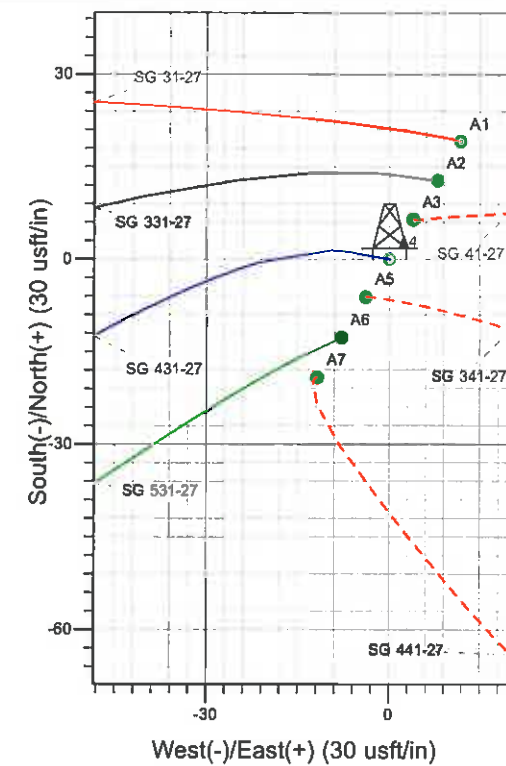
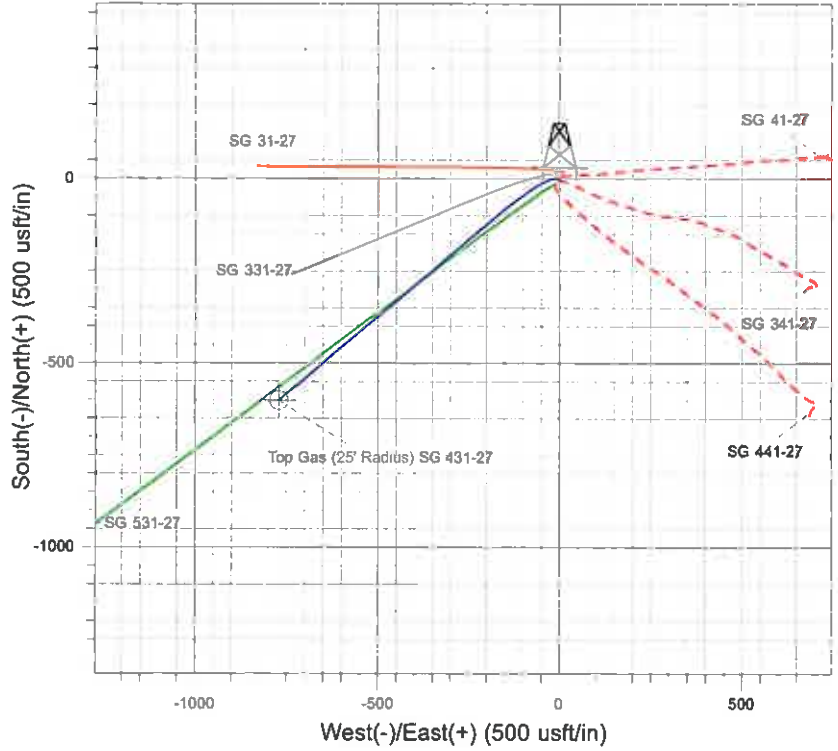
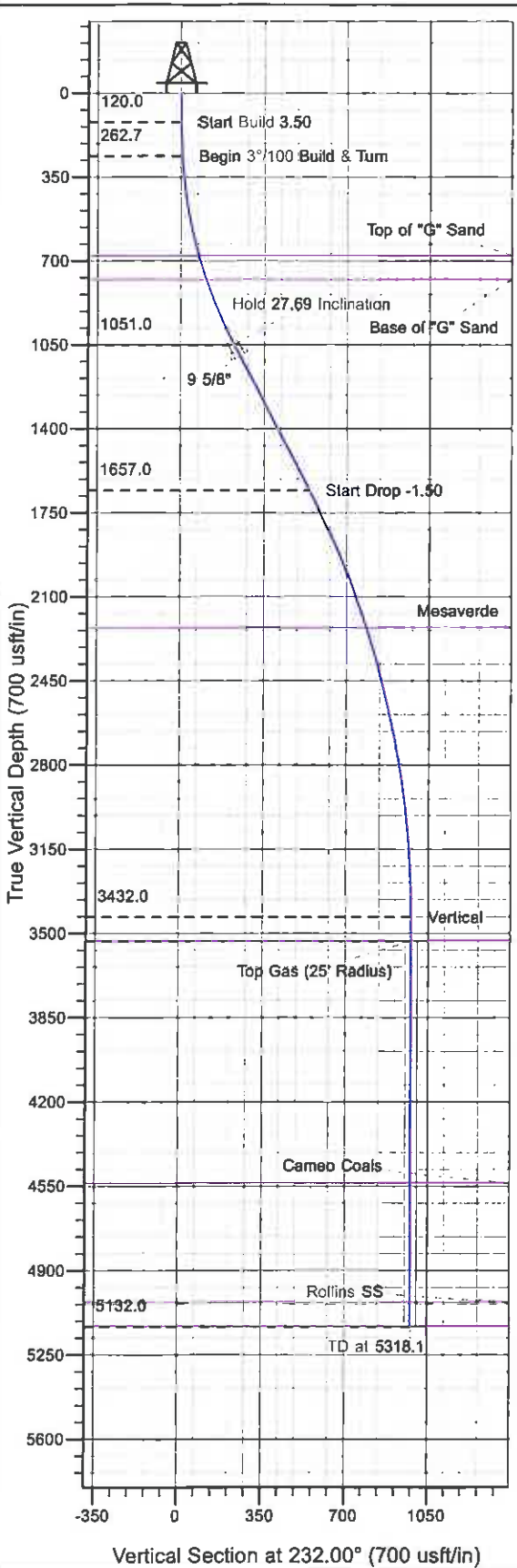




Well Name: SG 431-27
 Surface Location: SG 41-27 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 5085.0
 +N/-S 0.0 +E/-W 0.0 Northing 1586626.30 Easting 2268076.10 Latitude 39° 24' 55.426 N Longitude 108° 5' 27.656 W Slot A4
 KELLY BUSHING @ 5109.0usft (H&P (24' KB) kjs)



Project: SG 27-07S-096W
 Site: SG 41-27 Pad
 Well: SG 431-27
 Plan #1 14Dec07 kjs

M Azimuths to True North
 Magnetic North: 10.82°
 Magnetic Field
 Strength: 52575.0snT
 Dip Angle: 65.76°
 Date: 12/13/2007
 Model: IGRF2005-10

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
120.0	120.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 3.50
262.7	262.9	5.00	280.00	1.1	-6.1	4.2	6.2	Begin 3°/100 Build & Turn
1051.0	1087.7	27.69	230.09	-117.5	-191.4	223.2	229.1	Hold 27.69 Inclination
1657.0	1772.1	27.69	230.09	-321.6	-435.3	541.0	547.1	Start Drop -1.50
3432.0	3618.1	0.00	0.00	-602.3	-770.9	978.2	984.6	Vertical
3532.0	3718.1	0.00	0.00	-602.3	-770.9	978.2	984.6	Top Gas
5132.0	5318.1	0.00	0.00	-602.3	-770.9	978.2	984.6	TD at 5318.1

PICEANCE VLY NAD 83

SG 27-07S-096W

SG 41-27 Pad

SG 431-27 - Slot A4

Wellbore #1

Plan: Plan #1 14Dec07 kjs

Standard Planning Report - Geographic

27 January, 2011

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 431-27 - Slot A4
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5109.0usft (H&P (24' KB) kjs)
Project:	SG 27-07S-096W	MD Reference:	KELLY BUSHING @ 5109.0usft (H&P (24' KB) kjs)
Site:	SG 41-27 Pad	North Reference:	True
Well:	SG 431-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 14Dec07 kjs		

Project	SG 27-07S-096W, Garfield County, CO, 27-07S-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	SG 41-27 Pad					
Site Position:	From:	Map	Northing:	1,586,632.60 usft	Latitude:	39° 24' 55.489 N
			Eastng:	2,268,080.20 usft	Longitude:	108° 5' 27.606 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.634 "	

Well	SG 431-27 - Slot A4					
Well Position	+N/-S	0.0 usft	Northing:	1,586,626.30 usft	Latitude:	39° 24' 55.426 N
	+E/-W	0.0 usft	Eastng:	2,268,076.10 usft	Longitude:	108° 5' 27.656 W
Position Uncertainty	0.0 usft	Wellhead Elevation:		Ground Level:	5,085.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	12/13/2007	10.817	65.757	52,575

Design	Plan #1 14Dec07 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	232.00

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.000	
120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.00	0.00	0.000	
262.9	5.00	280.00	262.7	1.1	-6.1	3.50	3.50	0.00	280.000	
1,087.7	27.69	230.09	1,051.0	-117.5	-181.4	3.00	2.75	-6.05	-58.145	
1,772.1	27.69	230.09	1,657.0	-321.6	-435.3	0.00	0.00	0.00	0.000	
3,618.1	0.00	0.00	3,432.0	-602.3	-770.9	1.50	-1.50	0.00	180.000	
5,318.1	0.00	0.00	5,132.0	-602.3	-770.9	0.00	0.00	0.00	0.000	TD / PBHL SG 431-27

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 431-27 - Slot A4
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5109.0usft (H&P (24' KB) kjs)
Project:	SG 27-07S-096W	MD Reference:	KELLY BUSHING @ 5109.0usft (H&P (24' KB) kjs)
Site:	SG 41-27 Pad	North Reference:	True
Well:	SG 431-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 14Dec07 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	
0.0	0.00	0.00	0.0	0.0	0.0	1,586,626.30	2,268,076.10	39° 24' 55.426 N	108° 5' 27.656 W	
120.0	0.00	0.00	120.0	0.0	0.0	1,586,626.30	2,268,076.10	39° 24' 55.426 N	108° 5' 27.656 W	
Start Build 3.50										
262.9	5.00	280.00	262.7	1.1	-6.1	1,586,627.55	2,268,070.00	39° 24' 55.437 N	108° 5' 27.734 W	
Begin 3"/100 Build & Turn										
684.3	15.85	237.11	677.0	-27.1	-72.8	1,586,601.28	2,268,002.53	39° 24' 55.158 N	108° 5' 28.584 W	
Top of "G" Sand										
789.1	18.90	234.48	777.0	-44.7	-98.7	1,586,584.39	2,267,976.21	39° 24' 54.984 N	108° 5' 28.913 W	
Base of "G" Sand										
1,087.7	27.69	230.09	1,051.0	-117.5	-191.4	1,586,514.32	2,267,881.43	39° 24' 54.265 N	108° 5' 30.095 W	
Hold 27.69 Inclination										
1,138.0	27.69	230.09	1,095.5	-132.5	-209.3	1,586,499.83	2,267,863.07	39° 24' 54.116 N	108° 5' 30.323 W	
9 5/8"										
1,772.1	27.69	230.09	1,657.0	-321.6	-435.3	1,586,317.29	2,267,631.78	39° 24' 52.248 N	108° 5' 33.203 W	
Start Drop -1.50										
2,392.2	18.39	230.09	2,227.0	-477.1	-621.3	1,586,167.13	2,267,441.50	39° 24' 50.710 N	108° 5' 35.572 W	
Mesaverde										
3,618.1	0.00	0.00	3,432.0	-602.3	-770.9	1,586,046.30	2,267,288.40	39° 24' 49.473 N	108° 5' 37.478 W	
Vertical										
3,718.1	0.00	0.00	3,532.0	-602.3	-770.9	1,586,046.30	2,267,288.40	39° 24' 49.473 N	108° 5' 37.478 W	
Top Gas - Approx. Top Gas										
4,723.1	0.00	0.00	4,537.0	-602.3	-770.9	1,586,046.30	2,267,288.40	39° 24' 49.473 N	108° 5' 37.478 W	
Cameo Coals										
5,218.1	0.00	0.00	5,032.0	-602.3	-770.9	1,586,046.30	2,267,288.40	39° 24' 49.473 N	108° 5' 37.478 W	
Rollins SS										
5,318.1	0.00	0.00	5,132.0	-602.3	-770.9	1,586,046.30	2,267,288.40	39° 24' 49.473 N	108° 5' 37.478 W	
TD										

Design Targets										
Target Name	Dip Angle (")	Dip Dir. (")	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Top Gas (25' Radius) SC - hit/miss target - Shape - Circle (radius 25.0)	0.00	0.00	3,532.0	-602.3	-770.9	1,586,046.30	2,267,288.40	39° 24' 49.473 N	108° 5' 37.478 W	
TD / PBHL SG 431-27 - plan hits target center - Point	0.00	0.00	5,132.0	-602.3	-770.9	1,586,046.30	2,267,288.40	39° 24' 49.473 N	108° 5' 37.478 W	

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,138.0	1,095.5	9 5/8"	9.625	12.250	

Williams
 Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 431-27 - Slot A4
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Project:	SG 27-07S-096W	MD Reference:	KELLY BUSHING @ 5109.0usft (H&P (24' KB) kjs)
Site:	SG 41-27 Pad	North Reference:	True
Well:	SG 431-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 14Dec07 kjs		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
684.3	677.0	Top of "G" Sand			
789.1	777.0	Base of "G" Sand			
2,392.2	2,227.0	Mesaverde			
3,718.1	3,532.0	Approx. Top Gas			
4,723.1	4,537.0	Cameo Coals			
5,218.1	5,032.0	Rollins SS			
5,318.1	5,132.0	TD			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.0	120.0	0.0	0.0	Start Build 3.50
262.9	262.7	1.1	-6.1	Begin 3°/100 Bulld & Turn
1,087.7	1,051.0	-117.5	-191.4	Hold 27.69 Inclination
1,772.1	1,657.0	-321.6	-435.3	Start Drop -1.50
3,618.1	3,432.0	-602.3	-770.9	Vertical
3,718.1	3,532.0	-602.3	-770.9	Top Gas
5,318.1	5,132.0	-602.3	-770.9	TD at 5318.1