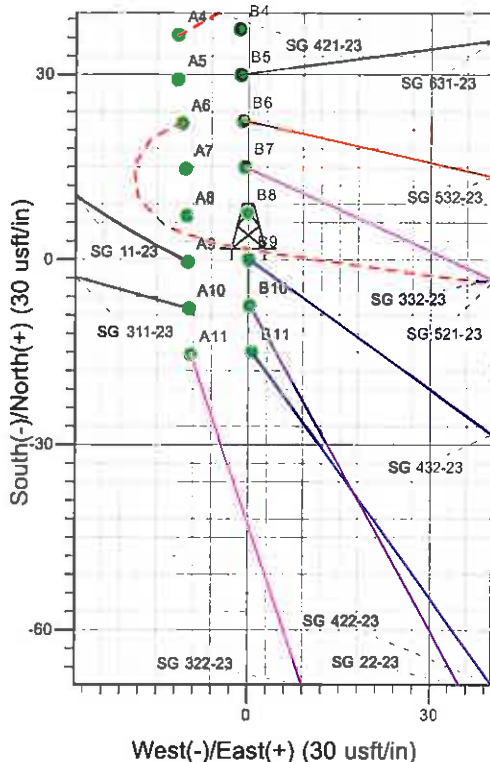
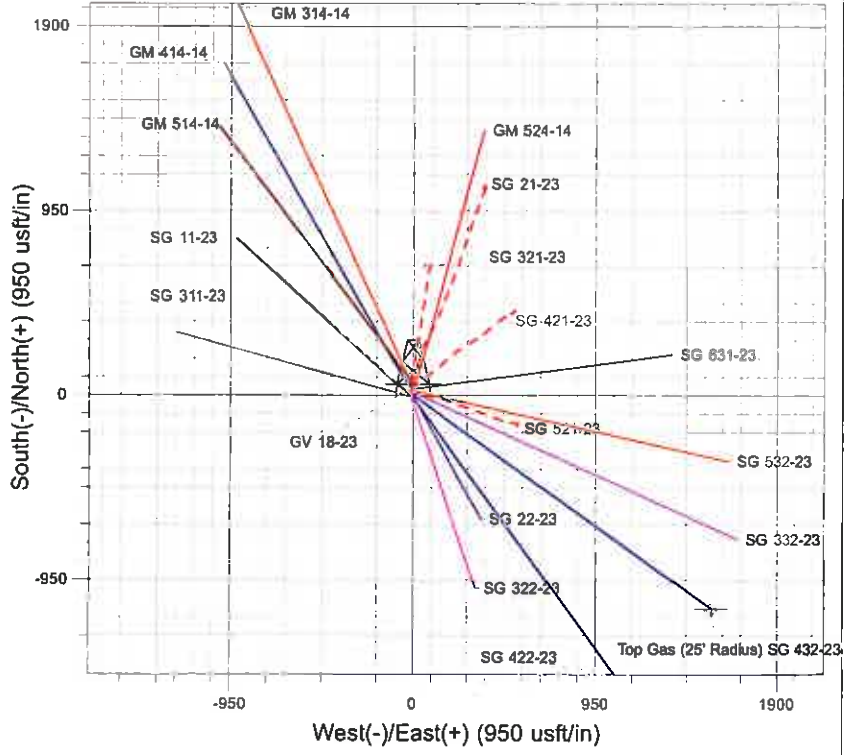
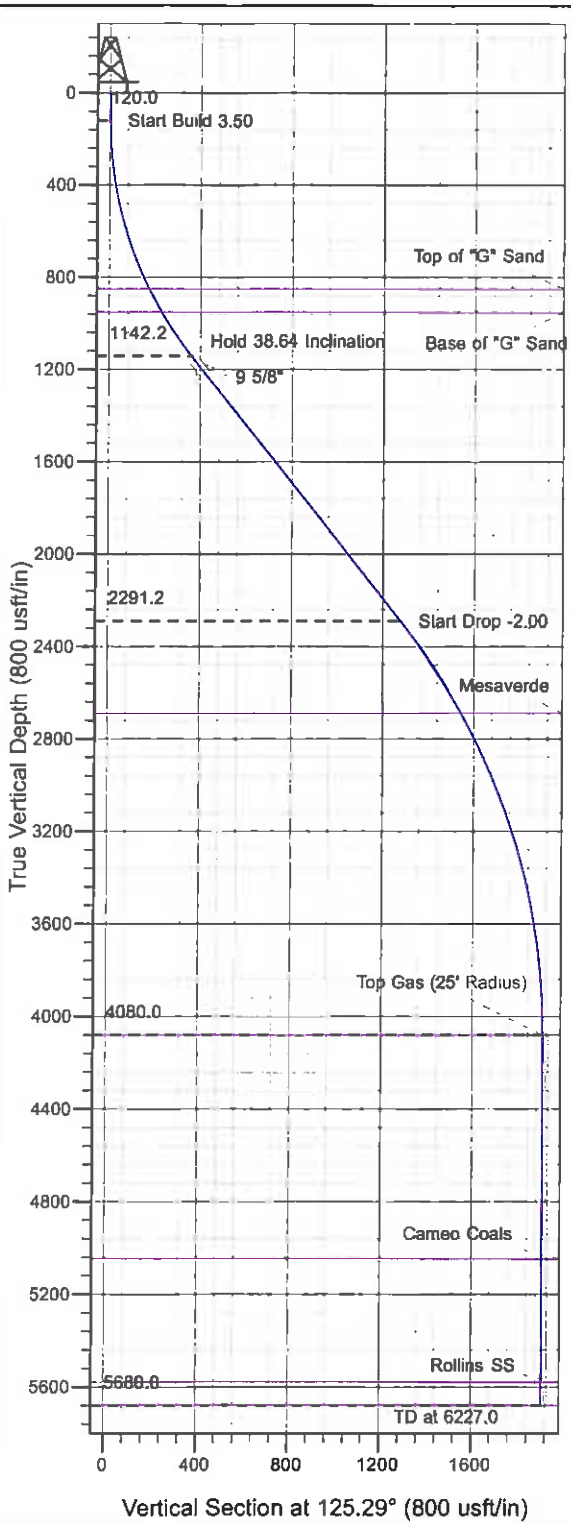




Well Name: SG 432-23
 Surface Location: GV 18-23 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 5134.0
 +N/-S 0.0 +E/-W 0.0 Northing 1590861.60 Easting 2270839.70 Latitude 39° 25' 38.047 N Longitude 108° 4' 53.989 W Slot B9
 WELL @ 5158.0usft (Original Well Elev)



Project: SG 23-07S-096W
 Site: GV 18-23 Pad
 Well: SG 432-23
 Design #1 06Apr11 kjs

M Azimuths to True North
 Magnetic North: 10.38°
 Magnetic Field
 Strength: 52260.2snT
 Dip Angle: 65.68°
 Date: 4/6/2011
 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
1142.2	1224.0	38.64	125.29	-207.0	292.5	358.3	358.3	Hold 38.64 Inclination
2291.2	2695.0	38.64	125.29	-737.7	1042.2	1276.9	1276.9	Start Drop -2.00
4080.0	4627.0	0.00	0.00	-1100.0	1554.1	1904.0	1904.0	Top Gas
5680.0	6227.0	0.00	0.00	-1100.0	1554.1	1904.0	1904.0	TD at 6227.0

PICEANCE VLY NAD 83

SG 23-07S-096W

GV 18-23 Pad

SG 432-23 - Slot B9

Wellbore #1

Plan: Design #1 06Apr11 kjs

Standard Planning Report - Geographic

01 June, 2011

Williams
 Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 432-23 - Slot B9
Company:	PICEANCE VLY NAD 83	TVD Reference:	WELL @ 5158.0usft (Original Well Elev)
Project:	SG 23-07S-096W	MD Reference:	WELL @ 5158.0usft (Original Well Elev)
Site:	GV 18-23 Pad	North Reference:	True
Well:	SG 432-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Apr11 kjs		

Project	SG 23-07S-096W, Garfield County, CO, 23-07S-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	GV 18-23 Pad					
Site Position:	From:	Map	Northing:	1,590,884.00 usft	Latitude:	39° 25' 38.266 N
	Position Uncertainty:	0.0 usft	Eastng:	2,270,829.40 usft	Longitude:	108° 4' 54.128 W
			Slot Radius:	13.200 in	Grid Convergence:	-1.628 °

Well	SG 432-23 - Slot B9					
Well Position	+N/-S	0.0 usft	Northing:	1,590,861.60 usft	Latitude:	39° 25' 38.047 N
	+E/-W	0.0 usft	Eastng:	2,270,839.70 usft	Longitude:	108° 4' 53.989 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	5,134.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	4/6/2011	10.382	65.684	52,260

Design	Design #1 06Apr11 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	125.29

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	
1,224.0	38.64	125.29	1,142.2	-207.0	292.5	3.50	3.50	0.00	125.293	
2,695.0	38.64	125.29	2,291.2	-737.7	1,042.2	0.00	0.00	0.00	0.000	
4,627.0	0.00	0.00	4,080.0	-1,100.0	1,554.1	2.00	-2.00	0.00	180.000	Top Gas (25' Radius)
6,227.0	0.00	0.00	5,680.0	-1,100.0	1,554.1	0.00	0.00	0.00	0.000	

Williams
 Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Coordinate Reference:	Well SG 432-23 - Slot B9
Company:	PICEANCE VLY NAD 83	TVD Reference:	WELL @ 5158.0usft (Original Well Elev)
Project:	SG 23-07S-096W	MD Reference:	WELL @ 5158.0usft (Original Well Elev)
Site:	GV 18-23 Pad	North Reference:	True
Well:	SG 432-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Apr11 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	1,590,861.60	2,270,839.70	39° 25' 38.047 N	108° 4' 53.989 W	
120.0	0.00	0.00	120.0	0.0	0.0	1,590,861.60	2,270,839.70	39° 25' 38.047 N	108° 4' 53.989 W	
Start Build 3.50										
876.7	26.48	125.29	850.0	-99.2	140.2	1,590,758.41	2,270,977.02	39° 25' 37.066 N	108° 4' 52.202 W	
Top of "G" Sand										
990.4	30.47	125.29	950.0	-130.6	184.5	1,590,725.83	2,271,020.38	39° 25' 36.757 N	108° 4' 51.638 W	
Base of "G" Sand										
1,224.0	38.64	125.29	1,142.2	-207.0	292.5	1,590,646.34	2,271,126.17	39° 25' 36.001 N	108° 4' 50.262 W	
Hold 38.64 Inclination										
1,324.0	38.64	125.29	1,220.3	-243.1	343.5	1,590,608.82	2,271,176.11	39° 25' 35.644 N	108° 4' 49.612 W	
9 5/8"										
2,695.0	38.64	125.29	2,291.2	-737.7	1,042.2	1,590,094.59	2,271,860.47	39° 25' 30.756 N	108° 4' 40.708 W	
Start Drop -2.00										
3,175.7	29.03	125.29	2,690.0	-892.2	1,260.4	1,589,934.03	2,272,074.16	39° 25' 29.230 N	108° 4' 37.927 W	
Mesaverde										
4,627.0	0.00	0.00	4,080.0	-1,100.0	1,554.1	1,589,717.90	2,272,361.80	39° 25' 27.175 N	108° 4' 34.185 W	
Top Gas - Approx. Top Gas										
5,597.0	0.00	0.00	5,050.0	-1,100.0	1,554.1	1,589,717.90	2,272,361.80	39° 25' 27.175 N	108° 4' 34.185 W	
Cameo Coals										
6,127.0	0.00	0.00	5,580.0	-1,100.0	1,554.1	1,589,717.90	2,272,361.80	39° 25' 27.175 N	108° 4' 34.185 W	
Rollins SS										
6,227.0	0.00	0.00	5,680.0	-1,100.0	1,554.1	1,589,717.90	2,272,361.80	39° 25' 27.175 N	108° 4' 34.185 W	
TD at 6227.0 - 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 - plan hits target center - Circle (radius 25.0)	0.00	0.00	4,080.0	-1,100.0	1,554.1	1,589,717.90	2,272,361.80	39° 25' 27.175 N	108° 4' 34.185 W	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)		
1,324.0	1,220.3	9 5/8"	9.625	12.250		

Williams
 Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 432-23 - Slot B9
Company:	PICEANCE VLY NAD 83	TVD Reference:	WELL @ 5158.0usft (Original Well Elev)
Project:	SG 23-07S-096W	MD Reference:	WELL @ 5158.0usft (Original Well Elev)
Site:	GV 18-23 Pad	North Reference:	True
Well:	SG 432-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 06Apr11 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
876.7	850.0	Top of "G" Sand				
990.4	950.0	Base of "G" Sand				
3,175.7	2,690.0	Mesaverde				
4,627.0	4,080.0	Approx. Top Gas				
5,597.0	5,050.0	Cameo Coals				
6,127.0	5,580.0	Rollins SS				
6,227.0	5,680.0	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	
1,224.0	1,142.2	-207.0	292.5	Hold 38.64 Inclination	
2,695.0	2,291.2	-737.7	1,042.2	Start Drop -2.00	
4,627.0	4,080.0	-1,100.0	1,554.1	Top Gas	
6,227.0	5,680.0	-1,100.0	1,554.1	TD at 6227.0	