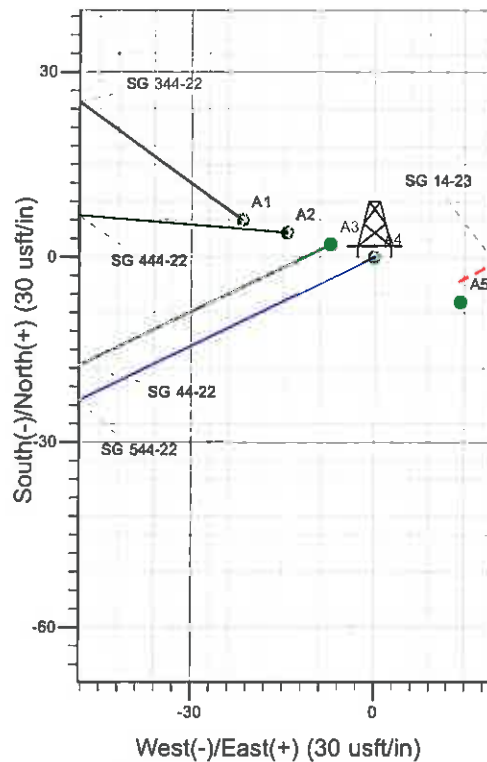
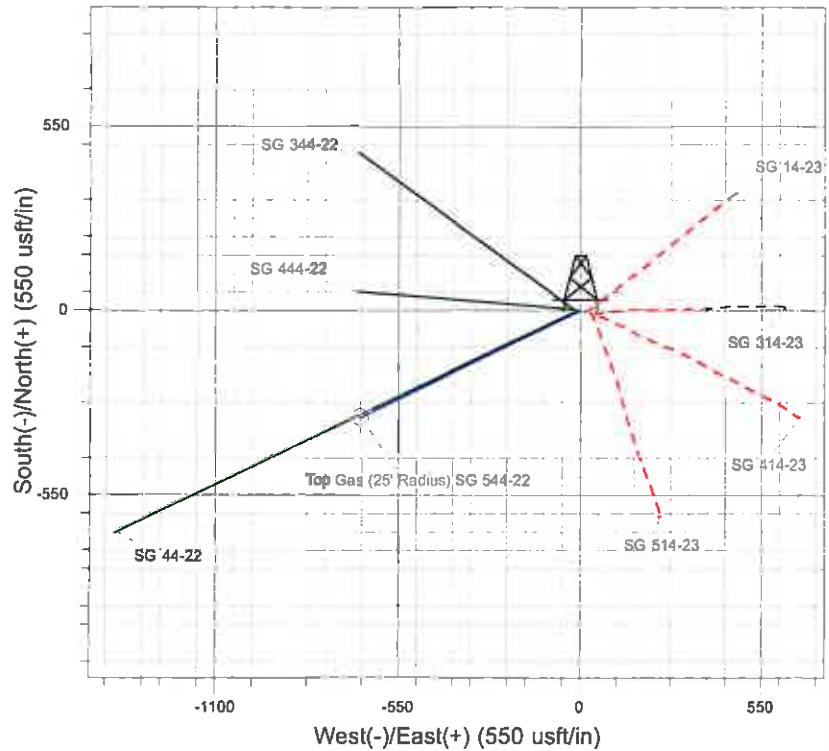
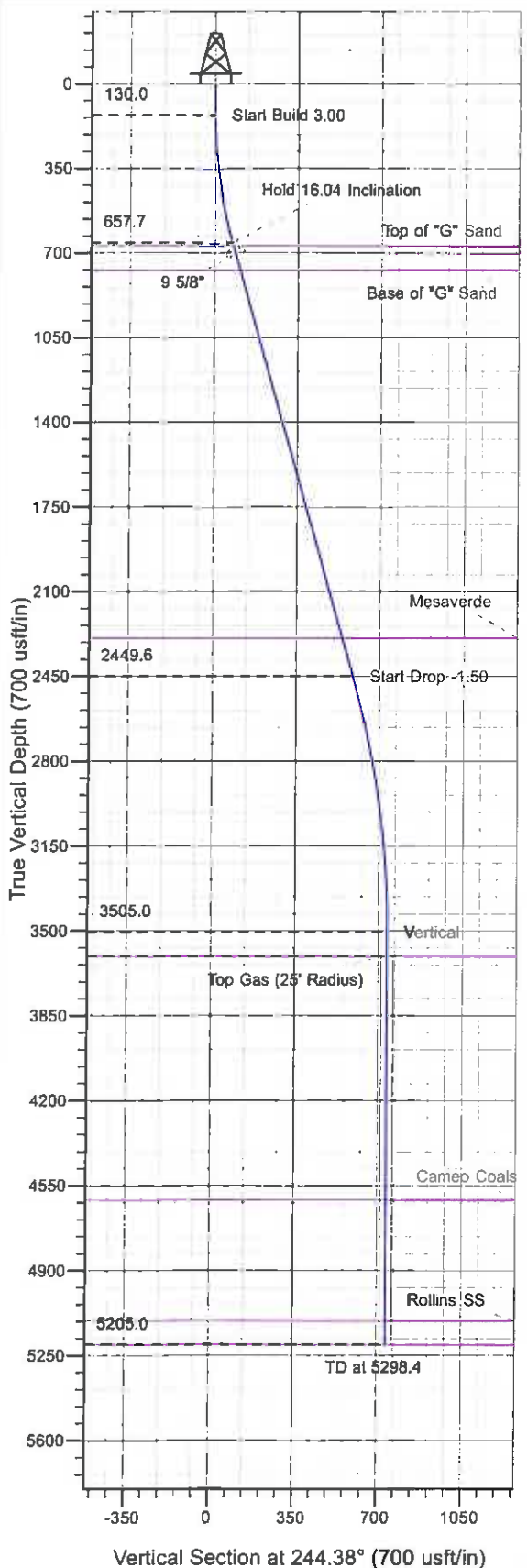




Well Name: SG 544-22
 Surface Location: SG 14-23 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 5070.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1567594.90 2269423.30 39° 25' 5.375 N 108° 5' 10.848 W A4
 KELLY BUSHING @ 5094.0usft (H&P 280 (24' RKB) kjs)



Project: SG 23-07S-096W
 Site: SG 14-23 Pad
 Well: SG 544-22
 Design #1 17Feb11 kjs

Azimuths to True North
 Magnetic North: 10.40°
 Magnetic Field
 Strength: 52267.9snT
 Dip Angle: 65.68°
 Date: 2/17/2011
 Model: IGRF2005-10

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
130.0	130.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 3.00
657.7	664.6	16.04	244.38	-32.1	-67.0	74.3	74.3	Hold 16.04 Inclination
2449.6	2529.2	16.04	244.38	-254.9	-531.5	589.5	589.5	Start Drop -1.50
3505.0	3598.4	0.00	0.00	-319.2	-665.6	738.2	738.2	Vertical
3605.0	3698.4	0.00	0.00	-319.2	-665.6	738.2	738.2	Top Gas
5205.0	5298.4	0.00	0.00	-319.2	-665.6	738.2	738.2	TD at 5298.4

PICEANCE VLY NAD 83

SG 23-07S-096W

SG 14-23 Pad

SG 544-22 - Slot A4

Wellbore #1

Plan: Design #1 17Feb11 kjs

Standard Planning Report - Geographic

24 March, 2011

Williams

Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 544-22 - Slot A4
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5094.0usft (H&P 280 (24' RKB) kjs)
Project:	SG 23-07S-096W	MD Reference:	KELLY BUSHING @ 5094.0usft (H&P 280 (24' RKB) kjs)
Site:	SG 14-23 Pad	North Reference:	True
Well:	SG 544-22	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 17Feb11 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 14-23 Pad				
Site Position:		Northing:	1,587,587.20 usft	Latitude:	39° 25' 5.303 N
From:	Map	Easting:	2,269,437.40 usft	Longitude:	108° 5' 10.665 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.631 °

Well	SG 544-22 - Slot A4					
Well Position	+N/-S	0.0 usft	Northing:	1,587,594.90 usft	Latitude:	39° 25' 5.375 N
	+E/-W	0.0 usft	Easting:	2,269,423.30 usft	Longitude:	108° 5' 10.848 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	5,070.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	2/17/2011	10.400	65.679	52,268

Design	Design #1 17Feb11 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	244.38

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	
130.0	0.00	0.00	130.0	0.0	0.0	0.00	0.00	0.00	0.000	
664.6	16.04	244.38	657.7	-32.1	-67.0	3.00	3.00	0.00	244.380	
2,529.2	16.04	244.38	2,449.6	-254.9	-531.5	0.00	0.00	0.00	0.000	
3,598.4	0.00	0.00	3,505.0	-319.2	-665.6	1.50	-1.50	0.00	180.000	
3,698.4	0.00	0.00	3,605.0	-319.2	-665.6	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
5,298.4	0.00	0.00	5,205.0	-319.2	-665.6	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	LOCAL CO-ORDINATE REFERENCE:	Well SG 544-22 - Slot A4
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5094.0usft (H&P 280 (24' RKB) kjs)
Project:	SG 23-07S-096W	MD Reference:	KELLY BUSHING @ 5094.0usft (H&P 280 (24' RKB) kjs)
Site:	SG 14-23 Pad	North Reference:	True
Well:	SG 544-22	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 17Feb11 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	1,587,594.90	2,269,423.30	39° 25' 5.375 N	108° 5' 10.848 W
130.0	0.00	0.00	130.0	0.0	0.0	1,587,594.90	2,269,423.30	39° 25' 5.375 N	108° 5' 10.848 W
Start Build 3.00									
664.6	16.04	244.38	657.7	-32.1	-67.0	1,587,564.67	2,269,355.38	39° 25' 5.057 N	108° 5' 11.702 W
Hold 18.04 Inclination									
677.5	16.04	244.38	670.0	-33.7	-70.2	1,587,563.23	2,269,352.15	39° 25' 5.042 N	108° 5' 11.743 W
Top of "G" Sand									
715.0	16.04	244.38	706.1	-38.2	-79.6	1,587,559.02	2,269,342.67	39° 25' 4.998 N	108° 5' 11.862 W
9 5/8"									
781.5	16.04	244.38	770.0	-46.1	-96.2	1,587,551.55	2,269,325.88	39° 25' 4.819 N	108° 5' 12.073 W
Base of "G" Sand									
2,363.1	16.04	244.38	2,290.0	-235.1	-490.2	1,587,373.90	2,268,926.67	39° 25' 3.052 N	108° 5' 17.093 W
Mesaverde									
2,529.2	16.04	244.38	2,449.6	-254.9	-531.5	1,587,355.24	2,268,884.74	39° 25' 2.856 N	108° 5' 17.621 W
Start Drop -1.50									
3,598.4	0.00	0.00	3,505.0	-319.2	-665.6	1,587,294.80	2,268,748.90	39° 25' 2.220 N	108° 5' 19.329 W
Vertical									
3,698.4	0.00	0.00	3,605.0	-319.2	-665.6	1,587,294.80	2,268,748.90	39° 25' 2.220 N	108° 5' 19.329 W
Top Gas - Approx. Top Gas									
4,703.4	0.00	0.00	4,610.0	-319.2	-665.6	1,587,294.80	2,268,748.90	39° 25' 2.220 N	108° 5' 19.329 W
Cameo Coals									
5,198.4	0.00	0.00	5,105.0	-319.2	-665.6	1,587,294.80	2,268,748.90	39° 25' 2.220 N	108° 5' 19.329 W
Rollins SS									
5,298.4	0.00	0.00	5,205.0	-319.2	-665.6	1,587,294.80	2,268,748.90	39° 25' 2.220 N	108° 5' 19.329 W
TD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Top Gas (25' Radius) SC - plan hits target center - Circle (radius 25.0)	0.00	0.00	3,605.0	-319.2	-665.6	1,587,294.80	2,268,748.90	39° 25' 2.220 N	108° 5' 19.329 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
715.0	706.1	9 5/8"	9.625	12.250

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well SG 544-22 - Slot A4
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5094.0usft (H&P 280 (24' RKB) kjs)
Project:	SG 23-07S-096W	MD Reference:	KELLY BUSHING @ 5094.0usft (H&P 280 (24' RKB) kjs)
Site:	SG 14-23 Pad	North Reference:	True
Well:	SG 544-22	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 17Feb11 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (")	
677.5	670.0	Top of "G" Sand				
781.5	770.0	Base of "G" Sand				
2,363.1	2,290.0	Mesaverde				
3,698.4	3,605.0	Approx. Top Gas				
4,703.4	4,610.0	Cameo Coals				
5,198.4	5,105.0	Rollins SS				
5,298.4	5,205.0	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
130.0	130.0	0.0	0.0	Start Build 3.00	
664.6	657.7	-32.1	-67.0	Hold 16.04 Inclination	
2,529.2	2,449.6	-254.9	-531.5	Start Drop -1.50	
3,598.4	3,505.0	-319.2	-665.6	Vertical	
3,698.4	3,605.0	-319.2	-665.6	Top Gas	
5,298.4	5,205.0	-319.2	-665.6	TD at 5298.4	