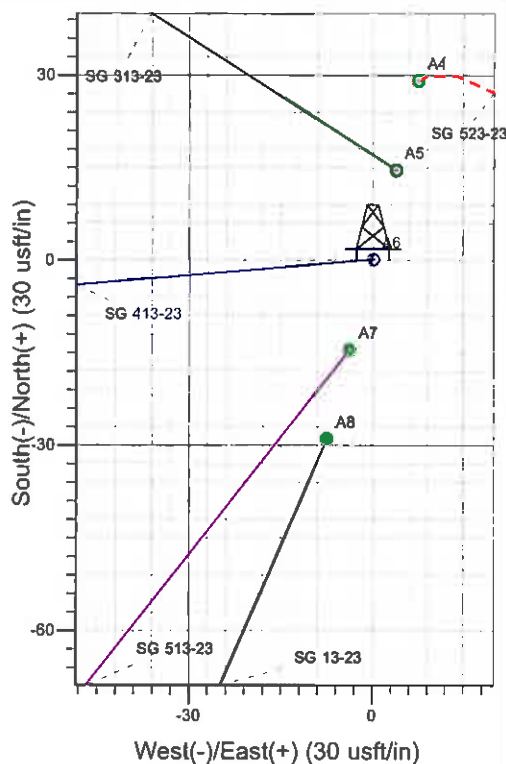
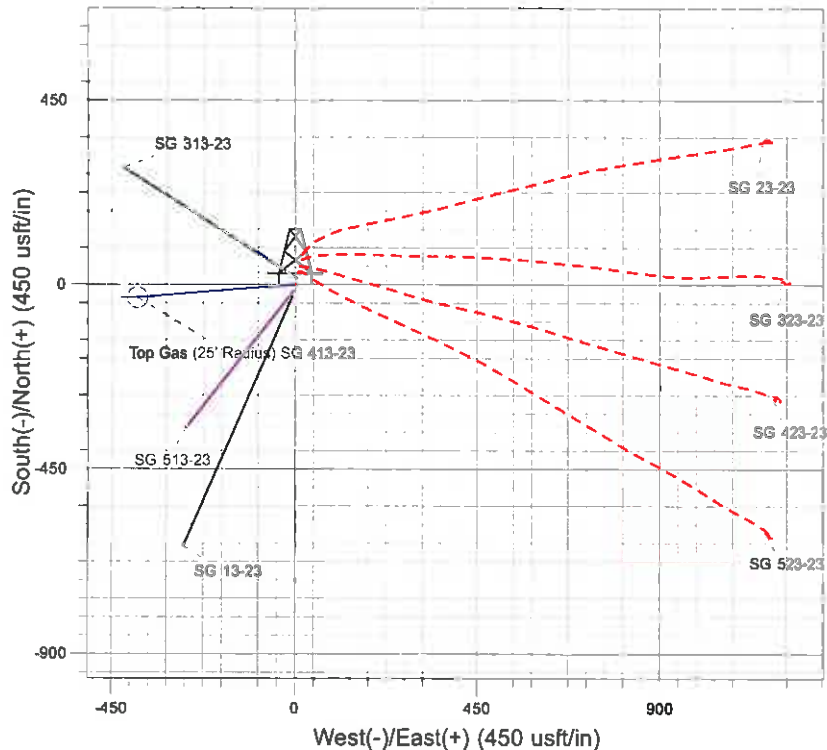
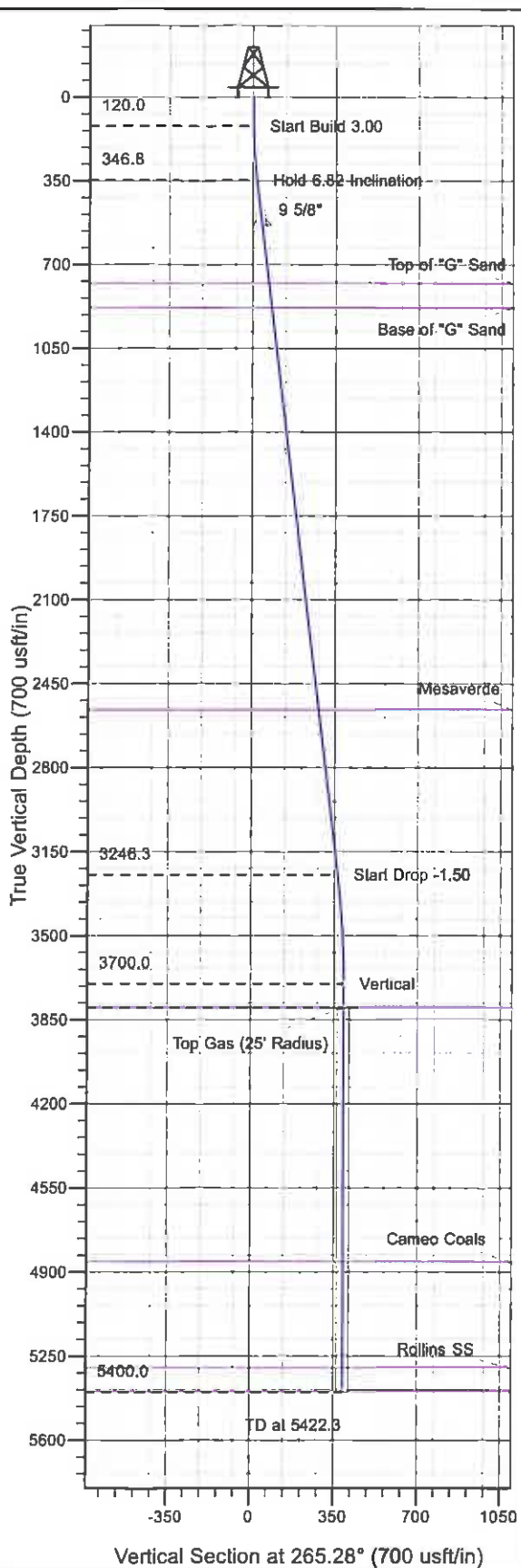




Well Name: SG 413-23
 Surface Location: SG 23-23 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 5065.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1588861.70 2270667.80 39° 25' 18.240 N 108° 4' 55.454 W A6
 WELL @ 5089.0usft (H&P 280 (24' RKB) kjs)



Project: SG 23-07S-096W
 Site: SG 23-23 Pad
 Well: SG 413-23
 Design #1 22Dec10 kjs

Azimuths to True North
 Magnetic North: 10.42°
 Magnetic Field
 Strength: 52285.6snT
 Dip Angle: 65.69°
 Date: 12/22/2010
 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 3.00
346.8	347.4	6.82	265.28	-1.1	-13.5	13.5	13.5	Hold 6.82 Inclination
3246.3	3267.5	6.82	265.28	-29.7	-359.1	360.3	360.3	Start Drop -1.50
3700.0	3722.3	0.00	0.00	-31.9	-386.1	387.4	387.4	Vertical
3800.0	3822.3	0.00	0.00	-31.9	-386.1	387.4	387.4	Top Gas
5400.0	5422.3	0.00	0.00	-31.9	-386.1	387.4	387.4	TD at 5422.3

PICEANCE VLY NAD 83

SG 23-07S-096W

SG 23-23 Pad

SG 413-23 - Slot A6

Wellbore #1

Plan: Design #1 22Dec10 kjs

Standard Planning Report - Geographic

16 February, 2011

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 413-23 - Slot A6
Company:	PICEANCE VLY NAD 83	TVD Reference:	WELL @ 5089.0usft (H&P 280 (24' RKB) kjs)
Project:	SG 23-07S-096W	MD Reference:	WELL @ 5089.0usft (H&P 280 (24' RKB) kjs)
Site:	SG 23-23 Pad	North Reference:	True
Well:	SG 413-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 22Dec10 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	SG 23-23 Pad		
Site Position:		Northing:	1,588,829.90 usft
From:	Map	Easting:	2,270,658.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in
		Latitude:	39° 25' 17.924 N
		Longitude:	108° 4' 55.563 W
		Grid Convergence:	-1.629 °

Well	SG 413-23 - Slot A6		
Well Position	+N/-S	0.0 usft	Latitude: 39° 25' 18.240 N
	+E/-W	0.0 usft	Longitude: 108° 4' 55.454 W
Position Uncertainty		0.0 usft	Ground Level: 5,065.0 usft
		Wellhead Elevation:	

Wellbore	Wellbore #1		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	12/22/2010	10.419	65.687	52,286

Design	Design #1 22Dec10 kjs		
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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	265.28

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	
347.4	6.82	265.28	346.8	-1.1	-13.5	3.00	3.00	0.00	265.279	
3,267.5	6.82	265.28	3,246.3	-29.7	-359.1	0.00	0.00	0.00	0.000	
3,722.3	0.00	0.00	3,700.0	-31.9	-386.1	1.50	-1.50	0.00	180.000	
3,822.3	0.00	0.00	3,800.0	-31.9	-386.1	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
5,422.3	0.00	0.00	5,400.0	-31.9	-386.1	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 413-23 - Slot A6
Company:	PICEANCE VLY NAD 83	TVD Reference:	WELL @ 5089.0usft (H&P 280 (24' RKB) kjs)
Project:	SG 23-07S-096W	MD Reference:	WELL @ 5089.0usft (H&P 280 (24' RKB) kjs)
Site:	SG 23-23 Pad	North Reference:	True
Well:	SG 413-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 22Dec10 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	1,588,861.70	2,270,667.80	39° 25' 18.240 N	108° 4' 55.454 W
120.0	0.00	0.00	120.0	0.0	0.0	1,588,861.70	2,270,667.80	39° 25' 18.240 N	108° 4' 55.454 W
Start Build 3.00									
347.4	6.82	265.28	346.8	-1.1	-13.5	1,588,860.97	2,270,654.30	39° 25' 18.229 N	108° 4' 55.626 W
Hold 6.82 Inclination									
542.0	6.82	265.28	540.1	-3.0	-36.5	1,588,859.72	2,270,631.22	39° 25' 18.211 N	108° 4' 55.920 W
9 5/8"									
783.6	6.82	265.28	780.0	-5.4	-65.1	1,588,858.17	2,270,602.57	39° 25' 18.187 N	108° 4' 56.284 W
Top of "G" Sand									
884.3	6.82	265.28	880.0	-6.4	-77.0	1,588,857.53	2,270,590.62	39° 25' 18.178 N	108° 4' 56.436 W
Base of "G" Sand									
2,576.3	6.82	265.28	2,560.0	-22.9	-277.3	1,588,846.68	2,270,389.97	39° 25' 18.014 N	108° 4' 58.988 W
Mesaverde									
3,267.5	6.82	265.28	3,246.3	-29.7	-359.1	1,588,842.25	2,270,308.00	39° 25' 17.947 N	108° 5' 0.031 W
Start Drop -1.50									
3,722.3	0.00	0.00	3,700.0	-31.9	-386.1	1,588,840.80	2,270,281.00	39° 25' 17.925 N	108° 5' 0.374 W
Vertical									
3,822.3	0.00	0.00	3,800.0	-31.9	-386.1	1,588,840.80	2,270,281.00	39° 25' 17.925 N	108° 5' 0.374 W
Top Gas - Approx. Top Gas									
4,882.3	0.00	0.00	4,860.0	-31.9	-386.1	1,588,840.80	2,270,281.00	39° 25' 17.925 N	108° 5' 0.374 W
Cameo Coals									
5,322.3	0.00	0.00	5,300.0	-31.9	-386.1	1,588,840.80	2,270,281.00	39° 25' 17.925 N	108° 5' 0.374 W
Rollins SS									
5,422.3	0.00	0.00	5,400.0	-31.9	-386.1	1,588,840.80	2,270,281.00	39° 25' 17.925 N	108° 5' 0.374 W
TD at 5422.3 - TD									

Design Targets									
Target Name	Dip Angle (")	Dip Dir. (")	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Top Gas (25' Radius) SC	0.00	0.00	3,800.0	-31.9	-386.1	1,588,840.80	2,270,281.00	39° 25' 17.925 N	108° 5' 0.374 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
542.0	540.1	9 5/8"	9.625	12.250	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 413-23 - Slot A6
Company:	PICEANCE VLY NAD 83	TVD Reference:	WELL @ 5089.0usft (H&P 280 (24' RKB) kjs)
Project:	SG 23-07S-096W	MD Reference:	WELL @ 5089.0usft (H&P 280 (24' RKB) kjs)
Site:	SG 23-23 Pad	North Reference:	True
Well:	SG 413-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 22Dec10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
783.6	780.0	Top of "G" Sand				
884.3	880.0	Base of "G" Sand				
2,576.3	2,560.0	Mesaverde				
3,822.3	3,800.0	Approx. Top Gas				
4,882.3	4,860.0	Cameo Coals				
5,322.3	5,300.0	Rollins SS				
5,422.3	5,400.0	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
120.0	120.0	0.0	0.0	Start Build 3.00	
347.4	346.8	-1.1	-13.5	Hold 6.82 Inclination	
3,267.5	3,246.3	-29.7	-359.1	Start Drop -1.50	
3,722.3	3,700.0	-31.9	-386.1	Vertical	
3,822.3	3,800.0	-31.9	-386.1	Top Gas	
5,422.3	5,400.0	-31.9	-386.1	TD at 5422.3	