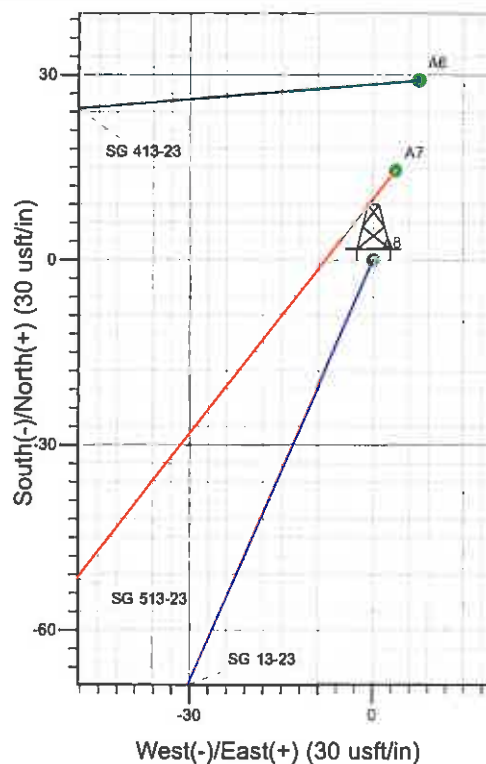
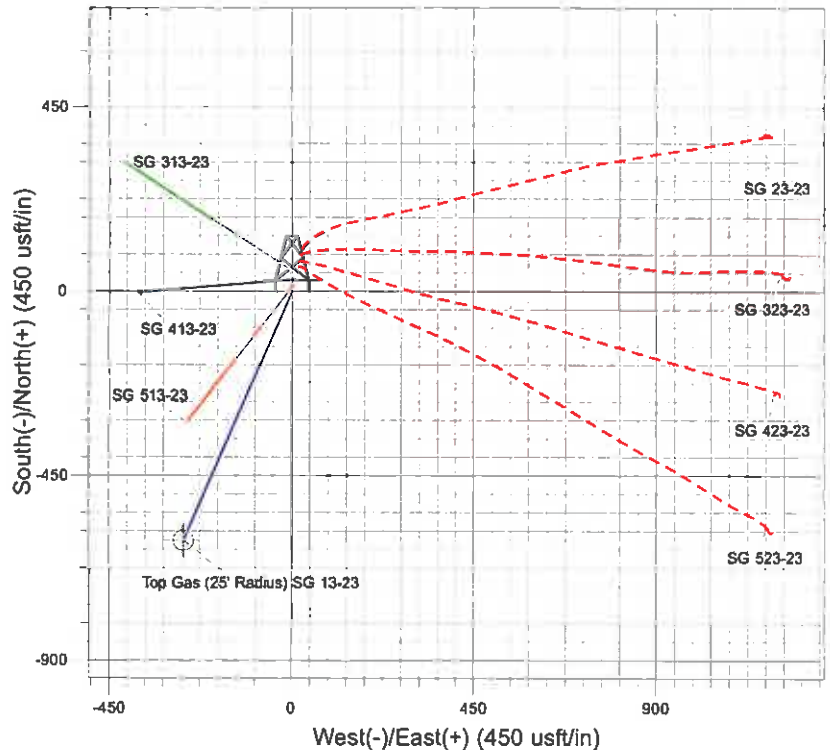
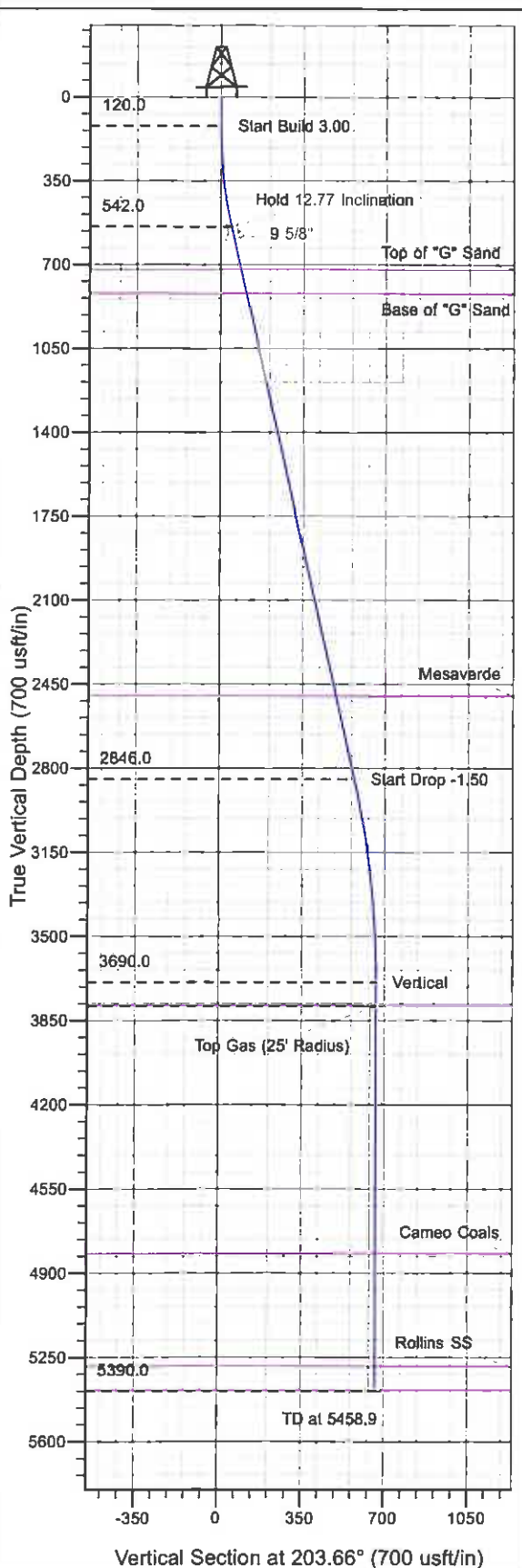




Well Name: SG 13-23
 Surface Location: SG 23-23 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 5065.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slat
 0.0 0.0 1588832.80 2270659.50 39° 25' 17.953 N 108° 4' 55.550 W A8
 WELL @ 5089.0usft (H&P 280 (24' RKB) kjs)



Project: SG 23-07S-096W
 Site: SG 23-23 Pad
 Well: SG 13-23
 Design #1 22Dec10 kjs

M Azimuths to True North
 Magnetic North: 10.42°
 Magnetic Field
 Strength: 52285.6nT
 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
542.0	545.5	12.77	203.66	-43.2	-18.9	47.2	47.2	Hold 12.77 Inclination
2846.0	2907.9	12.77	203.66	-521.4	-228.5	569.2	569.2	Start Drop -1.50
3690.0	3758.9	0.00	0.00	-607.8	-266.3	663.6	663.6	Vertical
3790.0	3858.9	0.00	0.00	-607.8	-266.3	663.6	663.6	Top Gas
5390.0	5458.9	0.00	0.00	-607.8	-266.3	663.6	663.6	TD at 5458.9

PICEANCE VLY NAD 83

SG 23-07S-096W

SG 23-23 Pad

SG 13-23 - Slot A8

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 13-23 - Slot A8
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 13-23	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 13-23 - Slot A8		
Well Position	+N/-S	0.0 usft	Northing: 1,588,832.80 usft
	+E/-W	0.0 usft	Easting: 2,270,659.50 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 39° 25' 17.953 N
			Longitude: 108° 4' 55.550 W
			Ground Level: 5,065.0 usft

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

Design	Design #1 22Dec10 kjs		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			203.66

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
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	
545.5	12.77	203.66	542.0	-43.2	-18.9	3.00	3.00	0.00	203.662	
2,907.9	12.77	203.66	2,846.0	-521.4	-228.5	0.00	0.00	0.00	0.000	
3,758.9	0.00	0.00	3,690.0	-607.8	-266.3	1.50	-1.50	0.00	180.000	
3,858.9	0.00	0.00	3,790.0	-607.8	-266.3	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
5,458.9	0.00	0.00	5,390.0	-607.8	-266.3	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 13-23 - Slot A8
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 13-23	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	1,588,832.80	2,270,659.50	39° 25' 17.953 N	108° 4' 55.550 W	
120.0	0.00	0.00	120.0	0.0	0.0	1,588,832.80	2,270,659.50	39° 25' 17.953 N	108° 4' 55.550 W	
Start Build 3.00										
545.5	12.77	203.66	542.0	-43.2	-18.9	1,588,790.11	2,270,639.33	39° 25' 17.525 N	108° 4' 55.791 W	
Hold 12.77 Inclination										
596.0	12.77	203.66	591.2	-53.5	-23.4	1,588,780.03	2,270,634.57	39° 25' 17.424 N	108° 4' 55.848 W	
9 5/8"										
728.0	12.77	203.66	720.0	-80.2	-35.1	1,588,753.65	2,270,622.11	39° 25' 17.160 N	108° 4' 55.997 W	
Top of "G" Sand										
830.6	12.77	203.66	820.0	-100.9	-44.2	1,588,733.17	2,270,612.43	39° 25' 16.955 N	108° 4' 56.113 W	
Base of "G" Sand										
2,553.1	12.77	203.66	2,500.0	-449.6	-197.0	1,588,389.03	2,270,449.82	39° 25' 13.509 N	108° 4' 58.060 W	
Mesaverde										
2,907.9	12.77	203.66	2,846.0	-521.4	-228.5	1,588,318.16	2,270,416.34	39° 25' 12.800 N	108° 4' 58.461 W	
Start Drop -1.50										
3,758.9	0.00	0.00	3,690.0	-607.8	-266.3	1,588,232.80	2,270,376.00	39° 25' 11.945 N	108° 4' 58.944 W	
Vertical										
3,858.9	0.00	0.00	3,790.0	-607.8	-266.3	1,588,232.80	2,270,376.00	39° 25' 11.945 N	108° 4' 58.944 W	
Top Gas - Approx. Top Gas										
4,888.9	0.00	0.00	4,820.0	-607.8	-266.3	1,588,232.80	2,270,376.00	39° 25' 11.945 N	108° 4' 58.944 W	
Cameo Coals										
5,358.9	0.00	0.00	5,290.0	-607.8	-266.3	1,588,232.80	2,270,376.00	39° 25' 11.945 N	108° 4' 58.944 W	
Rollins SS										
5,458.9	0.00	0.00	5,390.0	-607.8	-266.3	1,588,232.80	2,270,376.00	39° 25' 11.945 N	108° 4' 58.944 W	
TD at 5458.9 - 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	3,790.0	-607.8	-266.3	1,588,232.80	2,270,376.00	39° 25' 11.945 N	108° 4' 58.944 W	
- plan hits target center										
- Circle (radius 25.0)										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
596.0	591.2	9 5/8"	9.625	12.250	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 13-23 - Slot A8
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 13-23	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 (°)
728.0	720.0	Top of "G" Sand			
830.6	820.0	Base of "G" Sand			
2,553.1	2,500.0	Mesaverde			
3,858.9	3,790.0	Approx. Top Gas			
4,888.9	4,820.0	Cameo Coals			
5,358.9	5,290.0	Rollins SS			
5,458.9	5,390.0	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	
545.5	542.0	-43.2	-18.9	Hold 12.77 Inclination	
2,907.9	2,846.0	-521.4	-228.5	Start Drop -1.50	
3,758.9	3,690.0	-607.8	-266.3	Vertical	
3,858.9	3,790.0	-607.8	-266.3	Top Gas	
5,458.9	5,390.0	-607.8	-266.3	TD at 5458.9	