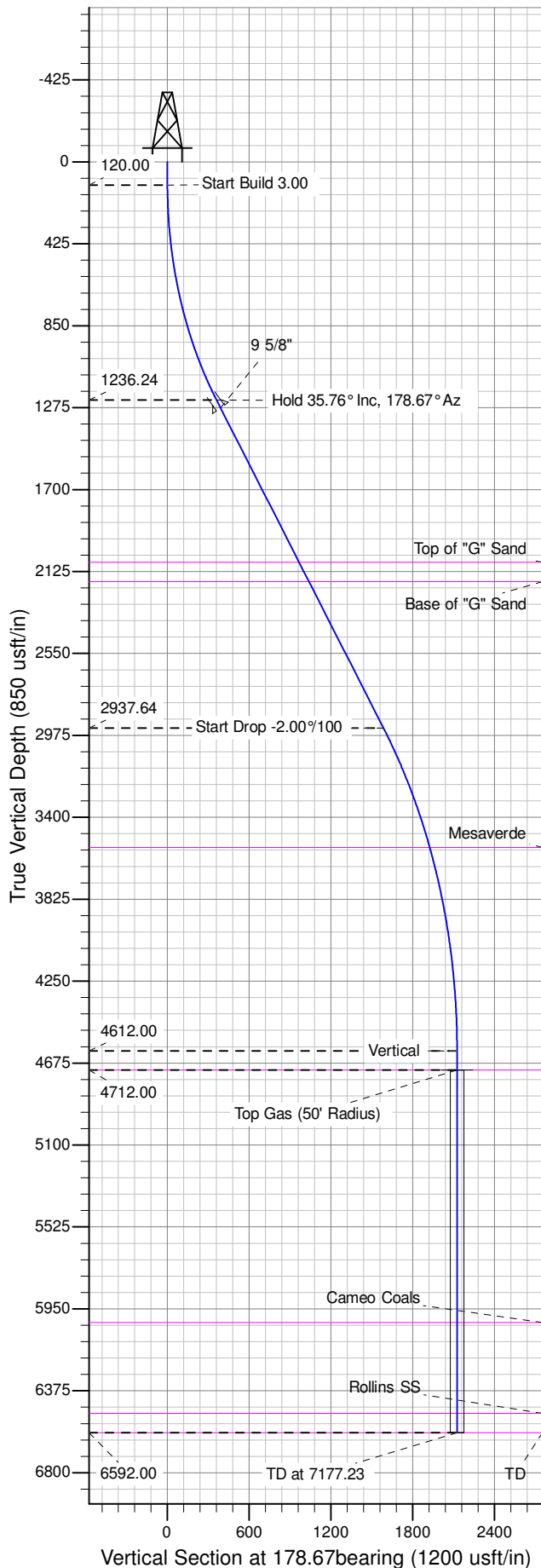
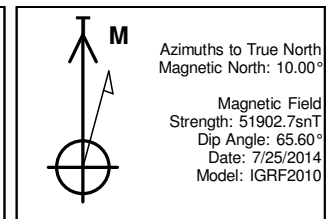
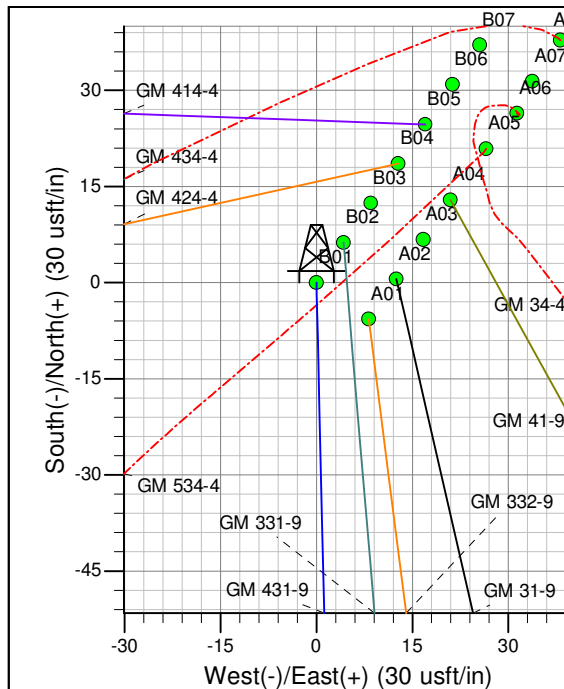
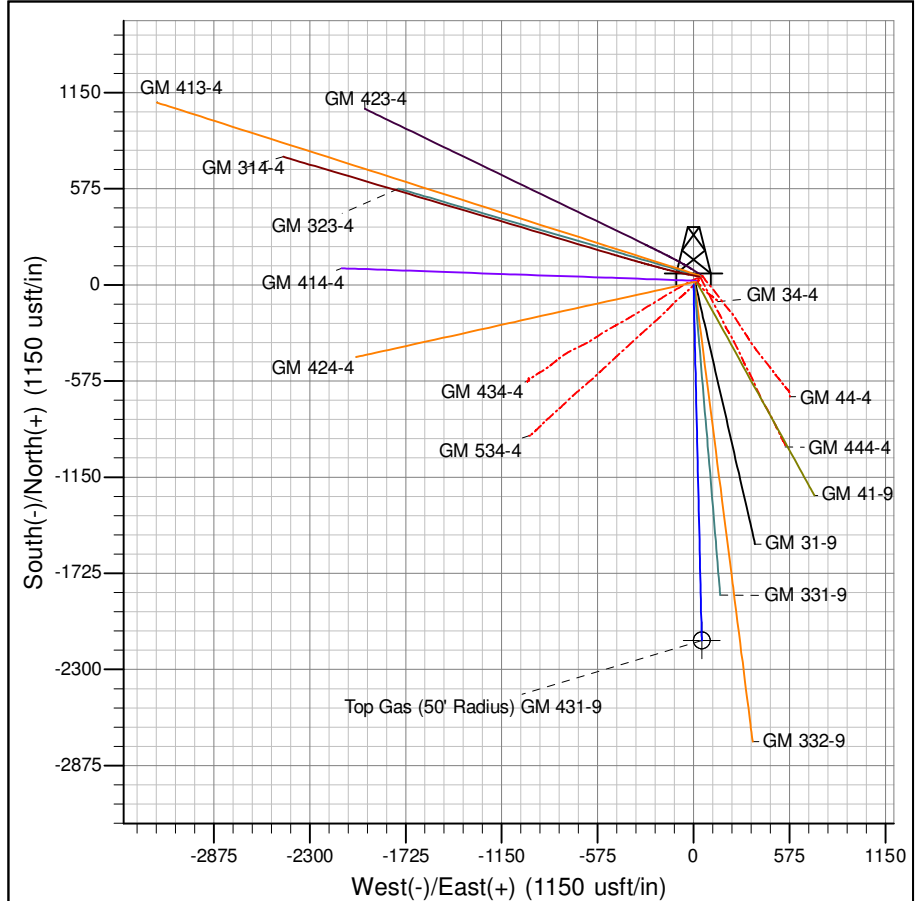




Well Name: GM 431-9
Surface Location: GM 34-4 Pad
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
Ground Elevation: 6023.00
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.00 0.00 1603639.00000 2263142.00000 39.461697 -108.110203 B01
KELLY BUSHING @ 6047.00usft (H&P 318 (24' RKB) mab)



ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation	
120.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 3.00	
1236.24	1312.16	35.76	178.67	-360.06	8.35	360.16	360.16	Hold 35.76° Inc, 178.67° Az	
2937.64	3408.98	35.76	178.67	-1585.24	36.75	1585.67	1585.67	Start Drop -2.00°/100	
4612.00	5197.23	0.00	0.00	-2125.33	49.27	2125.90	2125.90	Vertical	
4712.00	5297.23	0.00	0.00	-2125.33	49.27	2125.90	2125.90	Top Gas	
6592.00	7177.23	0.00	0.00	-2125.33	49.27	2125.90	2125.90	TD at 7177.23	



Project: GV 04-07S-096W
Site: GM 34-4 Pad
Well: GM 431-9
Design #1 25Jul14 mab

PICEANCE VLY NAD 83

GV 04-07S-096W

GM 34-4 Pad

GM 431-9 - Slot B01

Wellbore #1

Plan: Design #1 25Jul14 mab

Standard Planning Report - Geographic

25 September, 2014

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 431-9 - Slot B01
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6047.00usft (H&P 318 (24' RKB) mab)
Project:	GV 04-07S-096W	MD Reference:	KELLY BUSHING @ 6047.00usft (H&P 318 (24' RKB) mab)
Site:	GM 34-4 Pad	North Reference:	True
Well:	GM 431-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 25Jul14 mab		

Project	GV 04-07S-096W, Garfield County, CO, 04-07S-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 34-4 Pad			
Site Position:		Northing:	1,603,693.60000 usft	Latitude: 39.461851
From: Map		Easting:	2,263,194.40000 usft	Longitude: -108.110023
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.65 °

Well	GM 431-9 - Slot B01			
Well Position	+N/-S	-0.07 usft	Northing:	1,603,639.00000 usft
	+E/-W	0.05 usft	Easting:	2,263,142.00000 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	6,023.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/25/2014	10.00	65.60	51,903

Design	Design #1 25Jul14 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	-0.07	0.05	178.67

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	-0.07	0.05	0.00	0.00	0.00	0.00	
120.00	0.00	0.00	120.00	-0.07	0.05	0.00	0.00	0.00	0.00	
1,312.16	35.76	178.67	1,236.24	-360.13	8.40	3.00	3.00	0.00	178.67	
3,408.98	35.76	178.67	2,937.64	-1,585.31	36.80	0.00	0.00	0.00	0.00	
5,197.23	0.00	0.00	4,612.00	-2,125.40	49.32	2.00	-2.00	0.00	180.00	
5,297.23	0.00	0.00	4,712.00	-2,125.40	49.32	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
7,177.23	0.00	0.00	6,592.00	-2,125.40	49.32	0.00	0.00	0.00	0.00	

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 431-9 - Slot B01
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6047.00usft (H&P 318 (24' RKB) mab)
Project:	GV 04-07S-096W	MD Reference:	KELLY BUSHING @ 6047.00usft (H&P 318 (24' RKB) mab)
Site:	GM 34-4 Pad	North Reference:	True
Well:	GM 431-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 25Jul14 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	-0.07	0.05	1,603,639.00000	2,263,142.00000	39.461698	-108.110203	
120.00	0.00	0.00	120.00	-0.07	0.05	1,603,639.00000	2,263,142.00000	39.461698	-108.110203	
Start Build 3.00										
200.00	2.40	178.67	199.98	-1.74	0.09	1,603,637.32483	2,263,141.99070	39.461693	-108.110203	
400.00	8.40	178.67	399.00	-20.55	0.53	1,603,618.51289	2,263,141.88626	39.461641	-108.110201	
600.00	14.40	178.67	594.96	-60.05	1.44	1,603,579.00184	2,263,141.66689	39.461533	-108.110198	
800.00	20.40	178.67	785.72	-119.82	2.83	1,603,519.22458	2,263,141.33500	39.461369	-108.110193	
1,000.00	26.40	178.67	969.19	-199.19	4.67	1,603,439.83603	2,263,140.89422	39.461151	-108.110187	
1,200.00	32.40	178.67	1,143.35	-297.30	6.94	1,603,341.70600	2,263,140.34939	39.460881	-108.110178	
1,312.16	35.76	178.67	1,236.24	-360.13	8.40	1,603,278.86339	2,263,140.00048	39.460709	-108.110173	
Hold 35.76° Inc, 178.67° Az										
1,362.16	35.76	178.67	1,276.81	-389.34	9.08	1,603,249.64473	2,263,139.83826	39.460629	-108.110171	
9 5/8"										
1,400.00	35.76	178.67	1,307.51	-411.45	9.59	1,603,227.53004	2,263,139.71547	39.460568	-108.110169	
1,600.00	35.76	178.67	1,469.79	-528.31	12.30	1,603,110.64477	2,263,139.06651	39.460247	-108.110160	
1,800.00	35.76	178.67	1,632.08	-645.17	15.01	1,602,993.75951	2,263,138.41755	39.459926	-108.110150	
2,000.00	35.76	178.67	1,794.36	-762.03	17.72	1,602,876.87425	2,263,137.76859	39.459606	-108.110140	
2,200.00	35.76	178.67	1,956.65	-878.89	20.43	1,602,759.98899	2,263,137.11963	39.459285	-108.110131	
2,348.32	35.76	178.67	2,077.00	-965.56	22.43	1,602,673.30519	2,263,136.63836	39.459047	-108.110124	
Top of "G" Sand										
2,400.00	35.76	178.67	2,118.93	-995.76	23.13	1,602,643.10372	2,263,136.47067	39.458964	-108.110121	
2,471.56	35.76	178.67	2,177.00	-1,037.57	24.10	1,602,601.28020	2,263,136.23847	39.458849	-108.110118	
Base of "G" Sand										
2,600.00	35.76	178.67	2,281.22	-1,112.62	25.84	1,602,526.21847	2,263,135.82171	39.458643	-108.110112	
2,800.00	35.76	178.67	2,443.50	-1,229.48	28.55	1,602,409.33320	2,263,135.17275	39.458322	-108.110102	
3,000.00	35.76	178.67	2,605.78	-1,346.34	31.26	1,602,292.44794	2,263,134.52379	39.458002	-108.110092	
3,200.00	35.76	178.67	2,768.07	-1,463.20	33.97	1,602,175.56269	2,263,133.87483	39.457681	-108.110083	
3,400.00	35.76	178.67	2,930.35	-1,580.06	36.68	1,602,058.67742	2,263,133.22587	39.457360	-108.110073	
3,408.98	35.76	178.67	2,937.64	-1,585.31	36.80	1,602,053.42800	2,263,133.19673	39.457345	-108.110073	
Start Drop -2.00°/100										
3,600.00	31.94	178.67	3,096.24	-1,691.67	39.27	1,601,947.04003	2,263,132.60605	39.457053	-108.110064	
3,800.00	27.94	178.67	3,269.51	-1,791.46	41.58	1,601,847.23385	2,263,132.05192	39.456780	-108.110056	
4,000.00	23.94	178.67	3,449.32	-1,878.92	43.61	1,601,759.75653	2,263,131.56623	39.456539	-108.110049	
4,116.80	21.61	178.67	3,557.00	-1,924.12	44.66	1,601,714.54532	2,263,131.31522	39.456415	-108.110045	
Mesaverde										
4,200.00	19.94	178.67	3,634.79	-1,953.62	45.34	1,601,685.03425	2,263,131.15137	39.456334	-108.110042	
4,400.00	15.94	178.67	3,825.02	-2,015.22	46.77	1,601,623.43105	2,263,130.80934	39.456165	-108.110037	
4,600.00	11.94	178.67	4,019.09	-2,063.39	47.89	1,601,575.24706	2,263,130.54182	39.456033	-108.110033	
4,800.00	7.94	178.67	4,216.04	-2,097.91	48.69	1,601,540.71703	2,263,130.35010	39.455938	-108.110031	
5,000.00	3.94	178.67	4,414.93	-2,118.62	49.17	1,601,520.00918	2,263,130.23513	39.455881	-108.110029	
5,197.23	0.00	0.00	4,612.00	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	
Vertical										
5,200.00	0.00	0.00	4,614.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	
5,297.23	0.00	0.00	4,712.00	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	
Top Gas - Approx. Top Gas										
5,400.00	0.00	0.00	4,814.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	
5,600.00	0.00	0.00	5,014.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	
5,800.00	0.00	0.00	5,214.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	
6,000.00	0.00	0.00	5,414.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	
6,200.00	0.00	0.00	5,614.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	
6,400.00	0.00	0.00	5,814.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	
6,600.00	0.00	0.00	6,014.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028	

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 431-9 - Slot B01
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6047.00usft (H&P 318 (24' RKB) mab)
Project:	GV 04-07S-096W	MD Reference:	KELLY BUSHING @ 6047.00usft (H&P 318 (24' RKB) mab)
Site:	GM 34-4 Pad	North Reference:	True
Well:	GM 431-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 25Jul14 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
6,607.23	0.00	0.00	6,022.00	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028
Cameo Coals									
6,800.00	0.00	0.00	6,214.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028
7,000.00	0.00	0.00	6,414.77	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028
7,077.23	0.00	0.00	6,492.00	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028
Rollins SS									
7,177.23	0.00	0.00	6,592.00	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028
TD at 7177.23 - 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) G1	0.00	358.35	4,712.00	-2,125.40	49.32	1,601,513.22306	2,263,130.19745	39.455863	-108.110028
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,362.16	1,276.81	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
2,348.32	2,077.00	Top of "G" Sand				
2,471.56	2,177.00	Base of "G" Sand				
4,116.80	3,557.00	Mesaverde				
5,297.23	4,712.00	Approx. Top Gas				
6,607.23	6,022.00	Cameo Coals				
7,077.23	6,492.00	Rollins SS				
7,177.23	6,592.00	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
120.00	120.00	-0.07	0.05	Start Build 3.00	
1,312.16	1,236.24	-360.13	8.40	Hold 35.76° Inc, 178.67° Az	
3,408.98	2,937.64	-1,585.31	36.80	Start Drop -2.00°/100	
5,197.23	4,612.00	-2,125.40	49.32	Vertical	
5,297.23	4,712.00	-2,125.40	49.32	Top Gas	
7,177.23	6,592.00	-2,125.40	49.32	TD at 7177.23	