	2,206.24	1,598,137.88	2,278,135.58	39.44777	-108.05657
3,512.08	60.01	70.22	2,306.16	796.85	2,216.09	1,598,141.14	2,278,145.52	39.44778	-108.05654
Start Drop -2.00									
3,600.00	58.25	70.22	2,351.27	822.39	2,287.10	1,598,164.66	2,278,217.22	39.44785	-108.05629
3,700.00	56.25	70.22	2,405.36	850.85	2,366.24	1,598,190.87	2,278,297.13	39.44793	-108.05601
3,800.00	54.25	70.22	2,462.35	878.65	2,443.56	1,598,216.48	2,278,375.20	39.44801	-108.05573
3,900.00	52.25	70.22	2,522.17	905.76	2,518.96	1,598,241.45	2,278,451.33	39.44808	-108.05547

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Well:	GM 543-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 03Mar14 kjs		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,000.00	50.25	70.22	2,584.75	932.15	2,592.35	1,598,265.75	2,278,525.43	39.44815	-108.05521
4,100.00	48.25	70.22	2,650.02	957.78	2,663.64	1,598,289.36	2,278,597.41	39.44822	-108.05495
4,200.00	46.25	70.22	2,717.89	982.63	2,732.74	1,598,312.25	2,278,667.19	39.44829	-108.05471
4,300.00	44.25	70.22	2,788.28	1,006.66	2,799.57	1,598,334.39	2,278,734.67	39.44836	-108.05447
4,400.00	42.25	70.22	2,861.11	1,029.85	2,864.05	1,598,355.74	2,278,799.77	39.44842	-108.05424
4,500.00	40.25	70.22	2,936.29	1,052.16	2,926.10	1,598,376.29	2,278,862.42	39.44848	-108.05402
4,600.00	38.25	70.22	3,013.72	1,073.57	2,985.64	1,598,396.01	2,278,922.54	39.44854	-108.05381
4,700.00	36.25	70.22	3,093.31	1,094.05	3,042.60	1,598,414.88	2,278,980.05	39.44860	-108.05361
4,745.24	35.35	70.22	3,130.00	1,103.01	3,067.51	1,598,423.12	2,279,005.20	39.44862	-108.05352
Mesaverde									
4,800.00	34.25	70.22	3,174.96	1,113.58	3,096.92	1,598,432.86	2,279,034.89	39.44865	-108.05342
4,900.00	32.25	70.22	3,258.58	1,132.13	3,148.51	1,598,449.95	2,279,086.99	39.44870	-108.05324
5,000.00	30.25	70.22	3,344.07	1,149.69	3,197.34	1,598,466.12	2,279,136.29	39.44875	-108.05306
5,100.00	28.25	70.22	3,431.31	1,166.22	3,243.32	1,598,481.35	2,279,182.72	39.44880	-108.05290
5,200.00	26.25	70.22	3,520.20	1,181.72	3,286.41	1,598,495.62	2,279,226.23	39.44884	-108.05275
5,300.00	24.25	70.22	3,610.64	1,196.15	3,326.56	1,598,508.92	2,279,266.76	39.44888	-108.05261
5,400.00	22.25	70.22	3,702.51	1,209.51	3,363.71	1,598,521.22	2,279,304.27	39.44891	-108.05247
5,500.00	20.25	70.22	3,795.70	1,221.78	3,397.82	1,598,532.52	2,279,338.72	39.44895	-108.05235
5,600.00	18.25	70.22	3,890.10	1,232.93	3,428.85	1,598,542.80	2,279,370.05	39.44898	-108.05224
5,700.00	16.25	70.22	3,985.60	1,242.97	3,456.76	1,598,552.04	2,279,398.23	39.44901	-108.05214
5,800.00	14.25	70.22	4,082.07	1,251.87	3,481.52	1,598,560.24	2,279,423.23	39.44903	-108.05206
5,900.00	12.25	70.22	4,179.40	1,259.63	3,503.09	1,598,567.39	2,279,445.01	39.44905	-108.05198
6,000.00	10.25	70.22	4,277.47	1,266.23	3,521.45	1,598,573.47	2,279,463.55	39.44907	-108.05192
6,012.72	10.00	70.22	4,290.00	1,266.99	3,523.56	1,598,574.17	2,279,465.68	39.44907	-108.05191
Top Gas - Approx. Top Gas									
6,100.00	8.25	70.22	4,376.17	1,271.68	3,536.59	1,598,578.48	2,279,478.83	39.44908	-108.05186
6,200.00	6.25	70.22	4,475.36	1,275.95	3,548.47	1,598,582.42	2,279,490.83	39.44910	-108.05182
6,300.00	4.25	70.22	4,574.94	1,279.05	3,557.09	1,598,585.27	2,279,499.53	39.44910	-108.05179
6,400.00	2.25	70.22	4,674.77	1,280.97	3,562.43	1,598,587.04	2,279,504.92	39.44911	-108.05177
6,500.00	0.25	70.22	4,774.74	1,281.71	3,564.49	1,598,587.72	2,279,507.00	39.44911	-108.05176
6,512.72	0.00	0.00	4,787.47	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
Vertical									
6,600.00	0.00	0.00	4,874.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
6,700.00	0.00	0.00	4,974.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
6,800.00	0.00	0.00	5,074.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
6,900.00	0.00	0.00	5,174.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,000.00	0.00	0.00	5,274.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,100.00	0.00	0.00	5,374.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,200.00	0.00	0.00	5,474.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,300.00	0.00	0.00	5,574.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,325.26	0.00	0.00	5,600.00	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
Cameo Coals									
7,400.00	0.00	0.00	5,674.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,500.00	0.00	0.00	5,774.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,600.00	0.00	0.00	5,874.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,700.00	0.00	0.00	5,974.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,800.00	0.00	0.00	6,074.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,815.26	0.00	0.00	6,090.00	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
Rollins SS									
7,900.00	0.00	0.00	6,174.74	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
7,915.26	0.00	0.00	6,190.00	1,281.72	3,564.52	1,598,587.73	2,279,507.03	39.44911	-108.05176
TD at 7915.26 - TD									

WPX
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Project:	GV 12-07S-096W	MD Reference:	KELLY BUSHING @ 5165.00usft (H&P 318 (24' RKB) kjs)
Site:	GM 24-12 Pad	North Reference:	True
Well:	GM 543-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 03Mar14 kjs		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Top Gas (50' Radius) G1	0.00	0.00	4,290.00	1,280.98	3,562.14	1,598,587.06	2,279,504.64	39.44911	-108.05177
- plan misses target center by 40.43usft at 6019.23usft MD (4296.41 TVD, 1267.37 N, 3524.62 E)									
- Circle (radius 50.00)									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(usft)	(usft)	Name		(in)	(in)
1,720.00	1,410.47	9 5/8"		9.625	12.250

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(usft)	(usft)	Name		Lithology	(°)	(°)
1,185.61	1,090.00	Top of "G" Sand				
1,328.28	1,190.00	Base of "G" Sand				
4,745.24	3,130.00	Mesaverde				
6,012.72	4,290.00	Approx. Top Gas				
7,325.26	5,600.00	Cameo Coals				
7,815.26	6,090.00	Rollins SS				
7,915.26	6,190.00	TD				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
120.00	120.00	0.00	0.00	Start Build 4.00	
1,620.32	1,360.65	242.43	674.21	Hold 60.01 Inclination	
3,512.08	2,306.16	796.85	2,216.09	Start Drop -2.00	
6,012.72	4,290.00	1,266.99	3,523.56	Top Gas	
6,512.72	4,787.47	1,281.72	3,564.52	Vertical	
7,915.26	6,190.00	1,281.72	3,564.52	TD at 7915.26	